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International Centre for Casemix and Clinical Coding
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Jalan Yaacob Latif, 56000 Cheras, Kuala Lumpur
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Tel: 03-91456986/6987/6988 Faks: 03-91456685, Email: editor@mjphm.org



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CONTENTS

ORAL PRESENTATION

OP01	Pandemic Fatigue: The Scoping Review on Literatures' Patterns On Pandemic Fatigue And Measures Implemented <i>Mohd Radzniwan AR, Faizul Helmi A, Nuruliza R, Sharifah Najwa SM, Fathima Begum SM¹, Ahmad Izzat AT, Nizam B, Aida J, Afiqah Syazwani AS</i>	1
OP02	Development and Validation of an Instrument to Identify the Source of Stressors Among Academicians of Higher Learning Institutions in Malaysia During The COVID-19 Pandemic: A Pilot Study <i>Natasya A, Nadeeya 'Ayn Umaisara MN, Suhaila S</i>	2
OP03	Muricins Exhibit Potential Bcl-xl Inhibitor in Cancer Pharmacotherapy: A Molecular Docking Analysis <i>Noraziah N, Wan Noraini WS</i>	3
OP04	Biosensor for Human Papillomavirus Genotyping in Cervical Cancer - A Systematic Review <i>Marjanu Hikmah E, Zulazmi S, Nazefah AH</i>	4
OP05	Association Between Physical Fitness Level and Psychological Health Among Dodgeball Players <i>Kamala K, Premala K, Timothy Ren Ming P</i>	5
OP06	The Radiology Workforce's Response to the COVID-19 Pandemic in Malaysia <i>Azira K, Aminatul Saadiah AJ, Shahrina I</i>	6
OP07	Misdiagnosis of Lupus in an Adolescent: A Case Report <i>Anu Suria G, Fathima Begum SM, Mohd Radzniwan AR, Sharifah Najwa SM, Nurul Hayati C</i>	7
OP08	Role of Resilience and Quality of Life on Academic Achievement Among Medical Students During Pandemic <i>Ami F, M. Hendry H, Irwan A</i>	8
OP09	The Perception of Students on Online Classes During COVID-19 Pandemic <i>Anis Salbiana, Nur Hidayah, Azrul Hafiz</i>	9
OP010	Does Burden Mediate the Relationship of Caregiving Demand and Resource with Burnout in Dementia Caregiving? An Application of the Job Demand-Resource (JD-R) Model <i>Nuurain Amirah MR, Halimatus Sakdiah M, Hayati K, Mohd Hafiz J, Amirah A, Mohamed Fakri AB, Tengku Amatullah Madeehah TM</i>	10
OP011	Factors Associated with Knowledge of Latent Tuberculosis Infection Among Medical and Nursing Students in Negeri Sembilan, Malaysia <i>Lailatul Hazzliza M, Aini A, Zarini I, Nurul Azmawati M, Nizam B, Shalinawati R</i>	11
OP012	Knowledge and Practices Towards Sexually Transmitted Infections (STI) Among Patients Attending STI-Friendly Clinic in a Primary Care Practice <i>Raihan AA, Ezura Madiana MM</i>	12
OP013	A Rare Case of Spontaneous Intraperitoneal Bladder Rupture Post Normal Vaginal Delivery - Conservatively Treated <i>Assyifaa NM, Siti Soraya AR, Ahmad Farid Z, Mohd Zulkimi R, Ahmad Shauqi AR</i>	13

OP014	Knowledge and Perception of Young Adults Patients Towards Dental and Fake Veneers <i>Wan Nor Syariza WA, <u>Nusima M</u>, Hazira MY, Abdul Aziz A, Nurafifah A</i>	14
OP015	Telemedicine: Effectiveness, Drawbacks, and Challenges <i><u>Syahida S</u>, Nor Eyzawiah H, Nor Azirah S, Siti Asmat MA. Nurafifah</i>	15
OP016	The Prevalence and Factors Associated with Perceived Stress Among Senior and Junior Doctors During the COVID-19 Pandemic in Johor District Health Offices <i><u>Rahayu O</u>, Noor Hassim I, Nazarudin S</i>	16
OP017	Experience of Psychiatric Education Among Medical Students of a Malaysian University During the COVID-19 Pandemic <i><u>Chuong Hock T</u>, Yoke Yong C</i>	17
OP018	Development of an Integrated-Weight Management Programme in Malaysian Government Primary Care Clinics Based on Focus Group Discussions <i><u>Siew Tin T</u>, Sherina MS, Lekhraj R, Kit-Aun T, Zuriati I, Ummu Kalsum M, Fuziah P, Nor Hazlin T, Naemah S, Normala I</i>	18
OP019	Clinical Outcome and Tolerability of Paxlovid Among COVID-19 patients Attending COVID Assessment Centres (CAC) in Negeri Sembilan <i><u>Noor Mikraz MI</u>, Nur Haizumraimi AR, Jusnimar KY, Nor Azila MI</i>	19
OP020	Trimodality Image Registration for Aortic Valve Diagnosis and Surgical Guidance <i><u>Aisyah R</u>, Azira K, Muhammad Mokhzaini A², Khin Wee L, Siti Normasitah M</i>	20
OP021	Psychological Distress Among Acne Patients and its Association with Functional Disability Index <i>Suhaiza S, <u>Zuliyasmin Z</u>, Noor Artika H, Rajalingam R, Rasimah I</i>	21
OP022	Expression of Inhibitory Neurotransmitter GABA A Receptors in Human Dental Pulp: A Potential Role in Dental Nociceptive Signaling <i><u>Diveyaa S</u>, Wan Nazatul Shima S, Rosmaliza R</i>	22
OP023	The Knowledge, Attitude and Practise (KAP) of Overweight and Obesity Among Staff of Universiti Sains Islam Malaysia (USIM) <i><u>Jamaah M¹</u>, Mohd Rahman O, Tengku Amatullah Madeehah TM</i>	23
OP024	Prevalence of Platelet Dysfunction and its Association with Urea Level and Other Parameters in Patients With Chronic Kidney Disease <i>Ruslinda M, <u>Nurul Nadiyah I</u>, Nurasyikin Y, Lydia K, Theepa Nesam M, Zulkefley M, Shamsul Azhar Shah, Rahmah K</i>	24
OP025	Knowledge and Practice of Childhood Immunization Among Parents in Kelantan, Malaysia During the COVID-19 Pandemic in 2021 <i><u>Jamil Aiman MB</u>, Intan Juliana AH, Mohd Rizal MZ, Fahisham T</i>	25
OP026	Characterisation of 1-methyl-1-nitrosourea (MNU)-Induced Mammary Carcinogenesis in Curcumin-Treated Rats <i><u>Martina IK</u>, Nur Arnida MS, Aidy Irman Y, Nor Hayati O, Nur Asyilla CJ</i>	26
OP027	Management of Developmental Dysplasia of the Hip in Two Years of Age: A Case Report <i><u>Muhammad Ihsan K</u>, Rheza Setiawan B, Akhmad Muhajir, Mohammad Asri A</i>	27
OP028	Investigating the Association of Anti-Depressant Medications in Relation to the Risk of Breast Cancer: A Systematic Review and Meta Analysis <i><u>Sangita P</u>, Khairun Nain NA, Natasya A, Haslinda R</i>	28

OP0029	Knowledge and Awareness Toward the Importance of Physical Activities in Preventing the Risk of Colorectal Cancer Among Adults in Klang Valley <i>Ee Ann Y, <u>Ambusam S</u>, Nithiyah M, Vadivellu V</i>	29
OP030	Parental Acceptance on COVID-19 Vaccination and its Associated Factors: A Systematic Review <i>Muhammad Firdaus R, Marjanu Hikmah E</i>	30
OP031	Unexplained Limbs Pain in a Young Adult: A Case of Multifocal Tropical Pyomyositis, the Great Mimicker <i>M Razali, <u>Sakinah</u>; Shariff, M Shaffid; Bain, M Ashaari; Nazarallah, M Hilmi, Azman, N Dina; Norazmi, AU Amir</i>	31
OP032	Significant Relationship Between Stunting and Head Circumference Growth in the First 3 years of Life: A Prospective Study <i>Priyantini,<u>Sri</u>; Nuha, Mohamad U; Purnasari, Perez W, Masyhudi</i>	32
OP033	Evaluation of B-Cell Populations in Children with Recurrent Infections <i><u>Jamaluddin, Jalilah</u>, Ismail, Intan Hakimah, Mohamad, Siti Mardhiana, Mahayidin, Hasni</i>	33
OP034	A Systematic Review of Gene Expression in Cervical Cancer: An Integrated Bioinformatical Analysis <i><u>Abdul Hamid, Nazefah, Rozaimie, Nur Quratul Ain, Abdul Rahman, Siti Norsharizah, Elias, Marjanu Hikmah Elias</u></i>	34
OP035	Prevalence and Factors Associated with Digital Health Literacy Level Among Population in Pondo, Negeri Sembilan <i><u>Jaafar, Hafiz</u>; Azzeri, Amirah; T Mohd, Tengku Amatullah Madeehah; Mohamad Nor, Nadeeya 'Ayn Umaisara; Abu Baharin, Mohamed Fakhri; Baharom, Nizam; Ramli, Shalinawati; A. Rahman, Zairina A; Mohd Rani, Mohd Dzulkhairi; Mohamad Yusuff, Aza Sherin</i>	35
OP036	Health Rationing Redux: How the COVID-19 Pandemic "Shrink-Flate" Healthcare Resources in Malaysia and Nigeria <i><u>Abdul Jamil, Aminatul Saadiah</u>; Fofah, Jenson Gawain; Chaleoijit, Soraya</i>	36
OP037	Transient Bilateral Mild Ventriculomegaly of the Fetus Post Maternal COVID-19 Infection: Two Case Review <i><u>Zainal, Nur Zaireena</u>; Subramaniam, Kaithri Devi; Rangkuti, Harry Surya; Masri, Maizatul Azma; Carol Lim Kar Koong</i>	37
OP038	Pandemic Aftermath: Pedophile Tracker Application and Its Reliability in Protecting Our Children <i><u>Mohammad Lazim, Nur Fahada</u>; Zainal, Nur Zaireena</i>	38
OP039	Differential Expression of MicroRNA and Its Target Genes in Trigona Honey Treated Breast Cancer Cell Line <i><u>Derani, Qatrun Nada</u> Nordin, Noraziah; Roslan, Nuruliza; Gowri, Pathmanathan, Muhammad, Marlani; Abdul Rahman, Hayati; Mohd Manzor, Nur Fariha</i>	39
OP40	Skin Graft as an Acceptable Modality for the Reconstruction of Post-burn Contractures During Pandemic : A Case Report <i><u>Ulfa Elfiah</u>; Muhammad Fahmi Naufal ; David S. Perdanakusuma; Iswinarno Doso Saputra</i>	40
OP41	The Use of the Anthocyanin Extract from Red Cabbage Brassica Oleracea L. Var Capitata f. Rubra as Meat Freshness Indicator for Chicken Gallus Domesticus and Pig Sus Scrofa Domesticus Meat <i><u>Lumahanq, Clyde</u>; Omandam, Lufel Joshua; Roble, Chiena Mei</i>	41
OP42	Hujan Pagi: A Monumental Malay Novel Bridging Literature and Psychiatry <i><u>Razali, Zul Azlin</u>; Musa, Mohd Faizal</i>	42

OP43	Correlation Between NLR (Neutrophil Lymphocyte Ratio) and CRP (C-Reactive Protein) in COVID-19 Patients in Jember Regency <i>Riyanti, Rini; Putra, Muhammad RRC; Agustina, Dini. Utami, Binar R; Murthy, Arswendo I</i>	43
OP44	Vaccination Program and Stunting Incidence at Tampa Padang Health Center: Effective Coverage Study <i>Ibrahim, Juliani; Azzahra, Nur Ainun</i>	44
OP45	Multiple Giant Cell Tumor with Hyperparathyroidism in a 33-Year-Old Male: A Case Report <i>Abidin, Moh Asri, Idulhaq, Mujaddid, Prasetyo, Dimas</i>	45
OP46	Neurological Manifestations of COVID-19 at Pelamonia Hospital as Teaching Hospital in Makassar City <i>Andi Weri Sompia; Hartina Harun; Riska Amelia Mimika; Ramlian</i>	46
OP47	Evaluation of <i>Clitoria Ternatea</i> L. Flower Extract in Preventing Complications of Diabetes Mellitus <i>Intisari, Dewi; Chodidjah; Hussaana, Atina</i>	47
OP48	COVID-19 Pandemic Lesson Learned: Student Volunteers During COVID-19 Pandemic as a Feasible Undergraduate Student Education <i>Rachmania, Sheilla; Handoko, Adelia; Hakiim, Arsyilma, Kurniawan, Aditya</i>	48
OP49	Diarrhea in Patients With COVID-19 and Intestinal Parasitic Infection <i>Nur Muallima; Dara Ugi Aras; Juliani Ibrahim; Nurmila</i>	49
OP50	International Normalized Ratio for Predicting Pediatric Complicated Appendicitis <i>Darajat, Azka; Supangat, Supangat</i>	50
OP51	The Use of Whatsapp® Group as Telemedicine Care and Education for Pediatric Surgery Patients' Parents During COVID-19 Pandemic: A Survey Conducted at an Agricultural Area in Indonesia <i>Supangat; Elly Nurus Sakinah; Muhammad Yuda Nugraha; Achmad Ilham Tohari ; Muhammad Rijal Fahrudin Hidayat; Nabil Athoillah; Salsabila Imtiyazfauz; Peter Lundqvist</i>	51
OP52	Correlation Between Risk Factors and the Incidence of Knee Osteoarthritis <i>Hasan, Muhammad; Hairrudin; Nadhira, Athalia G</i>	52
OP53	Effect of Neem Gum on MDA Levels of Diazinon-Induced Rat <i>Sakinah, Elly Nurus; Mustika, Arifa; Wibisono, Sony</i>	53
OP54	Effect of Buni Fruit Extract (<i>Antidesma bunius</i> L.) on Body Weight and Fasting Blood Sugar in a Streptozotocin (STZ)-Induced Hyperglycemia Wistar Rats Model <i>Aras, Dara Ugi; Hatta, Mochammad; Tawali, Suryani; Bukhari, Agussalim; As'ad, Suryani ; Umar, Husaini; Kurniawan, Liong Boy</i>	54
OP55	Sensitivity of Lontar Leaves Extract (<i>Borassus Flabellifer</i>) Towards The Growth of <i>Vibrio Cholerae</i> <i>Sumarni, Azzahra , Najwa</i>	55
OP56	The Challenges of Community Leaders in Managing Flood Disasters During COVID-19 Pandemic <i>Noremy Md.Akhir; Fauziah Ibrahim; Aizan Sofia Amin; Siti Marziah Zakaria; Mohd Suhaimi Mohamad; Azlinda Azman; Noorus Sarah Aqilah Mohd Yusof</i>	56
OP57	Efficacy of Corn Bran as an Ingredient in the Production of Edible Sporks <i>Chang, Jezeljean; Jison, Mharnelle June; Laput, Eunice Grace</i>	57

OP58	The Sensory Evaluation of a Prebiotic Drink From Banana (<i>Musa acuminata</i> × <i>M. balbisiana</i> (AAB Group) 'Silk') and Oats (<i>Avena sativa</i> Steel Cut Oats) <i>Apolinario, QT Marie; Caliso, Chrisly Mae; Pareja, Shane Allyne</i>	58
OP59	The Role of Interleukin-6 Inhibitor and Janus Kinase Inhibitor in Ameliorating Cytokine Release Syndrome Induced by Severe Infectious Disease: A Systematic Review of Randomized Controlled Trial Studies <i>Dini Agustina; Yehuda Tri Nugroho Supranoto</i>	59
OP60	The Stress Level and Coping Strategies Among Nursing Students in Universiti Kebangsaan Malaysia During COVID-19 <i>Karim, Jalina; Mohd Nazri, Hajar Qistina; Md Yusof, Nor Akmalisa; Mohd Khairul, Nurul Khaleda</i>	60
OP61	<i>Plasmodium berghei</i> Infection Post Spleen Autotransplantation in the Mice Model <i>Adlina Mohammad; Fadlul Azim Fauzi Mansur; Wan Omar Abdullah; Asral Wirda Ahmad Asnawi; Anuar Sani; Nizam Baharom; Razrim, Rahim</i>	61
OP62	The Protective Effect of High Fibre Diets Against Severe COVID-19: A Scoping Review <i>Nor Aripin, Khairun Nain; Addnan, Faizul Helmi; Sani, Anuar; Mansor, Fadlul Azim Fauzi; Baharom, Nizam; Anuar, Khairullah; Pachal, Sangita</i>	62
OP63	Coronary Artery Bypass Graft in High-Risk Patients With Postoperative Cognitive Dysfunctions Downregulate Killer Cell Immunoglobulin-Like Receptor Genes <i>Abu Yazit, Noor Anisah; Norsham Juliana; Suhaini Kadiman; Kamilah Muhammad Hafidz²; Nur Islami Mohd Fahmi Teng; Nazefah Abdul Hamid; Nadia Effendy; Sahar Azmani; Izuddin Fahmy Abu</i>	63
OP64	Reshaping Medical Care in the Aftermath of COVID-19 With Paxlovid: How Much Are Our People Willing and Able to Pay for Health? <i>Azzeri, Amirah; Mohamad Mahadi, Humaira'; Huzarein, Nur Afrina; Abdullah, Nursuaidah; Ruddi, Muhammad Amir Firdaus; Ahmad Takri, Muhammad Faizzuddin; Jaafar, Mohd Hafiz</i>	64
OP65	Prevalence and Factors Associated With Depression Among the Elderly in Pongoi, Negeri Sembilan <i>Azman, Nur Dina; Md Shariff, Mohd Shaffid; Bain, Mohd Asha'ari; Nazarallah, Mohd Hilmi; Norazmi, Abu Ubaidah Amir</i>	65
OP66	Sports Performance and Cardiorespiratory Fitness After COVID-19 Infection Among Athletes <i>Norazmi, Abu Ubaidah Amir; Wan Rosli, Saarah; Nazarallah, Hilmi; Azman, Nur Dina; Md Shariff, Mohd Shaffid; Bain, Mohd Asha'ari; Mohd Razali, Sakinah</i>	66
OP67	Dental Students' Oral Health Knowledge, Attitude, and Practice Towards Oral Health Status: A Cross Sectional Study <i>Fatin Ain Najwa Normi; Abdul Muiz Mun'im Lokman; Wan Nur Alwani Wan Abdul Aziz; Normaliza Ab Malik</i>	67
OP68	Loneliness Among Older Adults in a Rural Village in Negeri Sembilan <i>Tengku Mohd, Tengku Amatullah Madeehah; Baharom, Nizam; Azzeri, Amirah; Abu Baharin, Mohamed Fakhri; Mohamad Nor, Nadeeya 'Ayn Umaisara; A. Rahman, Zairina; Mohd Rani, Mohd Dzulkhairi; Mohamad Yusuff, Aza Sherin; Jaafar, Hafiz</i>	68
OP69	Perception and Acceptance of COVID-19 Vaccination Among Pregnant Mothers and Its Impact on Maternal Mental Health <i>Samson, Muhammad Waras; Zainal, Nur Zaireena</i>	69

OP70	Eating Pattern and Nutritional Status Among Sangguniang Kabataan in San Isidro, San Francisco, Cebu <i>Denzel Oliver M. Imbing; Myrill Shane A. Otadoy; <u>Monica S. Surbano</u></i>	70
OP71	Comparing Complete Freund's Adjuvant and Monosodium Iodoacetate-Induced Knee Joint Arthritis in Wistar Rats <i>Normasari, Rena; Purwanto, Bambang; Tinduh, Damayanti</i>	71
OP72	Otorhinolaryngological Manifestations in Long Covid Patients and Its Effect on Quality of Life <i>Amir Yusdi, Siti Aishah; Salahuddin, Nor Azirah; Md Arepen, Siti Asmat; Hassan, Nor Eyzawiah</i>	72
OP73	Infection Control Measures in the Radiology Department During the COVID-19 Pandemic: A Scoping Review <i>Ab Rahman, Siti Soraya; Nik Mazian, Assyifaa; Zulkifle, Ahmad Farid; Roslly, Mohd Zulkimi</i>	73
OP74	Traumatic Epistaxis in Association with Pneumocranium <i>Anuar, Khairullah</i>	74

POSTER PRESENTATION

PP001	Prevalence of Anxiety Among Dental Students in Universiti Sains Islam Malaysia (USIM) During COVID-19 Pandemic <i>Norashikin A, Muhammad Abdillah MU</i>	75
PP002	Who are Most Affected During COVID-19 Pandemics: Private or Public Dental Practitioners? <i>Nurul Haini Najwa MM, Raja Nur Nabiha RMH, Nor Faharina AH, <u>Azlan J</u></i>	76
PP003	Virtual Clinical Teaching During COVID-19 Pandemic: USIM's Medical Students Evaluation <i>Noor Fadzilah Z, Ruhi Fadzlyana J</i>	77
PP004	The Relative Indirect Anthelmintic Effect of Date Palm Fruit on Mucins Gene Expression in Vitro O4 Using IL-22 Treated LS174T Cells Model of Helminth Infection <i>Fadlul M, Anis R, Faizul A, Nur-Fariha MM, Wan A, Omaila N</i>	78
PP005	Factors Influencing Immediate Psychological Response Among Healthcare Workers in a District Hospital in Malaysia During 2020 COVID-19 Pandemic <i>Ahmad Ashraf Ilman Z, Iwin Soossay S, Muhammad Nazrin Asyraf A, Nurul Hana I, Muhammad Razali HA, Siti Norhamizah S; Umi Kalsom MI</i>	79
PP006	Mental Health Status of B40 Single-mothers during COVID-19 Pandemic <i>Siti Marziah Z, Norehan A, Mohd Radzniwan R, Aizan Sofia A, Noremy MA, Wan Nurdiyana WY, Asila Nur Adlynd MS</i>	80
PP007	Food Intake in Islam; A Review <i>Mohamad Syahir R, Fathima Begum SM, Norhasnira I</i>	81
PP008	Perceived Difficulties in Obtaining Healthcare Assistance and Facilities Among B40 of Single Mothers - A Descriptive Nationwide Study in Malaysia <i>Mohd Radzniwan R, Siti Marziah Z, Aizan Sofia A, Noremy MA, Norehan A, Wan Nurdiyana WY, Asila Nur Adlynd MS</i>	82
PP009	The Associations between Sociodemographic, Clinical Characteristics, and Psychiatric Admission among Psychiatric Patients after Acute Community Treatment <i>Muhammad Arif MR, Hamidin A, Kit-Aun T, Siti Hazrah SD, Nathratul Ayesah Z</i>	83

PP010	The Recent Occupational Diseases and Injuries in Malaysia: A Thematic Review <i>S Maria A, Maznieda M, Kuang Kuay L, Norsyaqilah S, Tuan Amin TL</i>	84
PP011	Diabetic Ketoacidosis Induced by FOLFOX Chemotherapy; A Rare Adverse Effect in Colorectal Carcinoma Patient with Background of Latent Autoimmune Diabetes in Adults <i>Anwar R, Kishore Kumaar V, Azmi H, Nurul Hayati C</i>	85
PP012	A Case Report of Massive Cerebral Venous Sinus Thrombosis As An Unexpected Severe Hyperthyroidism Complication <i>Muhamad Rafiqi H, Mohd Rahman O, Wan Fadzlin WMS, Wan Mohd Nazaruddin WH, Chandran N</i>	86
PP013	Relationship between Turning Difficulty and Fall Risk Among Geriatric Population: A Pilot Study <i>Premala K^{1,2}, Kamala K¹, Meneka Naidu M¹, Arti VK¹, Yee Soon C¹</i>	87
PP014	Perceptions of Blended Learning Approach Among Physiotherapy Students: A Cross Sectional Study <i>Arti VK, Meneka Naidu M, Premala K, Zhen Xin T</i>	88
PP015	Potential Intervention to Mitigate The Psychological Distress Among Postnatal Women During COVID-19 Pandemic: A Scoping Review <i>Nur Adilah Z, Fathima Begum SM, Teh Rohaila J, Suhaiza S</i>	89
PP016	Knowledge, Attitude and Perception among Orthodontists Towards Smoking Cessation Therapy <i>Asma Alhusna AA, Khadijah Hasanah AA, Nurul Asyikin Y, Noor Sam A</i>	90
PP017	Re-strategizing Recruitment for a Randomised Pilot Feasibility Trial in Response to the COVID-19 Pandemic <i>Aida J^{1,2}, Sherina MS^{1,7}, Chai-Eng T^{1,3}, Noor Azimah M³, Rosliza AM⁴, Chai Nien F⁵, Zailiza S⁶, Nazhatussima S⁷</i>	91
PP018	An Uncommon Co-Infection of Pulmonary Tuberculosis and Leprosy - A Case Report <i>Yafizah Y, Nurul Akmanidar Z, Anu Suria G, Fathima Begum SM</i>	92
PP019	Anxiety Among Malaysian Medical Students During The COVID-19 Pandemic and Their Psychological Resilience And Coping Styles <i>Bentham Liang Sen T, Jin Kiat A, Eugene Boon Yau K, Chuong Hock T</i>	93
PP020	Pure Red Cell Aplasia with Autoimmune Myelofibrosis: A Rare COVID-19 Complication <i>Intan Noorliza MS, Jacinta E, Andy T, Ngee Siang L, Alina F, Asral Wirda AA</i>	94
PP021	A Case Report of Deadly Infection by <i>Streptococcus anginosus</i>: Rare Finding of Pyogenic Pericarditis; Local Spread from Liver Abscess <i>Nadiawati AR, Siti Asma MS</i>	95
PP022	Depression & Anxiety Among Dental Students During Covid-19 Pandemic: A Cross-Sectional Study <i>Aina Natasha R, Ainul Hafeezah D, Nurul Asyikin Y, Ahmad Shuhudlrfani Z, Asma Alhusna AA, Khadijah Hasanah AA</i>	96
PP023	Scuba Diving-Related Middle Ear Barotrauma-From the Ear of a Physician to the Ears of All Physicians <i>Wei Ming T, Sarah Zulaikha S, Hana Maizuliana S, Koon Ket S</i>	97

PP024	Effectiveness of Counselling Among Parents in Managing Children with Disabilities at Rehabilitation Centre, Esenyurt, Istanbul During Pandemic <i>Afzan MY, Hüsamettin T</i>	98
PP025	COVID-19 Quarantine Effect on the Emotion of the Mak Nyah <i>Fathima Begum SM, Mohamed Fakhri AB, Zainora D, Khadijah Hasanah AA, Nizam B, Rafidah Hanim M</i>	99
PP026	Self-treatment of Insomnia with Melatonin: A Case Report - Is it Beneficial or Harmful? <i>Sharifah Najwa SM, Mohd Radzniwan AR, Izzat T</i>	100
PP027	A Virus with a Sweet Tooth - A Case of COVID-19 and Diabetic Ketoacidosis <i>Sarah Zulaikha S, Wei Ming T, Hana Maizuliana S, Koon Ket S</i>	101
PP028	Molecular Dynamics Simulations Reveal the Antibiotic Inhibition of MlaC Protein in <i>Escherichia Coli</i> <i>Umairah R, Mohamad Jamali MA</i>	102
PP029	Female Intimate Hygiene - Friend or Foe? <i>Adleen Farhana MF, Anu Suria G, Fathima Begum SM, Yafizah Y</i>	103
PP030	The Association of Sleep Quality with Eating Behaviours and Stress Level among Medical Students of a Malaysian University during the COVID-19 Pandemic <i>Chuong Hock MT, Muhammad Nur Ramadhan M, Shi Min K, Wan Fatin WB, Nurul Azah Afifah A, Marlynna S, Sharifah Nor Fatimah WMS</i>	104
PP031	Case Series of Ocular Syphilis in Hospital Shah Alam: Only Affects Men? <i>Muhammad Najmi K, Azlina M, Maimunah AM, Norlelawati Z</i>	105
PP032	The value of C-Reactive Protein/Albumin Ratio in The Severity and Mortality in COVID-19 Patients <i>Norsyuhadah M, Wan Norlina WA, Nor Amirah MN, Aniza MJ, Tuan Ismail TI, Azian H, Najib Majdi Y, Sarina S, SirajudeenKuttulebbai Naina MS, Mahaya CM</i>	106
PP033	A Clinical Audit on Screening of Diabetic Kidney Disease in a Primary Care Clinic <i>Hasliza AH¹, KienKeat Ng, Ambigga Devi SK, Maizatulilfah M, Siti Salmiah A</i>	107
PP034	Acral Vitiligo, Refusal of Treatment and Respect of Patient's Autonomy: A Case Report <i>Hasliza AH, Aimi Nadia MY, Nazatul Shima AR</i>	108
PP035	Post COVID-19 Vaccination Vestibulopathy <i>Nor Eyzawiah H, Alliah Hanum MY, Azreen Zaira AB, Nor Azirah S, Siti Asmat MA</i>	109
PP036	Acute Hemorrhagic Leukoencephalitis Presenting with Flaccid Paralysis, Atypical Presentation of a Rare Disease <i>Hana Maizuliana S^{1,2}, Sarah Zulaikha S^{1,2}, Wei Ming T^{1,2}, Jiun Jyh O², Koon Ket S², Shomesh Raj SR², Firdaus B²</i>	110
PP037	Patient Activation: Level and Associated Factors in Patients with Type 2 Diabetes <i>Syahnaz MH, Idayu Badilla I, Shalisah S, Nasrin J; Rafidah B, Norfazilah A</i>	111

PP038	A Cross-Sectional Study on Internet Addiction, Internet Gaming with Depression Among Medical Students in a Public University During COVID-19 Pandemic <i>Nurazah I, Ahmad Izzat T, Hafiz Jaafar; Azlin B</i>	112
PP039	Cervicofacial Subcutaneous Emphysema: A Unique Presentation of Congenital Defect of Foramen of Huschke <i>Siti Nurafiqah S, Noor Azrin A, Siti Asmat MA, Nor Eyzawiah H, Nor Azirah S</i>	113
PP040	Effects of Classical Music Therapy on Transfer and Reduction of Pain Stimulus in Patients of Post Caesarian Section Operation <i>Sitti Zakiryyah Putri, Sitti Maryam Bachtiar, Nurlina, Muhammad Syadli Umar</i>	114
PP041	Antibacterial Properties of <i>Syzygium Samarangense</i> Leaves Extracts Against <i>Streptococcus Mutans</i> : An In-Vitro Study <i>Mohamed Hisham MJ, Siti Aisyah AG, Muhamad Azim AF, Nurul Hidayah AL</i>	115
PP042	The Prevalence, Factors Associated and Psychological Impacts on Teenage Pregnancy Mothers: A Literature Review <i>Nurul 'Ain Farhana MN, Yafizah Y, Anusuria G, Fathima Begum SM</i>	116
PP043	Knowledge And Attitude Towards Breastfeeding Among Expectant Fathers Attending a Maternal and Child Health Clinic in Penang <i>Nurul Syuhada S, Ezura Madiana MM</i>	117
PP044	Detection Of Resistance Genes in Linezolid Non-Susceptible Enterococci (LNSE) In Hospital Kuala Lumpur <i>Nurazian AB, Umi Kalsom @ Satariah A, Zalina I, Madon, Mazriza M</i>	118
PP045	Spiritual Coping Among Middle-Aged Malay Trans Women Amidst a Pandemic in Malaysia <i>Baharom, Nizam; Syed Mohideen, Fathima Begum; Abu Baharin, Mohamed Fakhri; Daud, Zainora; Abang Abdullah, Khadijah Hasanah; Mokhtar, Rafidah Hanim</i>	119
PP046	The Case of Kartagener's Syndrome- The Importance of Early Detection the Triad via Clinical Diagnosis <i>Suhaidi, Siti Sarah Aishah; Selvarasan, Sabrina; See, Kwee Ching</i>	120
PP047	Pulmonary Pathology Found in Autopsy of COVID-19 Patients <i>Faiz Raafik; Kharmila A</i>	121
PP048	Stress and Coping Mechanism among Dental Undergraduates: A Comparison between Islamic Based and non-Islamic Based Universities in Malaysia <i>Abdul Aziz, Afifah; Zainal, Zarifah Dayana; Ibrahim, Zurairah; Jaafar, Azlan</i>	122
PP049	Tik Tok videos in Forensic Medicine education as innovative pedagogical edutainment <i>Abdul Razak Nadiawati</i>	123
PP050	Interventions of Burnout among Healthcare Professionals during COVID-19 Pandemic <i>Abdul Wahid, Nurin Izzati; Samad, Sarah Zulaikha</i>	124
PP051	Application of Team-Based Learning to Improve Clinical Reasoning in medical Undergraduates: A Scoping Review <i>Mohammad Khuzaini, Aliyyah¹; Abdul Halim, Halimah¹</i>	125

PP052	Coffee and Cholesterol: To Drink or Not to? <i>Hasbullah, Husna; Tan, Wei Ming</i>	126
PP053	The Prevalence of Overweight and Obesity among Staff of Universiti Sains Islam Malaysia (USIM) and Its Association with Sociodemographic Profile <i>Jamaah Mohd , Mohd Rahman Omar ; Tengku Amatullah Madeehah Tengku Mohamad</i>	127
PP054	Comparison of COVID-19 Vaccines in Malaysia: A Narrative Review <i>Mustapha, Muaz ; Azmi, Liyana</i>	128
PP055	The Impacts of Movement Control Order (MCO) And Online Learning On Medical Student's Resilience And Motivation <i>Nik Mohd Anuar, Nik Hur' Ain Jannah¹; Sanip, Suhaila¹</i>	129
PP056	E-Learning Perception on USIM Dental Students <i>Badlishah Sham, Nurul Iman; Idaham, Nurul Izza; Amran, Fatin Adiba; Abd Aziz, Fadhilah</i>	130
PP057	The Prevalence of Adverse Events Following Immunization (AEFI) of Sinovac Vaccination at UNISMUH Medical Center Clinic <i>Muzdalifah, As'ari As'ad Nurainun Syariah</i>	131
PP058	The Correlation Between The Knowledge of Makassar Community About COVID-19 with Compliance in Using Mask <i>Rosdiana Sahabuddin, Bramantyas Kusuma Hapsari, Muhlis Ananta</i>	132
PP059	The Effect of Dzikir on Mental Emotional on Toddlers Aged 3-5 Years at Aisyiyah Barumbung Kindergarten <i>Susanty, Nurbiah Eka; Nurlina</i>	133
PP060	The Labor Outcomes of COVID-19 Confirmed Maternity Mothers at Labuang Baji Makassar Hospital <i>Daswati; Nurbiah Eka Susanty; Alfira</i>	134
PP061	A Rare Case of Ruptured Extensive Retropharyngeal Abscess in An Adult <i>Tajul Azhar, Ain Nadhirah; A Bakar ,Azreen Zaira; Hassan, Nor Eyzawiah; Md Arepen, Siti Asmat; Salahuddin, Nor Azirah</i>	135
PP062	Agreement Between TST And QuantiFERON-TB Gold Plus in Diagnosing Latent Tuberculosis Infection Among Exposed Health Care Workers at A Malaysian Teaching Hospital <i>Meor Jamaludin, Wan Husna Barakah; Sulong, Anita; Abdul Samat, Muttaqillah Najihan; Salleh, Sharifah Azura; Andrea, Ban Yu-Lin</i>	136
PP063	Geometric Morphometrics Method on the Sixth Cervical Vertebra (C6) for Human Sex Identification <i>Mohd Fauad, Muhammad Faiz; Ku Mohd Noor, Ku Mastura</i>	137
PP064	Stress-Buster: A Stress Management Program for Medical Students During Pandemic <i>Suain Bon, Rosnadia; Mahmud, Asma Assa'edah; Nordin, Muhammad Farhan</i>	138
PP065	A Rare Case of Acute Generalized Exanthematous Pustulosis Induced by Isoniazid <i>Dewiyanti, Wiwiek; Christianto, Vannia; Nurdin, Airin</i>	139

PP066	Association of Serum Protein Induced Vitamin-K Absence-II (PIVKA-II) Level and Clinicopathological Characteristics among Hepatocellular Carcinoma Patients at Hospital Universiti Sains Malaysia (USM) <i>Mohamad Noor, Rabiatal Adawiyah; Kassim, Nur Karyatee; Omar, Julia; Mohammed Jelani, Aniza; Lee, Yong Yeh,4; Wan Ahmad, Wan Muhammad Amir</i>	140
PP067	Solitary Plasmacytoma: The Rare Nasal Tumour <i>Kamaruzaman, Ameerah Ashyila; Tawil, Zahrah; Liman, Abdul Ruhi-Ul-Azim</i>	141
PP068	Scoping review of multisystem inflammatory syndrome in children (MIS-C) in COVID-19 case <i>Siti Hajar, Mohd Termizi; Mohd Hairulhisyam, Ngatiman</i>	142
PP069	The Role and Efficacy of Nutrition in the Enhancement of Stem Cells Regenerative Capacity: A Protocol for Scoping Review Study <i>Mohd Manzor, Nur Fariha; Samsudin, Nurul Fariha; Tengku Amatullah Madeehah, Tengku Mohd; Noraziah, Nordin; Muhammad, Marlina; Gowri, Pathmanathan; Abdul Rahman, Hayati</i>	143
PP070	The Effectiveness of Administering N-actylcysteine as Adjuvant Therapy on the Improvement of Clinical Depression Symptoms <i>Padad, Tenri; Syamsuddin Saidah</i>	144
PP071	Instrument Development Model with Expert Judgment Using Integration Theory, Technology Acceptance and Use Theory (UTAUT), Protection Motivation Theory (PMT), and DeLone & McLean <i>Sulistyaningrum, Indriyati Hadi; Pribadi, Prasojo; Sari, Seftika</i>	145
PP072	Adult Versus Young-Onset Colorectal Cancer in Hospital Universiti Sains Malaysia <i>Isah, Rilwanu Tsamiya; Mohd, Siti Norasikin Nafi; Che Jalil, Nur Asyilla ; Mat Zin, Anani Aila</i>	146
PP073	Prevalence and Awareness of Patellofemoral Pain Syndrome Among Recreational Runners in Malaysia <i>Goh Weng Yee; Maruthey, Nithiyah; Subramaniam, Ambusam; Purushothaman, Vinosh Kumar</i>	147
PP074	Clinical Characteristics, Inflammatory Markers and Cycle Threshold Values Among COVID-19 HCTM Patients <i>Aluwi, Farah Hanan; Nasuruddin, Dian Nasriana; Wan Shuaib, Wan Muhammad Azfar; Kori, Najma; Periyasami, Petrick; Othman, Siti Norlia; Ramli, Mohd Iszuan; Ramli, Ridzuan; Md Mansor, Munirah</i>	148
PP075	Feeding Problem as the Risk Factors for Stunting among Under Five Children in Kuantan - A Case Control Study <i>Musa, Noraini, Kamaruzaman, Nor Azam, Pasi, Hafizah, Osman, Iskandar Firzada</i>	149
PP076	Antibiotic Susceptibility Profile and Resistance Genotyping of <i>Stenotrophomonas maltophilia</i> in Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia <i>Ramzah, Fatin Farahani; Ramli, Ramliza; Mohd Nizam, Tzar</i>	150
PP077	A Case Report of Salmonella Meningitis Complicated With Subdural Haemorrhage in A Child <i>Lim, WillSern; Zainal, Marina</i>	151

PP078	SARS-CoV-2 Spike Protein Antibody Titre in Frontliner Healthcare Workers Before Vaccination and After Second Dose of COVID-19 Vaccination <i>Nordin, Nabihah; Sulong, Anita; Salleh, Sharifah Azura; Jarmin, Razman; Gafor, Abdul Halim; Hassan, Mohd Rohaizat; Othman, Hanita</i>	152
PP079	Clinical Characteristics and Biochemical Markers in Hospitalized COVID-19 Patients in A Private Hospital in Malaysia: Comparison During Admission and Discharge <i>Chia, Ericson; Arip, Masita; Abu Bakar Sajak, Azliana; Meor Rodzali, Siti Yasmin Aisyah; Tay, Wan Ying; Chow, Yock Ping; Omar, Mohd Azahadi, Tan, Lian Huat; Ismail, Rosmadi</i>	153
PP080	The Role of Protein Pili 95 KDa <i>Shigella dysenteriae</i> as Protein Adhesin in Balb/c Mice Enterocytes <i>Enny Suswati; Reza Kurniawan; Yohanes Sudarmanto; D. C. Mufida</i>	154
PP081	Total Hip Arthroplasty Following a Dislocated Bipolar Hemiarthroplasty of Hip Due Excessive Anteversion <i>Mohamad Hilmi, Mohamad Nazarallah; Rizal, Abdul Rani; Nor Hamdan, Mohamad Yahaya</i>	155
PP082	Impact of COVID on Family-Centred Care in NICU <i>W. Ab Rahim, Adilah; Mohammad Khuzaini, Aliyyah; Abdul Halim, Halimah</i>	156
PP083	Imaging Features of Adolescent Abdominal Tuberculosis; A Case Series <i>Mohd Zulkimi Roslly; Siti Soraya Abd Rahman; Assyifaa Nik Mazian; Ahmad Farid Zulkifle</i>	157
PP084	Application Of Traditional and Geometric Morphometric Methods for Sex Estimation Based on Size of the Three- Dimensional Scapula In Malaysian Population <i>Omar, Normaliza; Mohd Ali, Siti Hanum; Shafie, Mohamed Swarhib; Hadi, Helmi, Khalid, Kamil; Nik Ismail, Nik Azuan; Md Nor, Faridah</i>	158
PP085	<i>Klebsiella pneumoniae</i> Infective Endocarditis; A Rare Entity <i>Nordin, Fatimah Zanirah</i>	159
PP086	Os Coxae Shape Variations Among Malaysians Using Three-Dimensional Geometric Morphometric Analysis <i>Mohd Ali, Siti Hanum; Omar, Normaliza; Shafie, Mohamed Swarhib; Nik Ismail, Nik Azuan; Hadi, Helmi; Mohd Nor, Faridah</i>	160
PP087	A Rare Case of Salmonella Neck Abscess in A Diabetic Patient <i>Wan Rosli, Saarah; Salleh, Sharifah</i>	161
PP088	Association Between Smoking And COVID-19: A Literature Review <i>Mohmad Sanip, Aina Nabilah; Mohd Ali, Siti Hanum</i>	162
PP089	Cervicofacial Subcutaneous Emphysema Associated with External Auditory Canal Wall Defect <i>Zulkifle, Ahmad Farid; Roslly, Mohd Zulkimi; Nik Mazian, Assyifaa; Abd Rahman, Siti Soraya</i>	163
PP090	The Effects of COVID-19 pandemic on Cognitive Learning in Children <i>Abdul Halim, Halimah; W. Ab Rahim, Adilah; Mohammad Khuzaini, Aliyyah</i>	164
PP091	Parosmia: Long COVID Syndrome <i>Siti Asmat MA, Nor Azirah S, Nor Eyzawiah H</i>	165

PP092	Peculiar Cause of Bilateral Vocal Cord Palsy in An Adult <i>Siti Asmat MA, Nazirah B, Azreen Zaira AB, Nor Azirah S, Nor Eyzawiah H</i>	166
PP093	A Review on the Association of Brucea javanica Medicinal Properties to COVID-19 Pathogenesis: Prospect for the Treatment of SARS-CoV-2 Infection <i>Nur Fariha MM, Nordaimah MM, Mohd Sabri MA, Nuruliza R</i>	167
PP094	Effect of Pharmacist Counseling on Drug Adherence in Hypertensive Patients <i>Farroh Bintang Sabiti, Chilmia Nurul Fatiha</i>	168
PP095	Acute Encephalitis as a Clinical Manifestation of Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19: A Case Report <i>Siti Soraya AR, Assyifaa NM, Ahmad Farid Z, Mohd Zulkimi R, Jamil Aiman MB</i>	169
PP096	Psychological Impact of COVID-19 Pandemic on Healthcare Workers: A Scoping Review <i>Mohamed Fakhri Abu B, Nurhafizah S</i>	170
PP097	The Impact of COVID-19 Pandemic on Medical Students' Teaching and Learning in Health Clinics in Malaysia <i>Sharifah Najwa SM, Fathima Begum SM, Mohd Radzniwan AR, Nur Faraheen AR, Muhammad Tauffik MN</i>	171
PP098	Effects of Virtual Reality on Mental Health: A Scoping Review <i>Huzaimi Z, Siti Soraya AR</i>	172
PP099	Challenges in Managing Cerebral Palsy Patient with Brief Psychotic Disorder: A Case Report <i>Izzat T, Ishwinderjee K, Nur Syazwani R, Siti Maisara S, Firdaus AG, Sharifah Najwa SM</i>	173
PP100	Establishment of Virtual Integrated Services to Strengthen Children's Health Promotion Services in The Agricultural Area of Jember Regency <i>Ancah Caesarina Novi M, Dwita Aryadina R, Irawan Fajar K</i>	174
PP101	The Impact of Excessive Screen Time on Children in The COVID-19 Era <i>Noor Eza Shazwana E, Muhammad Najmi K</i>	175
PP102	Circuit Un-simulated Physical Examination Teaching (CUPET): A Pedagogical Option for Clinical Teaching in Times of Limited Access to Hospitals During a Pandemic <i>Razrim R, Arief H, Ruhi J, Nadia J, Farhan Y, Salleh AA, Faiz A, Mahmud MN</i>	176
PP103	Involvement of Gut Microbiota in Liver Regeneration: Immune Related Genes and Signalling Pathways After Partial Hepatectomy in Mice <i>Marlini M, Aqilah RNF, Hairulhisyam MN, Nurul Fariha MM, Fergus Shanahan, Antony M. Wheatley</i>	177
PP104	Development of Diagnostic Degradable Vomit Bag and Concept Evaluation Review <i>Nur Zaireena Z, Siti Asmat MA</i>	178
PP105	Early Expression of VEGFR2 During Liver Regeneration of Sterile Mice <i>Amin AR, Hairulhisyam MN, Nur Fatin Aqilah R, Nur Fariha MM, Fergus Shanaha, Antony M. Wheatley, Marlini M</i>	179

PP106	The Heterogenecity of <i>TMPRSS6</i> Gene Mutations in Patients with Iron-Refractory Iron Deficiency Anaemia: A Systematic Review <i>Nurul Husna ZA, Asral Wirda AA</i>	180
PP107	Tophaceous Gout in the Bone Marrow: A Rare Presentation <i>Siew-Lian C, Kar-Ying Y, Ngee-Siang L, Kah-Wai N, Asral Wirda AA</i>	181
PP108	Clinical Medical Examination Techniques for the Undergraduates During COVID-19 Pandemic : A Scoping Review <i>Ruhi Fadzlyana J, Mohamad Farhan MY, Mohamad Hilmi MN, Assyifaa NM</i>	182

ORAL PRESENTATION

OP01

Pandemic Fatigue: The Scoping Review on Literatures' Patterns on Pandemic Fatigue and Measures Implemented

Mohd Radzniwan AR¹, Faizul Helmi A¹, Nuruliza R¹, Sharifah Najwa SM¹, Fathima Begum SM¹, Ahmad Izzat AT¹, Nizam B¹, Aida J², Afiqah Syazwani AS¹.

¹Faculty of Medicine and Health Science, University Science Islam Malaysia (USIM), Bandar Baru Nilai, Nilai, Negeri Sembilan, Malaysia

²Faculty of Medicine and Health Science, University Pertahanan National Malaysia (UPNM), Sg Besi, Kuala Lumpur, Malaysia

The prolonged existence of covid-19, since it began from the end of 2019 causes pandemic fatigue(PF). The World Health Organization defines PF as the demotivation to follow recommended protective behaviours, emerging gradually and could affect people's emotions, experiences, and perceptions. The study aimed at reporting current literatures' patterns on pandemic fatigue and measures implemented by countries to contain the virus. The review was conducted from December 2019 until 27 March 2022 emulating the five-phase framework for conducting scoping reviews by Arksey and O'Malley, using four databases; PubMed, Science Direct, Proquest and ClinicalKey. The articles related to fatigue caused by handling the pandemic by healthcare workers were excluded. The MeSH term used were (pandemic OR COVID19 OR COVID OR COVID-19 OR coronavirus) AND (fatigue OR lockdown) NOT (burnout OR compassion fatigue OR mental health OR mental illness OR depression OR anxiety OR stress). Duplicates articles were removed. Non-English articles were excluded. A total of 2568 articles were screened from the title and abstract level, of which 30 articles were assessed at full text. The majority were opinion-based type (13) followed by cross-sectional study (12) and one of each of the following types: systematic review, policy paper, observational, questionnaires development and analysis. The cross-sectional studies were done mostly in Japan and Taiwan and the maximum sample size was 6532. As for and opinion-based articles, most are done in the USA, followed by in the UK. The opinions are variable in terms of the focus. Generally, most mainly mentioned that the PF should be managed effectively. Pandemic fatigue is real and should be identified and handled efficiently. The impact is detrimental as it causes people to become demotivated to obey rules and regulations to combat the pandemic.

OP02

Development and Validation of an Instrument to Identify The Source of Stressors Among Academicians of Higher Learning Institutions in Malaysia During The COVID-19 Pandemic: A Pilot Study

Natasya A¹, Nadeeya 'Ayn Umaisara MN¹, Suhaila S¹

¹Faculty of Medicine and Health Science, University Science Islam Malaysia (USIM), Bandar Baru Nilai, Nilai, Negeri Sembilan, Malaysia

The significant life-altering event of the COVID-19 pandemic has caused academicians at Higher Learning Institutions to experience work and life stress. This study aimed to develop and systematically quantify the validity and reliability of an instrument that identified the factors that contribute to the stressors among academicians. This study involved the initial instrument development and three stages of measuring evidence of validity and reliability. The instrument was developed through a literature review and brainstorming sessions among the researchers. A panel of eight raters scored the items' clarity and comprehension, and the content validity index for items (I-CVI) and overall scale (S-CVI) were calculated. Items that failed the content validation process, i.e., an index < 0.8, were excluded from the face validation process. Thirty samples responded to the remaining items while the face validity was tested. The item and scale level clarity indices were computed. Finally, Cronbach's alpha coefficient (α) was used to determine the instruments' internal consistency reliability. 26 items were developed and categorised into three domains: pandemic, work, and related social stressors. Following the raters' review, the average S-CVI value of 0.89 was obtained for domain 1, 0.84 for domain 2, and 0.88 for domain 3. 8 items were excluded for having I-CVI of less than 0.8. Face validity testing revealed that average S-CVI values for the remaining items ranged from 0.98 to 1.0. Cronbach's alpha values were 0.698 for domain 1, 0.848 for domain 2, and 0.858 for domain 3. The Cronbach's alpha increased to 0.797 after removing an item from domain 1. A systematic and objective approach is required to validate a newly developed instrument, ensuring that the study outcomes are of high quality. This study indicates that the final 17-items instrument have high content validity and an acceptable level of internal consistency reliability.

OP03

Muricins Exhibit Potential Bcl-xl Inhibitor in Cancer Pharmacotherapy: A Molecular Docking Analysis

Noraziah N¹, Wan Noraini WS¹

¹Department of Medical Sciences 1, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.

B-cell lymphoma-extra large (Bcl-xl), an anti-apoptotic protein that belongs to a BCL-2 family is a vital regulator of mitochondrial-mediated apoptosis. Overexpression of this protein leads to tumorigenesis and cancer chemotherapy resistance. The binding of Bcl-xl with BH3 pro-apoptotic only protein causes inhibition of apoptosis in the cells. Therefore, the development of natural inhibitors from muricins, suggests the induction of apoptosis by mimicking the action of BH3 pro-apoptotic into Bcl-xl protein. We aim to study the muricins as potential Bcl-xl inhibitors for cancer pharmacotherapy. AutoDock Vina software was used to perform the docking simulation on ABT- 737, a Bcl-xl control ligand and seven muricins, namely muricin A, B, D, F, G, H and I into Bcl-xl protein. Bcl-xl protein was retrieved from the protein database, while ChemDraw software was used to draw the muricin structures. Our findings have revealed that four muricins; muricin B, F, H and I docked strongly in the active site of Bcl-xl protein as compared with ABT 737. The binding affinities of muricin B, F, H and I showed better interaction of -12.1, -11.3, -11.3 and -11.5 kcalmol⁻¹, respectively, while ABT 737 was -10.4 kcalmol⁻¹. The docked muricin B/Bcl-xl complex interacted with four H-bonds, indicating the highest H-bond formed among all. An Arg139 amino acid residue of Bcl-xl protein was noted as a conserved region for the inhibition process which also interacted with all muricins. All seven muricin's structures varied according to their functional group position, reflecting their interaction in the docked complexes. This study predicted that four docked complexes of muricins (B, F, H and I) with Bcl-xl protein have the potential to be developed as potential Bcl-xl inhibitors. These promising docking results require further investigation of molecular dynamics and experimental studies for the discovery of a new pharmacotherapeutic drug for cancer.

OP04

Biosensor for Human Papillomavirus Genotyping in Cervical Cancer - A Systematic Review

Marjanu Hikmah E¹, Zulazmi S^{1,2}, Nazefah AH¹

¹Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia

²Malaysia Department of Obstetrics & Gynecology, Faculty of Medicine, Universiti Kebangsaan Malaysia

Human papillomavirus (HPV) genotyping is vital in cervical cancer screening. Among the high-risk HPVs, HPV-16 and HPV-18 are the most dangerous types of HPVs that can lead to cervical cancer. However, HPV genotyping is still not widely practised in cervical cancer screening due to limited access to the test, especially during the COVID-19 pandemic. Hence, various HPV genotyping biosensors from different platforms were developed. Despite the abundance of HPV genotyping biosensors available in the literature, there is still a lack of comparison on the effectiveness of the biosensors. Thus, this study aims to systematically accumulate and compare the biosensors reported in the literature. A comprehensive literature search was conducted using PubMed, Scopus, EBSCOhost, and Science Direct. Medical Subject Heading (MeSH) terms like human papillomavirus and biosensor were used as the keywords. The data like type of sample used, type of HPV detected, sample size, comparison method used, and biosensor's platform were extracted from the studies. The quality of included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools. From 370 studies retrieved, 18 original articles published between 2012 and 2021 that investigated the effectiveness of newly developed biosensors on 399 HPV-infected women were included. Eighteen biosensors detected HPV-16 and/or HPV-18, while only one biosensor detected HPV-58, and another biosensor detected additional HPV-45 together with HPV-16 and HPV-18. Only two biosensors did not require additional sample preparation like DNA or RNA extraction and even polymerase chain reaction. The development of new HPV genotyping biosensors has rapidly increased. However, many biosensors still have not been validated using clinical samples. Biosensors without lab-based sample preparation are needed to allow a more comprehensive population screening for cervical cancer.

OP05

Association Between Physical Fitness Level and Psychological Health Among Dodgeball Players

Kamala K¹, Premala K¹, Timothy Ren Ming P²

¹Lecturer, Department of Physiotherapy, Faculty of Medicine and Health Sciences, Kajang, Malaysia.

²Bachelor of Physiotherapy Student, Department of Physiotherapy, Faculty of Medicine and Health Sciences, Kajang, Malaysia.

Dodgeball sports in Malaysia has been growing tremendously throughout the years as we can see more national athletes representing our country to compete internationally. For athletes to compete at such an elite level, both physical and psychological aspects must be in good condition as it can impede athlete's performance. These two aspects are distinct in nature and are complementary to each other. Recent studies also showed that it is safe to say that these aspects play a crucial role in athlete's performance as they are always interlinked. To investigate whether there is an association between physical fitness level and psychological health among recreational dodgeball players. This cross-sectional study was participated by 49 recreational dodgeball players. An online questionnaire was administered to measure their physical fitness and psychological health. Maximal oxygen consumption (VO₂max) during physical activity was measured using the Rockport Test. As for psychological health of dodgeball players, Sports Mental Toughness Questionnaire (SMTQ) was used as this questionnaire is used to obtain athlete's mental toughness which is one of the components that make up psychological health of individual. Forty-nine players responded with a mean age of 25.33. The collected data were normally distributed. Therefore, Pearson Correlation Coefficient was used to determine the association between the VO₂max maximum score and SMTQ. Since the $p < 0.05$, therefore, there is a significant association found between the physical fitness level and psychological health among the recreational dodgeball players. In conclusion, deterioration in physical fitness level may not directly affect the dodgeball players' psychological health as there could be other factors that lead to their poor psychological health.

OP06

The Radiology Workforce's Response to The COVID-19 Pandemic in Malaysia

Azira K¹, Aminatul Saadiah AJ¹, Shahrina I¹

¹Lecturer, Department of Physiotherapy, Faculty of Medicine and Health Sciences, Kajang, Malaysia.

²Bachelor of Physiotherapy Student, Department of Physiotherapy, Faculty of Medicine and Health Sciences, Kajang, Malaysia.

The World Health Organization (WHO) then proclaimed Covid-19 as a Public Health Emergency of International Concern and a worldwide pandemic on 2020. Chest radiography and computed tomography (CT) examinations, coupled with blood biomarkers and the patient's clinical history, play a vital role in the early identification of Covid-19 due to their capacity to identify lung abnormalities. Thus, the radiology department is marked as one of the most important departments handling highly infectious patients. The purpose of this paper is to review the new management policy in medical imaging during the Covid-19 pandemic and standard operating procedure (SOP) introduced by the Ministry of Health (MoH) Malaysia to prevent and control intrahospital transmissions of Covid-19. We propose a conceptual framework to highlight key areas in the national SOP for preventing Covid-19 intrahospital transmissions in the radiology department. The key areas were classified into four categories: planned requests (patient appointments), (ii) open- access management (walk-in patient workflow and the triage system), (iii) direct contact (during radiology procedures), and (iv) exit policy and disinfection (post imaging conduct). The Covid-19 SOP for the radiology department by the MoH was found to retain most of the patient quarantine and isolation guidelines by the Center for Disease Control and Prevention (CDC) and incorporated several international policies on patient triage and disinfection of radiological equipment. The Covid-19 SOP for the radiology department plays an important role in reducing the intrahospital spread of Covid-19, with some areas needing improvement. Health workers in the radiology department should continue implementing the Covid-19 SOP and increase their knowledge in identifying Covid-19 signs on radiographic images to help safeguard themselves and the patients from intrahospital transmissions.

OP07

Misdiagnosis of Lupus in an Adolescent: A Case Report

Anu Suria G¹, Fathima Begum SM¹, Mohd Radzniwan AR¹, Sharifah Najwa SM¹, Nurul Hayati C¹

¹Primary Health Care Department, Faculty Of Medicine And Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Lupus is an autoimmune disease commonly affecting females. It can present as various symptoms affecting multiple organs. When involving the skin, it is called cutaneous lupus. A delay in the diagnosis will lead to a significant effect on an adolescent's health, including their mental status. Particularly among adolescents who attend different general practice clinics. This case illustrates the challenges experienced by general practitioners in diagnosing lupus in a teenage female whom was treated as chronic eczema since childhood. Early diagnosis and treatment of lupus -is important to prevent the consequence morbidity. A 19-year-old teenage female presented with chronic worsening eczema since the age of ten. It was dry, scaly skin rash associated with hypopigmentation started over her arm, trunks, back and facial region. With multiple outpatient visits, her general practitioners diagnosed her as chronic eczema and treated her with steroids and moisturiser. She subsequently developed mild depression, with low self-esteem and withdrawal from her study as the condition did not resolve. In the current presentation, she presented with fever, multiple joint pains, generalised body ache, weakness, and epigastric pain. Systemic examination revealed an ejection systolic murmur over the pulmonary area with bibasal crepitations and tender epigastric region. Her blood investigation revealed anaemia with thrombocytopenia. Her liver function test was deranged with raised alanine transaminase and aspartate transaminase, and a positive anti-nuclear factor antibody. She was then referred to the rheumatologist and gastroenterologist as autoimmune hepatitis. Her skin biopsy revealed the diagnosis of lupus. She was treated with Hydroxychloroquine, where her symptoms and rashes had improved. She had resumed her studies. General practitioners should be aware of systemic lupus erythematosus as a possible diagnosis in adolescents with chronic eczema. Cutaneous lupus can present with rashes with various morphology, location and distribution, rendering a diagnostic challenge to the primary care physician.

OP08

Role of Resilience and Quality of Life on Academic Achievement Among Medical Students During Pandemic

Ami F¹, M. Hendry H², Irwan A³

¹Department of Physiology, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Indonesia

²Undergraduate student, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Indonesia

³Medical Education Unit, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Indonesia

COVID-19 pandemic has caused major changes to education process in the world. Medical education has a long period with many academic burdens and large volumes of lessons while dealing directly with conditions in hospitals, especially during this pandemic situation. It made them facing many stressors. Resilience has been proven to have impact to learning performance, due to its increase the ability to manage with stress. This study aims to investigate the association among resilience, quality of life and academic achievement that represents by Grade Point Average (GPA) on medical students during this pandemic. This study was an observational study. Academic Resilience Scales-30 was used to assess resilience level. WHOQOL was used to evaluate four domains of quality of life: physical health, psychological, social relationship, environment. Academic achievement were reported from students' GPA. Linear regression analysis was used to determine the association between resilience level and GPA. A total of 132 students were classified into low (n=44), moderate (n=48) and high resilience (n=40). There is significant difference of quality of social relationship, environment and GPA among difference resilience groups. Quality of physical health and psychological domain modified the association resilience scales and GPA in low and moderate level of resilience. Resilience can be a predictor for students' academic achievement in their courses during this pandemic.

OP09

The Perception of Students on Online Classes During COVID-19 Pandemic

Anis Salbiana¹, Nur Hidayah¹, Azrul Hafiz¹

¹Faculty of Dentistry, Islamic Sciences University of Malaysia, Kuala Lumpur, Malaysia

The coronavirus disease 2019 (COVID-19) pandemic has impacted all aspects of our lives, including economy and education sector. Many universities in Malaysia were forced to depend on online learning methods from May 2020. This was due to the movement control order (MCO) and conditional movement control order (CMCO). During this time, students were not allowed to attend physical classes. This has affected students learning as the online classes was a sudden move. Generally, this study was done to evaluate the students' perception on online classes during Covid-19 pandemic. Apart from that, this study was also conducted to compare between perceptions of preclinical and clinical students regarding online classes during this time. This cross-sectional study was conducted in the Faculty of Dentistry, Universiti Sains Islam Malaysia (USIM). The respondents of this survey were the preclinical and clinical undergraduate dental students from first year to fifth year who attended online classes during COVID-19 pandemic. The questionnaire was developed into 30 different questions. Consents were taken before the distribution of the questionnaire. Data was collected from 179 study respondents from first year until fifth year dental students. The survey analysis shows that most of the students think that for the success of online learning to become a reality, mixed online and physical class should be considered to improve learning. Lastly, the results also shows that the method of delivering lectures and communication between students and lecturers remains a fundamental factor for success of an online classes. In summary, the results of this study provide further insight into matters experienced by students and how educators may give attention to students' opinion when improving future online learning programs. Online learning can be considered as an alternative to replace conventional classes.

OP10

Does Burden Mediate the Relationship of Caregiving Demand and Resource with Burnout in Dementia Caregiving? An Application of the Job Demand-Resource (JD-R) Model

Nuurain Amirah MR¹, Halimatus Sakdiah M², Hayati K², Mohd Hafiz J¹, Amirah A¹, Mohamed Fakri AB¹, Tengku Amatullah Madeehah TM¹

¹Public Health Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Bandar Baru Nilai, Malaysia

²Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Malaysia

The increasing prevalence of dementia patients in Malaysia has put more people in the community to get involved in dementia caregiving. Caring for dementia patients without adequate resources, that is social support (SS) is difficult especially in the presence of the demand factor, that is the behavioral and psychological symptom of dementia (BPSD), which could lead to burnout. To apply the primary demand and resource factor of dementia caregiving in the JD-R model of burnout as to investigate the burnout process among informal caregivers of dementia patient in Klang Valley, and to determine the mediating role of caregiving burden on the relationship between caregiving demand and resource with burnout. This is a cross-sectional study among 271 informal caregivers of dementia patients who attended the outpatient clinics of selected hospitals in Klang Valley. Caregivers were chosen through proportionate random sampling and given self-administered questionnaires consisting of NPI-Q, MSPSS, ZBI, and MBI tools. Burnout dimensions were studied as the dependent variables, while severity of BPSD and SS as the independent variables, and caregiving burden as the mediating variable. Data were analyzed using IBM SPSS AMOS for path analysis. The significant direct relationship between BPSD and EE ($B=.102$, $p=.012$), as well as SS and EE ($B=-.120$, $p=.027$) remain significant in the presence of burden, which implicates the partial mediation role of burden. Meanwhile, only the indirect relationship between BPSD ($B=.221$, $p=.001$) and SS ($B=.092$, $p=.008$) with DP were significant in the presence of burden, which shows a full mediation role of burden. EE and DP were the primary burnout dimensions contributed by severity of BPSD and SS, in the presence of burden. Partial mediation role of burden was observed in the relationship between caregiving demand and resource with EE, while full mediation in the relationship between caregiving demand and resource with DP. To reduce the impact of BPSD and low SS, caregiving burden should be assessed early and intervened by overcoming the specific burdens experienced by caregivers to prevent EE and DP.

OP11

Factors Associated with Knowledge of Latent Tuberculosis Infection Among Medical and Nursing Students in Negeri Sembilan, Malaysia

Lailatul Hazzliza M¹, Aini A², Zarini I¹, Nurul Azmawati M¹, Nizam B¹, Shalinawati R¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.

²School of Nursing, KPJ University College, Nilai, Negeri Sembilan, Malaysia

Tuberculosis (TB) is among the leading global causes of death from a single infectious agent in the developing world. Exposure to *Mycobacterium tuberculosis* among medical and nursing students may contribute towards development of latent tuberculosis infection (LTBI) cases. To determine level of and factors associated with knowledge of LTBI among medical and nursing students. A cross sectional study was conducted among medical students in clinical years (year 4, 5 and 6) and nursing students (year 1, 2 and 3) using simple random sampling. All participants completed online questionnaire which included the following: demographic profile, exposure to tuberculosis, knowledge about LTBI. A 15 items knowledge scale was developed. Response options were “yes,” “no,” or “not sure”. Each correct answer scored 1 point and incorrect/not sure answer scored 0. Total knowledge score (max 15) was calculated and converted into percentage. Scores in percent were categorised according to Bloom’s classification of low, moderate and high level of knowledge. Mean (SD) age of the respondents was 22.0 (2.4) years. Most of respondents were female (77.7%) and have heard about LTBI (79.1%). Most of the respondents did not have any history of close family (87.0%) and friends (74.5%) with tuberculosis. Only 21.4% had high level of knowledge of LTBI, while 40.9% was moderate and 37.7% was low. Factors significantly associated with higher knowledge of LTBI were age, ever heard about LTBI, history of friends with TB, ever had Mantoux test, course (medical/nursing), year of study, clinical hours per week and history of exposure to TB patients. Overall, the level of knowledge of LTBI among medical and nursing students was moderate. Several factors were associated with level of knowledge of LTBI. Health institutions need to emphasize on LTBI among healthcare students.

OP12

Knowledge and Practices Towards Sexually Transmitted Infections (STI) Among Patients Attending STI-Friendly Clinic in a Primary Care Practice

Raihan AA^{1, 2}, Ezura Madiana MM¹

¹Department of Family Medicine, Faculty of Medicine, University Kebangsaan Malaysia, Malaysia

¹Klinik Kesihatan Bandar Sungai Petani, Sungai Petani, Kedah, Malaysia

Sexually transmitted infections (STIs) are curable but has high morbidity if left untreated. World Health Organisation (WHO) estimated around 1 million people acquire new infections every day. The Ministry of Health, Malaysia has established several STI- friendly clinics (STIFC) in primary care settings that are accessible to the most at-risk population (MARP). There are limited studies on knowledge and practices towards STI among patients attending the STIFC. This study intended to evaluate the knowledge and practices of patients attending the STIFC in primary care practice. This cross-sectional study recruited 96 patients attending the STIFC in Klinik Kesihatan Bandar Sungai Petani. A validated self-administered questionnaire was used to assess the knowledge and practices towards STI. The median age of the participants was 29.0 (IQR =15), while the median age for the sexual debut was 20 (IQR=3). The majority of them were male (75.0%), Malay Muslim (82.3%), single (65.3%), had secondary education level (62.5%), employed (78.1%), from low-economic status (76.9%), non-heterosexual (59.5%) and had no previous history of STI (67.0%). The median score for knowledge on STI was 18.50 (IQR=13). Age, marital status and sexual orientation were significantly associated with knowledge level ($p<0.05$), while the heterosexual group was more likely to have poor knowledge compared to the non-heterosexual group (AOR 3.55, 95% CI=1.062-11.864). Preventive practices among the participants were low as only 46.9% used condoms during the last sexual intercourse, only 52.1% had sexual intercourse with one partner and only 31.7% had annual STI testing. More than 50% of the participants reported engaging in at least one risky sexual behaviour. Gender, total household income, history of previous STI treatment and knowledge level were significantly associated with condom usage during previous sexual intercourse ($p<0.05$), while sexual orientation was significantly associated with sexual intercourse with one partner ($p<0.05$). The STI knowledge among participants was moderate and the preventive practices towards STI were poor. There is a need to formulate a concise module of educational and behavioural interventions in managing STIs in primary care.

OP13

A Rare Case of Spontaneous Intraperitoneal Bladder Rupture Post Normal Vaginal Delivery - Conservatively Treated

Assyifaa NM¹, Siti Soraya AR¹, Ahmad Farid Z¹, Mohd Zulkimi R¹, Ahmad Shauqi AR²

¹Radiology Unit, Faculty of Medicine and Health Sciences, University Sains Islam, Malaysia (USIM)

²Radiology Department, Hospital Ampang

Spontaneous bladder rupture is an extremely rare complication following normal vaginal delivery. It is considered a surgical emergency requiring surgical repair, either via laparotomy or laparoscopically. A 28-year-old Indonesian lady, Para 2, day 6 post spontaneous vaginal delivery at home, presented to Emergency Department complaining of abdominal distension and incomplete voiding for 1 day. No fever and no excessive PV bleed. She denied history of trauma or massage. Antenatally was uneventful. On examination, she was tachycardic with heart rate of 120 beats per minute. BP was 144/90 and she was afebrile. Her abdomen was distended and tender. Other examination was unremarkable. She had leukocytosis with white cell count of 18. Her renal profile showed acute kidney injury picture. Other blood parameters were normal. Urinary catheterization showed gross hematuria. Urgent CT cystogram revealed 1.0cm rupture at the posterior wall of the urinary bladder with gross ascites. She was counselled for emergency surgery but refused and opted for conservative treatment. She was hydrated, given antibiotics and put on continuous bladder drainage for 1 month. She recovered well and the ascites had resolved. She refused for repeat cystogram. Perineal pain during puerperium may cause poor bladder emptying and results in urinary retention. Subsequently, if this condition continues, it may lead to increase in intravesicular pressure and later pressure necrosis and rupture ensues. Therefore, adequate bladder evacuation is utmost important to prevent this complication. Treatment of urinary bladder rupture depends on the site of perforation, either intraperitoneal or extraperitoneal. Intraperitoneal rupture is usually treated surgically and extraperitoneal rupture is treated conservatively. Intraperitoneal bladder rupture is a rare complication following normal vaginal delivery, mounting for urgent surgical intervention. This case illustrates possibility of conservative treatment with prolonged use of indwelling urinary catheter.

OP14

Knowledge and Perception of Young Adults Patients Towards Dental and Fake Veneers

Wan Nor Syariza WA¹, Nusima M¹, Hazira MY¹, Abdul Aziz A², Nurafifah A²

¹Department of Conservative Dentistry & Prosthodontics, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

²Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

The increase of desire to have a better smile has led to the arise of fake cosmetic dental treatment such as veneers. As a consequence, patients faced more problem from fake veneers which require study to assess the factors lead to this incidence. This study aimed to assess the knowledge on veneers and perception of dental aesthetics on dental and fake veneers among young adults in Nilai, Negeri Sembilan. An adapted online questionnaire Google Forms links were distributed by using convenient sampling method through WhatsApp® application to young adults (aged 18 to 25 years old) in Nilai, Negeri Sembilan. It consisted of three sections; sociodemographic, assessment of knowledge and aesthetics perception of veneers. A five-point Likert scale was used and data was analyzed for the descriptive results. A total of 227 responded to the survey which consisted of 70.5% (n=160) female and 29.5% (n=67) male. Poor knowledge on dental veneers were noted with mean score 3.65 ± 2.09 . Female respondents have better knowledge than male ($p > 0.05$) and mostly had the knowledge from social media (67%). Only 2.2% (n=5) of the respondents have had dental veneers. 44.5% (n=101) have seen or read advertisements on fake veneers. For respondents on the perception of aesthetics, 50.2% (n=114) of them responded that fake veneers have better colour, shape and attractive smile compared to dental veneers. Veneers that were opaque and chalky white was more preferable by the respondents (49.3%, n=112) over natural looking dental veneers. The knowledge on dental veneers among the young adults are poor. Most respondents obtained their knowledge through social media. They thought that fake veneer is more aesthetic than dental veneer which showed importance of correct dental treatment education and awareness among young adults.

OP015

Telemedicine: Effectiveness, Drawbacks, and Challenges

Syahida S¹, Nor Eyzawiah H², Nor Azirah S², Siti Asmat MA², Nurafifah²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia

²Otorhinolaryngology Head And Neck Surgery, Surgical-Based Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia

Telemedicine is the application of advanced telecommunications technologies to diagnose, conduct research, transfer patient data, and/or improve patient care and treatment in remote places. During pandemic COVID-19, the use of telemedicine has been on the rise amidst this emergency circumstance. This literature review aims to identify the different types of telemedicine available in healthcare, discuss the benefits and drawbacks, effectiveness, problems, and challenges of telemedicine, and discuss telemedicine from a medico-legal and Islamic perspective. A literature search was done through PubMed, Medline and Google Scholar using keywords telemedicine, teleconsultation, video conferencing and Covid-19. Original articles and paper reviews were obtained and analyzed. The related information was retrieved and concluded in this article. Outpatient services were the highest use of real-time telemedicine and involved various subspecialties, with internal medicine being the highest department. The advantages of telemedicine were that it was able to reduce consultation time, overcome geographical barriers, increase patient compliance, reduce healthcare spending, and be more cost effective. The disadvantages were that they needed technical training, inadequate physical examination, and a lack of a standardised format of interaction. Telemedicine has proven its effectiveness when it has been used worldwide and has been getting lots of positive feedback from patients. However, poor service, internet access, and trustworthiness were among the challenges for telemedicine. Telemedicine is a good implementation in current modern world for both patients and clinicians, however there are some improvements that need to be done from time to time to make it better and realistic.

OP016

The Prevalence and Factors Associated With Perceived Stress Among Senior and Junior Doctors During the COVID-19 Pandemic in Johor District Health Offices

Rahayu O¹, Noor Hassim I¹, Nazarudin S¹

¹Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaacob Latiff, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

The COVID-19 pandemic has triggered a massive public health emergency and exerted massive psychological strain on various communities and workers, particularly medical frontliners who have direct contact with patients. The present study aimed to estimate the prevalence of perceived stress among senior and junior doctors and assess the associated factors (sociodemographic, work-related factors, coping strategies, and fear of COVID-19). A cross-sectional study was conducted among senior and junior doctors working in Johor District Health Offices, in June 2021. A structured questionnaire consisting of the sociodemographic, validated Perceived Stress Scale (PSS-10), Brief COPE questionnaire, ASSET Doctor Stressor Inventory (ADSI) questionnaire, and Fear of COVID-19 scale (FCV-19S) was utilised to evaluate all the variables. Data were collected using self-administered questionnaires through online Google Forms. Regression analysis was performed to identify factors associated with perceived stress. Total of the 251 senior doctors and 167 junior doctors participated in this study. Both groups experienced moderate to high perceived stress with 66.5% for junior, and 69.8% for senior doctors. Usage of coping strategies were similar among both group, with applying religion as the most common strategy. Fear of COVID-19, coping strategies, home and work conflict emerged to be the significant factors in perceived stress among both groups. Moreover, female doctor, had medical illness and performed overtime identified significant factor associated with perceived stress among junior doctors. Stress is prevalent among senior and junior doctors involved in the COVID-19 response team and they require urgent attention. The findings suggest relevant factors, including fear of COVID-19, coping strategies, home and work conflicts, in influencing doctors' experience of stress during the COVID-19 pandemic. The varied predictors of perceived stress identified may inform targeted interventions to support these doctors in current and future challenges.

OP017

Experience of Psychiatric Education Among Medical Students of a Malaysian University During the COVID-19 Pandemic

Chuang Hock T¹, Yoke Yong C¹

¹*Department of Psychological Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia*

Delivering medical education had been very challenging during the COVID-19 pandemic and there was no exception to psychiatric education. Redesignation of the teaching method was urgently required to fulfill the academic needs. The study aims to evaluate the learning experience of psychiatric education among medical students of a Malaysian University during the COVID-19 pandemic. The retrospective cohort study adopted a mixed-method to evaluate the medical students' perception of the curriculum in helping them to acquire psychiatric knowledge and their confidence level in applying the medical knowledge at the end of the clinical rotation. A total of 122 responses were received from April 2021 to May 2022. The students reported several components of the curriculum were very helpful in learning which included psychiatric interview demonstration (77.0 %), bedside teaching (73.8%), case-based learning (66.4 %), psychosocial skill laboratory (PSL) (63.9 %), and mini-Clinical Evaluation Exercise (mini-CEX) (71.3 %). Having a small group discussion during case-based learning and bedside teaching sessions using simulated patients helped consolidate the understanding of the important topics. Besides, the students also appreciate the more humanistic approach via PSL as they learned practical communication skills and self-help psychological measures that are beneficial in dealing with their stress in times of crisis and could interact effectively with patients in a more empathetic manner. The majority stated that they had more positive perceptions of mental illness and recognize the importance of having mental health. In addition, they became more confident in applying the knowledge in their daily life. Blended learning could be effective for psychiatric education and paying attention to student well-being whilst providing a supportive and safe learning environment is equally essential during the pandemic time.

OP018

Development of an Integrated-Weight Management Programme in Malaysian Government Primary Care Clinics Based on Focus Group Discussions

Siew Tin T^{1,2}, Sherina MS¹, Lekhraj R³, Kit-Aun T, Zuriati I⁴, Ummu Kalsum M⁵, Fuziah P⁶, Nor Hazlin T⁶, Naemah S⁷, Normala I¹

¹Department of Psychiatry, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, UPM Serdang

²Faculty of Applied Sciences, UCSI University, Cheras

³Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, UPM Serdang

⁴Department of Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, UPM Serdang

⁵Klinik Kesihatan Dengkil, Ministry of Health, Sepang

⁶Klinik Kesihatan Kajang, Ministry of Health, Kajang

⁷Klinik Kesihatan Bandar Seri Putra, Ministry of Health, Kajang

One of two Malaysian adults is overweight or obese. Reviews have shown that randomised controlled trials on weight management programme in Malaysia are currently lacking. Therefore, an integrated-Weight Management Programme (i-WMP) was developed to evaluate its effectiveness in reducing body weight (BW) among non-communicable disease (NCD) patients. Focus group discussions (FGDs) were conducted to gain insights from stakeholders for the development of the i-WMP. FGDs were conducted separately involving NCD patients (n = 6) and health care providers (n = 5) from a Malaysian government primary clinic, Sepang District, Selangor. Purposeful sampling was used to invite participants. Two sets of open-ended questions were prepared beforehand for FGD. Consent was obtained from all participants for their voluntary participation and permission for audio recording during FGDs. The mass data were transcribed, coded, and categorized. Patients knew that body mass index was used to classify their BW status. The consequences of being overweight or obese include NCDs, difficulty to work, difficulty in mobility/prayer, fatigue after a long walk, waist pain at work, difficulty to breath when hiking up the hill, cracking on the bottom of their feet, and not being able to walk too fast. Patients had demonstrated dietary control (less rice, reduce food intake or sweet drinks) to lose weight. Some patients did gardening, walking leisurely to reduce BW. Patients shared their motivation, barriers, and solution to losing weight, and their daily routine. They were keen to know the methods and daily action plans in weight management. Health care providers feedbacked that existing weight management in primary care was mainly focused on healthy eating and physical activity. Solutions to overcome patient barriers to losing weight were shared by them. Insights from the FGDs was incorporated into the development of i-WMP to improve patient motivation and programme effectiveness

OP019

Clinical Outcome and Tolerability of Paxlovid Among COVID-19 patients Attending COVID Assessment Centres (CAC) in Negeri Sembilan

Noor Mikraz MI¹, Nur Haizumraimi AR², Jusnimar KY³, Nor Azila MI⁴

¹Klinik Kesihatan Seremban 2, Ministry of Health, Malaysia

²Klinik Kesihatan Desa Rhu, Ministry of Health, Malaysia

³Klinik Kesihatan Juasseh, Ministry of Health, Malaysia

⁴Klinik Kesihatan Nilai, Ministry of Health, Malaysia

Covid 19 remains global health emergency. Despite evidence of Covid 19 vaccinations effectively reducing mortality, the protection waned overtime. There are concerns regarding adverse events following vaccinations, the need for booster injections and efficacy against new variants. Few antivirals authorized for emergency use by United States Food and Drug Administration (USFDA) including Nirmatrelvir/Ritonavir (Paxlovid) proven to reduce hospitalization and mortality. Like vaccines, there are concerns on the adverse events and rebound of Covid 19 infections following antiviral treatment. Paxlovid has been available in Malaysia since April 2022 and no published data on tolerability of the medication among our patients yet. To evaluate the tolerability and clinical outcome of Covid-19 patients receiving Paxlovid in Negeri Sembilan. We performed a prospective observational study of all patients prescribed with Paxlovid from 25th April 2022 until 15th June 2022. These patients were contacted via phone by pharmacists at day 3 and day 5 of treatment to assess for adherence and tolerance to the medication. Another followed up call after day 28 was done to assess clinical outcome. Out of 816 patients visited CAC in Negeri Sembilan during study period, 240 patients were eligible for Paxlovid. 107 patients (44.58%) agreed to start on Paxlovid. 97 patients (90.7%) completed 5 days course of Paxlovid while 10 (9.3%) did not complete due to side effects. Majority (n=63, 58.9%) did not experience any side effects. The most common side effects reported were dysgeusia (n=30, 28%), diarrhea (n=20, 18.7%) and myalgia (n=7, 6.5%). None of the patients on Paxlovid were hospitalized or died within 28 days of follow up. Paxlovid is well tolerated by patients in this study whereby less than 10% could not complete due to self-limiting side effects. All patients recovered well with no history of hospitalization or death after 28 days of treatment.

OP020

Trimodality Image Registration for Aortic Valve Diagnosis and Surgical Guidance

Aisyah R¹, Azira K¹, Muhammad Mokhzaini A², Khin Wee L³, Siti Normasitah M⁴

¹Faculty of Science and Technology, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

²Faculty of Engineering and Built Environment, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

³Department of Biomedical Engineering, Faculty of Engineering, Universiti Malaya, Kuala Lumpur, Malaysia

⁴Faculty of Engineering and Built Environment, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia.

Ultrasound (US) has revolutionized imaging techniques in transcatheter aortic valve implantation (TAVI) and transcatheter valve replacement (TAVR) by providing temporal and spatial information related to the anatomical structure and components of a surgical device during minimally noninvasive surgery. However, US has certain limitations, particularly the target tissue's position and orientation. Cardiac computed tomography (CT) and magnetic resonance imaging (MRI) provide preoperative detail functional and anatomical images for aortic valve disease. Thus, integrating these three modalities via trimodality image registration can improve the diagnosis and treatment for TAVI and TAVR. This goal is to establish a registration framework to fuse 2D US images of the aortic valve with preoperative cardiac CT and MRI volume images. To investigate a temporal and spatial registration for trimodality image registration and to determine the image registration validation procedures based on the clinical indices for the trimodality image registration. Patients diagnosed with cardiovascular diseases in the Serdang hospital between 2015 to 2020 were retrospectively analyzed. The investigation of trimodality image registration framework consists of three significant steps: temporal synchronization, spatial registration and validation of the trimodality image registration scheme. The accuracy of the trimodality registration method in terms of Dice similarity coefficient was 0.92 ($\pm$ 0.05) and 0.92 ($\pm$ 0.04) compared with US-CT and US-MRI in short-axis "Mercedes Benz" sign views, respectively. Meanwhile, Hausdorff distance was 4.66 ($\pm$ 0.69) and 4.67 ($\pm$ 0.68) for both pairings. The results indicate the excellent accuracy of the proposed technique to enhance image-guided systems for aortic valve surgical procedure. Trimodality US-CT-MRI, which combines the robustness of the methods while restricting their weaknesses, emphasizes the importance of imaging in guiding aortic valve treatment procedures. Despite being new, this trimodality can already be adopted in clinical practice and has achieved substantial clinical result.

OP021

Psychological Distress Among Acne Patients and its Association With Functional Disability Index

Suhaiza S¹, Zuliyasmin Z¹, Noor Artika H², Rajalingam R³, Rasimah I⁴

¹Department of Family Medicine, Kuliyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia

²Department of Community Medicine, Kuliyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia

³Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan, Malaysia

⁴Department of Medicine, Sultan Ahmad Shah Medical Centre@IIUM, Kuantan, Malaysia

Acne is the most common skin disease among adolescents and has a significant psychological impact. To assess acne severity, functional disability, and its psychological impact among acne patients. A cross-sectional study was conducted from November 2021 to May 2022 among 163 acne patients attending Dermatology Clinics in the district of Kuantan, Pahang. The severity of acne was graded using the Comprehensive Acne Severity Scale (CASS). The functional disability index was measured using a Cardiff Acne Disability Index (CADi), while Depression, Anxiety and Stress Scale (DASS-21) questionnaires were used as a screening tool to detect the psychological impact of acne. Data were analysed using a Chi-square test, Fisher's exact test and multiple logistic regression. Of these respondents, the mean age was 22.58 years, 60.1% were female, 94.5% were Malay, and 68.1% were unemployed. Out of 163 respondents, 1.2% fall in the very severe category of acne, 19.6% fall into the severe category, 28.2% in the moderate category, and 30.7% in the mild category. In contrast, 17.8% were found to have almost clear of acne severity. DASS scores indicated that 20.2%, 11.0% and 4.9% of the respondents had anxiety, depression and stress symptoms, respectively. Regarding the respondents' functional disability, 40.5% had mild impairment, 38.0% had a moderate impairment, and 13.5% had severe impairment. The functional disability index was found to be significantly associated with depression ($p < 0.05$), anxiety ($p < 0.05$) and acne severity ($p < 0.05$). However, no significant association was found between acne severity and the DASS-21 score. The severity of acne had an impact on the patient's functional disability. Clinical management of acne patients should focus not only on the pharmacological treatment but must consider the functional disability status and psychological impact of the disease.

OP022

Expression of Inhibitory Neurotransmitter GABA A Receptors in Human Dental Pulp: A Potential Role in Dental Nociceptive Signalling

Diveyaa S¹, Wan Nazatul Shima S¹, Rosmaliza R¹

¹*School of Dental Sciences, Universiti Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia*

γ -Aminobutyric acid (GABA) is an inhibitory neurotransmitter present in the nervous system. By binding to its receptors, GABA inhibits the firing of action potentials, thus modulating pain transmission in the central nervous system (CNS). Recent evidence suggests that GABA may also play a role in modulating peripheral pain transmission. While the expression of GABAergic machineries have been previously reported in human dental tissue, it has yet to be established whether GABA receptors do in fact play a role in dental pulp nociception. As the active binding site for GABA sits between the α and β subunits of the GABA A receptor, we studied the most abundant subtype of these two subunits, $\alpha 1$ and $\beta 2$. Dental pulp from sound human premolar and molar tooth were used for gene expression studies. Reverse transcriptase polymerase chain reaction (RT-PCR) was carried out to determine the expression of GABA A receptor subunits $\alpha 1$ and $\beta 2$ in the dental pulp. RT-PCR results indicate the presence of both the $\alpha 1$ and $\beta 2$ subunits suggesting that GABA A receptors are present in the human dental pulp and comprise of these subunits. Identification of such molecular targets involved in dental pain signaling will provide a foundation for further research into understanding the mechanisms of dental pain pathway that could be a target for intracanal analgesics.

OP023

The Knowledge, Attitude and Practise (KAP) of Overweight and Obesity Among Staff of Universiti Sains Islam Malaysia (USIM)

Jamaah M¹, Mohd Rahman O², Tengku Amatullah Madeehah TM³

¹University Health Centre, Universiti Sains Islam Malaysia, Nilai Negeri Sembilan, Malaysia

²Medical Based Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai Negeri Sembilan, Malaysia

³Primary Health Care Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai Negeri Sembilan, Malaysia

Obesity causes a significant burden and contributes to various health issues. Other risks leading to obesity include unhealthy food, an imbalanced diet, a lack of knowledge, low awareness, and poor physical activities. Our earlier study demonstrated that 70% of USIM staff are overweight or obese; thus, we embarked on this study to i) evaluate the knowledge, attitude, and practise (KAP) of overweight and obesity among University Sains Islam Malaysia (USIM) staff and ii) determine the relationship between the variables of the KAP. A cross-sectional online survey was distributed through email, involving all USIM staff. The participants are voluntary and anonymous. The questionnaire contained sociodemographic data, and for KAP, there are 45 items (15 each) with a 5-point Likert scale scoring. The maximum score for each component is 75, for a total of 225. A total of 388 responses were obtained. The mean knowledge score was 60.6 ± 8.3 ; the attitude score was 49.13 ± 6.7 , the practice score was 42.44 ± 7.1 ; the total KAP score was 152.15 ± 22.1 and, the total KAP score was 152.15 ± 22.1 . There is a weak correlation between knowledge and practice, $r = 0.15$ ($p > 0.05$), and between knowledge and attitude, $r = 0.30$ ($p < 0.05$), but a strong positive correlation between practice and attitude, $r = 0.967$ ($p < 0.01$). A one-way ANOVA showed significant differences in the practice scores of respondents according to body mass index group: normal weight (43.50 ± 7.1), overweight (43.35 ± 6.4), and obesity (39.85 ± 7.2) ($p < 0.05$). There was also a significant difference in attitude scores between groups of normal weight (49.6 ± 6.9), overweight (50.1 ± 6.3), and obesity (47.2 ± 6.9) ($p < 0.05$). KAP among USIM staff regarding obesity was good in terms of knowledge but lower score in attitude and practices. Therefore, health intervention, education, awareness and exercise program should be carried out for the USIM staff.

OP024

Prevalence of Platelet Dysfunction and its Association With Urea Level and Other Parameters in Patients With Chronic Kidney Disease

Ruslinda M¹, Nurul Nadiah I², Nurasyikin Y³, Lydia K¹, Theepa Nesam M¹, Zulkefley M⁴, Shamsul Azhar Shah⁴, Rahmah K⁵

¹Nephrology Unit, Medical Department, Faculty of Medicine, Universiti Kebangsaan Malaysia

²Internal Medicine Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia

³Specialised Hemostasis Unit Pathology Department, Faculty of Medicine, Universiti Kebangsaan Malaysia

⁴Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia

⁵Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia

Chronic kidney disease (CKD) patients are at a higher risk of bleeding due to the uremic toxins induced platelet dysfunction. Evidence on the relationship between platelet dysfunction and urea level remains scarce. Primary objective is to determine the prevalence of platelet dysfunction in CKD with estimated glomerular filtration rate (eGFR) less than 45mls/min/1.73m² and the secondary objectives are to determine the association of urea level and other laboratory parameters with platelet dysfunction. This was a cross-sectional study among 246 CKD patients testing platelet functions via the aggregation phase of the primary hemostasis pathway using Light Transmission Assay (LTA) against Adenosine diphosphate (ADP) at 5uM and 10 uM concentration as well as arachidonic acid (AA) at 0.5mM as platelet. Linear and logistic regression analyses were performed to assess the risk for platelet dysfunction. The prevalence of platelet dysfunction was 47.6% (N=117) and mainly categorized based on failure of platelet aggregation against ADP 5uM and 10uM (N=45, 18.3%), thirty-three (13.4%) have inhibition towards all the agonist and ADP 5uM (N=17, 6.9%). The bivariate analysis showed no association between urea levels at any value with platelet dysfunction (p=0.633). The logistic regression model showed higher hemoglobin increased the risk for platelet dysfunction [adjusted odds ratio (adj OR) OR 1.18]. Meanwhile, a higher platelet count has a protective factor for platelet dysfunction (adj OR 0.99). Among the stable CKD patients in this study, about half of them had platelet dysfunction indicating the importance of determining the platelet function of those with high bleeding risk. However, urea level was not associated with platelet dysfunction. Therefore, elevated urea level should not be the primary target in reducing bleeding risk in CKD patients.

OP025

Knowledge and Practice of Childhood Immunization Among Parents in Kelantan, Malaysia During the COVID-19 Pandemic in 2021

Jamil Aiman MB¹, Intan Juliana AH², Mohd Rizal MZ³, Fahisham T³

¹Faculty of Medicine and Health Sciences, University Sains Islam Malaysia, Nilai, Malaysia

²Primary Immunodeficiency Disease Group, Regenerative Medicine Cluster, Institut Perubatan & Pergigian Termaju, Universiti Sains Malaysia, Pulau Pinang, Malaysia

³Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia

Childhood vaccination coverage is low in Kelantan compared to other states in Malaysia. This study aims to determine the knowledge and practice of immunization among parents in Kelantan during the pandemic and correlate with their demographic characteristics. A cross-sectional study was carried out using a validated online questionnaire throughout the month of May to June 2021. Invitation was distributed to parents attending Hospital Universiti Sains Malaysia, Kelantan and the extended family of the staff through online platforms. A total of 311 parents were included in the study. The questionnaire consists of ten questions each on knowledge and practice and three questions pertaining to vaccination status. The majority of the respondents were Malay (94.2%), Muslim (94.5%) women (79.7%) and married (96.1%). Median score for immunization knowledge was 8 (IQR 2) and for practice was 7 (IQR 3). Area of residence, age, number of children, education level, employment and household income were significantly associated with immunization knowledge and practice (p- value 0.05). Higher parental education with better household income were significant positive predictors of better knowledge and practice. Majority of parents (97.8%) completed their child's vaccination despite the pandemic. There is good immunization knowledge and practice among parents in Kelantan. The pandemic might have contributed to the increase in parental awareness on the importance of vaccination. Improving education levels and addressing income inequality in the population are possible strategies to further boost immunization coverage in Kelantan.

OP026

Characterisation of 1-methyl-1-nitrosourea (MNU)-Induced Mammary Carcinogenesis in Curcumin-Treated Rats

Martina IK¹, Nur Arnida MS¹, Aidy Irman Y², Nor Hayati O², Nur Asyilla CJ²

¹Department of Chemical Pathology, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia

²Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia

Curcumin is one of the bioactive compounds of turmeric, *Curcuma longa*. This compound has demonstrated the potential to deter several diseases, including breast cancer. To examine the effects of different curcumin dosages in rat breast carcinoma using the 1-methyl-1-nitrosourea (MNU) animal model. Thirty nulliparous female Sprague-Dawley rats were grouped as follows: NC (untreated rats), PC (positive control), CUR1 (50 mg/kg curcumin), CUR2 (100 mg/kg curcumin) and CUR3 (200 mg/kg curcumin). Rats in all groups, except NC, were intraperitoneally injected with a single dose of MNU (80 mg/kg) to promote mammary tumour growth. After 120 days, the tumour masses were excised and subjected to gross examination and histopathological analysis. The tumour incidence was the lowest and comparable between PC and CUR2 at 67%. Meanwhile, the tumour latency period was the longest in CUR2 (77 days) compared to PC (73.5 days) and other curcumin treatment groups. All curcumin-treated rats recorded higher tumour multiplicity, size and weight than the positive control. The tumour grade of curcumin-treated rats was mostly Grade I, whereas most untreated tumours were of Grade II based on the modified Bloom-Richardson grading system. The rat mammary tumours in this study exhibited more combination patterns than a single pattern, consisting of mainly non-special type (NST), cribriform and papillary. Furthermore, the highest macrophage, necrosis, and lymphocytic infiltrations were found in the PC group compared to the curcumin-treated rats. The ballooning of cells was most evident in CUR2, followed by PC, CUR3, and CUR1. Curcumin (100 mg/kg) could potentially interfere with rat breast carcinogenesis, resulting in lower tumour grade and incidence, prolonged tumour latency, and higher cell vacuolation. Nevertheless, further investigation is necessary to elucidate the curcumin mechanism of action in breast cancer, including the different components of the tumour microenvironment, such as the immune cells.

OP027

Management of Developmental Dysplasia of the Hip in Two Years of Age: A Case Report

Muhammad Ihsan K^{1, 2}, Rheza Setiawan B², Akhmad Muhajir², Mohammad Asri A¹

¹Department of Emergency, Faculty of Medicine, University of Muhammadiyah Makassar,

²Department of Orthopaedic and Traumatology, Faculty of Medicine, Hasanuddin University Makassar, Indonesia

Developmental dysplasia of the hip (DDH) is one of the prevalent musculoskeletal conditions in children and is a leading cause of hip osteoarthritis in the future. The non-surgical and surgical intervention are recently debatable. The lack of management guidelines and standard practice of DDH leads to different practices worldwide. The objective of this study is to evaluate the efficacy of closed reduction combined with serial hip spica cast treatment in a patient with bilaterally dislocated hips. Patient presenting with bilaterally dislocated hips with no prior treatment were examined. This patient was treated with closed reduction and serial hip spica cast. Successful treatment was defined as relocation of the hips within one year of hip spica cast application. Closed reduction with hip spica cast in this patient was preferable treatment. The maximum duration of first-line treatment possesses a broad range. The clinical and radiographic success in one year of treatment was acquired. The use of the closed reduction combined with hip spica cast in dislocated hips is associated with a highly successful rate.

OP028

Investigating the Association of Anti-Depressant Medications in Relation to the Risk of Breast Cancer: A Systematic Review and Meta Analysis

Sangita P¹, Khairun Nain NA¹, Natasya A², Haslinda R³

¹Department of Basic Medical Sciences I, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

²Pharmacology Unit, Department of Basic Medical Sciences II, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

³Department of Dental Sciences, Faculty of Dentistry, Universiti Sains Islam Malaysia

COVID-19 has resulted in dramatic changes to normal life and there is emerging evidence of increasing incidence of mental illness such as depression. Management of depressive illnesses have involved numerous drugs supported by evidence from many decades of clinical research. Currently SSRIs and SNRIs are considered first-choice medications for treating depression. However there has been a subtle question of whether use of anti-depressants is related to an increased risk of breast cancer, a leading cause of death in women. This systematic review and meta-analysis aim to examine the association between the use of antidepressants (AD) and the risk of breast cancer in women. Systematic search for primary studies looking at any association between AD and breast cancer will be performed using the following national electronic databases for reports written in English; PubMed, Embase, The Cochrane Library. The search strategy will be implemented using combined index terms (Medical Subject Headings, Emtree) and free-text keywords. Eligible studies reporting on any relation or association between AD and breast cancer will be compiled and analysed. Methodological and reporting quality will be assessed using validated instruments and the reports will be graded accordingly. Considering the many different ADs in the market, we will focus on SSRIs/SNRIs since they are the most widely prescribed ADs and heterogeneity will be tested prior to conducting the meta-analysis. The findings of this study should stimulate further research to elucidate this possible association, such as large epidemiological studies to determine the strength of association as well as laboratory studies into the possible molecular mechanisms.

OP029

Knowledge and Awareness Toward the Importance of Physical Activities in Preventing the Risk of Colorectal Cancer Among Adults in Klang Valley

Ee Ann Y¹, Ambusam S², Nithiyah M¹, Vadivellu V²

¹Faculty of Health & Life Sciences, Inti International University, Negeri Sembilan, Malaysia

²Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman, Selangor, Malaysia

Colorectal cancer (CRC) is the second most frequent type of cancer in Malaysia with the highest 5-year prevalence rates among Asian countries. However, there is a dearth of studies conducted among Malaysians about CRC in terms of awareness and the importance of physical exercise as a means of reducing risk factors. This cross-sectional study aimed to analyze knowledge and awareness toward the importance of physical reduction as a measure to reduce the risk of CRC. A cross-sectional survey was conducted among 390 Malaysian in Klang valley aged 30-65 years. The questionnaire in the current study was adapted from previous similar questionnaire of Bowel Cancer Awareness Measure (CAM, consist of 33 questions on awareness of symptom of CRC, risk factor identification, knowledge of physical activity in preventing CRC and learning outcome. The results of current study revealed that 108 (27.7%) of participants were not aware of CRC and the importance of exercise 233 (57.9%). In the awareness of symptoms analysis, participants had lack of knowledge in identifying changes in the bowel habits over a period of weeks (57.8%), feeling that bowel doesn't completely empty after lavatory (81%), lump or bump in the abdomen (44.6) and unexplained weight loss (50.2%). Less well-recognized risk factors included low diet in fiber (33.8%), overweight (38.5%), increased age (38.2%), less physical activity (40.3%) and diabetic (45.1%). Nevertheless, 96.2% willing start to do exercise, and 82.3% have increased knowledge regarding CRC following completion of the survey. There is poor awareness among Malaysian on the role of physical activities in reducing risk of CRC. There is a crucial need to educate the population with intensive campaign and promotion to increase the awareness towards CRC and the benefits of physical activity in reducing the risk.

OP030

Parental Acceptance on COVID-19 Vaccination and its Associated Factors: A Systematic Review

Muhammad Firdaus R¹, Marjanu Hikmah E¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

COVID-19 vaccine has proven to reduce the severity of COVID-19 infection and its spread in the community. In Malaysia, the vaccine was administered to adults starting on 24th February 2021 and was only available for children starting on 3rd February 2022. Even with the positive outcome of the COVID-19 vaccine, the vaccination percentage among children nationally and globally is still low. This systematic review was done to analyze the prevalence of acceptance of the COVID-19 vaccination among parents/guardians (parents) for their children and to identify the factors that influence the parents' acceptance of the vaccine. A comprehensive literature search was performed using four databases (PubMed, Scopus, Science Direct and EBSCOhost) from inception to 28th February 2022. The term knowledge, attitude, perception, acceptance, and COVID-19 vaccine were used as the keywords. This analysis was reported in compliance with the PRISMA guidelines. Of 8630 identified records up to the 28th of February 2022, 22 eligible studies were included (n = 109,711). The vaccination acceptance rate ranged from 26.5% to 92.9% across countries and regions. The age, gender, educational level, socioeconomic status of the parents, their attitude and perception of the COVID-19 vaccines, the age of their children and the number of children they have are the most discussed. These factors are also the highest probable factors that influence the parental acceptance of the COVID-19 vaccination. The prevalence of the COVID-19 vaccination acceptance varies greatly across the world due to beliefs, geopolitical, socio-economic factors. Thus, national, and international interventions should be implemented to increase the COVID-19 vaccination acceptance rates among parents/guardians to assure our future generation is protected from COVID-19.

OP031

Unexplained Limbs Pain in a Young Adult: A Case of Multifocal Tropical Pyomyositis, the Great Mimicker

M Razali, Sakinah¹; Shariff, M Shaffid¹; Bain, M Ashaari¹; Nazarallah, M Hilmi¹, Azman, N Dina¹; Norazmi, AU Amir¹

¹Faculty of Medicine And Health Sciences, Universiti Sains Islam Malaysia

Tropical pyomyositis (TP) is a primary bacterial infection of the skeletal muscles. It is aptly known as the great mimicker due to lack of specific signs, and a wide range of differential diagnosis. It is infrequently found in more than one single large muscle. In this case we highlight the unfamiliar presentation in multiple muscle areas. The use of extra ancillary tests was pertinent leading to the diagnosis, and prompt definitive treatment is associated with a favourable outcome. A 25 years-old previously healthy male presented with myalgia of all four limbs, concomitant sepsis and multi-system derangement. Serology tests for melioidosis leptospirosis, dengue, and immunodeficiency disorders were negative, blood cultures were sterile. He responded poorly to empirical antibiotics. Ultrasound scans did not find venous thrombosis or hepatic pathology. A whole body computed tomography (CT) scan showed multiple intramuscular abscess over the axilla and bilateral hip and buttocks regions. Surgical drainage promptly follows where intraoperative cultures grew *Staphylococcus aureus*. The patient responded positively to cloxacillin and was discharged home well after secondary suturing of surgical wounds. Discussion: Multifocal TP (MTP) requires a high index of suspicion due to its unfamiliar presentation. It should be considered in healthy patients in tropical climates who present with fever, myalgia, leucocytosis, elevated inflammatory markers with negative serology tests. Radiological investigations such as CT scan have greatly improved MTP recognition hence its early use is warranted. Early diagnosis and subsequent treatment have lower mortality rates and less complications. This case illustrates the diagnostic dilemma of a patient presenting with myalgia of all four limbs associated the non-specific presentation of infection and laboratory tests that effectively masked the diagnosis of the MTP. CT scan is an adequate tool to detect the areas of infection. Definitive treatment by surgical debridement and antibiotics may lead to full recovery.

OP032

Significant Relationship Between Stunting and Head Circumference Growth in the First 3 years of Life: A Prospective Study

Priyantini, Sri¹; Nuha, Mohamad U²; Purnasari, Perez W³, Masyhudi⁴

¹*Department of Pediatrics, Faculty of Medicine, Sultan Agung Islamic University, Semarang, Indonesia*

²*Bachelor of Medicine Faculty of Medicine Sultan Agung Islamic University, Semarang, Indonesia*

³*Department of Pediatrics, Faculty of Medicine, Sultan Agung Islamic University, Semarang, Indonesia*

⁴*Department of Public Health, Faculty of Medicine, Sultan Agung Islamic University, Semarang, Indonesia*

The prevalence of stunting in Indonesia is around 24.4%, which is above the WHO recommendation standard, which is below 20%. Stunting is a chronic nutritional deficiency where there can be a delay in brain nerve growth. Head circumference is one of the parameters of brain growth. The aim of the study was to prove the difference in mean head circumference growth between the stunting and non-stunted groups in the first 3 years of life. Another objective is to prove the difference in the mean head circumference of children aged 3 years between the two groups. The study involved 50 subjects who were observed from birth to 3 years of age who were born at Sultan Agung Islamic Hospital and Bangetayu Public Health Center in Semarang City. The mean head circumference growth was assessed from the difference between birth head circumference and 3 year old head circumference divided by three (cm/year). Statistical analysis used t test and chi square. The mean head circumference growth in the stunting group was lower than the non- stunting group (4.1 v.s 4.6), $p=0.043$. The mean head circumference of stunted toddlers was smaller than that of non-stunted toddlers (44.9 vs. 47.2), $p=0.000$. There was a relationship between head circumference and nutritional status of HAZ ($p=0.001$) as well as WHZ, $p=0.031$. The growth of the head circumference of stunted toddlers was lower than the non-stunted group, as well as the head circumference is smaller than the non-stunted group.

OP033

Evaluation of B-Cell Populations in Children With Recurrent Infections

Jamaluddin, Jalilah¹, Ismail, Intan Hakimah¹, Mohamad, Siti Mardhiana², Mahayidin, Hasni³

¹*Clinical Immunology Unit, Department of Pediatrics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Kuala Lumpur, Malaysia*

²*Department of Community Health, Advanced Medical and Dental Institute, Universiti Sains Malaysia, Bertam, Pulau Pinang*

³*Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor*

Children with recurrent infections are commonly seen in paediatric practices and may lead to the suspicion of primary immunodeficiency (PID). Humoral or B-cell deficiency is the most common types of PID. Therefore, it is worth to investigate the possibility of B-cell dysregulation among this population. To evaluate the B-cell compartment in the peripheral blood of children with recurrent infections that have normal quantity of lymphocyte subsets and immunoglobulin levels. Methodology: We evaluated 26 children (13 children with recurrent infections paired with 13 healthy age-matched controls). The determination of B-cell subsets by flow cytometry was based on the expression of CD27, IgD, and IgM on the peripheral CD19+ B-cells. The values B- cell subsets between children with recurrent infections and the age-matched controls were compared using Mann-Whitney U-test. The value of B-cell subsets that below the age-matched reference range were considered as low or reduced absolute count. Among children with recurrent infections, two (15.4%) have reduced absolute count of total B cells, six (46.2%) have reduced total memory B cells, two (15.4%) have low naïve B cells, seven (53.8%) with reduced class-switched memory B-cells, five (38.5%) with low non- switched memory B-cells and four (30.8%) with reduced transitional B-cells. However, these values were not significant when compared to the age-matched control group. Reduced levels of total memory B cells in children with recurrent infections, though not significant compared to the control, deserve to be investigated further. A bigger sample size will provide a better correlation of this findings. Immunological investigations, including B cell subsets among children with recurrent infections are recommended, regardless of the normal lymphocyte subsets and immunoglobulin levels.

OP034

A Systematic Review of Gene Expression in Cervical Cancer: An Integrated Bioinformatical Analysis

Abdul Hamid, Nazefah¹, Rozaimée, Nur Quratul Ain¹, Abdul Rahman, Siti Norsharizah¹, Elias, Marjanu Hikmah Elias¹

¹Department of Basic Medical Science I, Faculty of Medicine and Health Sciences, Nilai, Negeri Sembilan, Malaysia

Cervical cancer is one of the main causes of cancer in women and the fourth cause of death in women worldwide. High throughput molecular techniques such as microarray and Next Generation Sequencing has been used as a tool to determine the differentially expressed genes in molecular landscape of cancer, especially in cervical cancer research. The objective of this study is to systematically review the gene expression profiling in cervical cancer and to analyse these differentially expressed genes using bioinformatical tools. Online databases (PubMed, Science Direct, Scopus and Ebsohost) were used to search for all eligible research articles. The following medical subject heading (MeSH) terms were used: cervical cancer or cervix dysplasia and gene expression or gene expression profiling in the title or abstract. The differentially expressed genes (DEGs) were identified from all articles. The DEGs were analyzed using the DAVID, STRING, and Cytoscape softwares. From a total of 5134 articles retrieved, only clinical studies using microarray or Next Generation Sequencing (NGS) as their methods of determining gene expression were selected. Six articles were found to meet the inclusion criteria. A total of 240 DEGs were extracted from all the articles. Ten significant clusters from the protein-protein interaction network (PPI) complex were identified, and cluster 1 showed very high intermolecular interactions (score=24.56). The genes in this cluster are mostly located in the nucleus and involve in cell cycle and cell division processes. Based on the analyses, the results managed to identify the differentially expressed genes that are commonly dysregulated in cervical cancer. These genes are involved in cell cycle, cell division and many other molecular mechanisms, thus has an important role in the pathogenesis of cervical cancer.

OP035

Prevalence and Factors Associated With Digital Health Literacy Level Among Population in Pondo, Negeri Sembilan

Jaafar, Hafiz¹; Azzeri, Amirah¹; T Mohd, Tengku Amatullah Madeehah¹; Mohamad Nor, Nadeeya 'Ayn Umaisara¹; Abu Baharin, Mohamed Fakhri¹; Baharom, Nizam¹; Ramli, Shalinawati¹; A. Rahman, Zairina A¹; Mohd Rani, Mohd Dzulkhairi¹; Mohamad Yusuff, Aza Sherin¹

¹Public Health Unit, Department of Primary Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.

Malaysia is currently moving towards the digitalisation of the healthcare system. The digital platform has been used as a medium to deliver health information. However, studies on digital health literacy (DHL) among Malaysians especially in rural areas were still limited. The objective of this study was to determine the DHL level and its associated factors (sociodemographic, internet attitude, internet use) among the population in Mukim Pondo, Tampin, Negeri Sembilan. A cross-sectional study was conducted among 206 residents aged 13 years old and above in Mukim Pondo, Tampin, Negeri Sembilan from 30th May 2022 to 8th July 2022. A simple random sampling method was used to select the study participants. Data collection was conducted via face-to-face interviews. A validated Malay version questionnaire (IAS-internet attitude scale) was used to collect data on internet attitude and internet use. For DHL, 8-item e-Health Literacy Scale (e-HEALS-Malay version) was used as the data collection tool. For descriptive analysis, data were presented in the form of frequency and percentage. Chi-square test and binary logistic regression were used to determine any association between the sociodemographic, internet attitude and internet use with DHL. Majority of the study participants were Malay (n=178, 86.4%), female (n=110, 53.4%), married (n=131, 63.6%), B40 group (n=171, 83.0%) and no chronic diseases (n=156, 75.7%). About 139 (67.4%) of the study participants had high DHL level with significance results (p-value <0.05) with DHL level were recorded for age, marital status, level of education, ethnicity, household income, internet use and internet attitude scale. The overall DHL level in Mukim Pondo was high. Educational intervention programs on DHL should be continued to ensure the sustainability of high DHL levels among populations, especially in rural areas.

OP036

Health Rationing Redux: How the COVID-19 Pandemic “Shrink-Flate” Healthcare Resources in Malaysia and Nigeria

Abdul Jamil, Aminatul Saadiah¹; Fofah, Jenson Gawain²; Chaleoijit, Soraya³

¹*Health Industry Technology Programme, Faculty of Science and Technology, Islamic Science University of Malaysia*

²*School of Health and Social Care, Swansea University, United Kingdom*

³*Sirindhorn College of Public Health, Khon Kaen, Thailand*

Scarcity of health resources often forced governments worldwide to implement health rationing. The deadly COVID-19 pandemic has reversed the policy on public health budget cuts, with governments such as Malaysia and Nigeria being compelled to allocate more to healthcare. This paper will demonstrate how the Malaysian and Nigerian healthcare systems implemented rationing before and during the pandemic. It will discuss how rationing by shrinkflation or downsizing of services delivered during the pandemic may or may not be compromising the population's care standards and health outcomes. The study used a mixed method approach by combining the quantitative social network analysis (SNA) with a thematic analysis underpinned by the Healthcare Access Barrier framework. Data were collected between March 2016 and September 2020 to investigate the perspectives of 98 organisational stakeholders connected to the Malaysian and Nigerian healthcare systems. The SNA analysis displayed a structural network taxonomy of the resource allocation discourse- power actors, gatekeepers or brokers, and policy actors. Both healthcare systems performed the 5Ds and 1S in healthcare rationing more explicitly during the pandemic (Deterrence, Deflection, Denial, Dilution, Delay, and Selection). 61% of stakeholders implemented downsizing to arrive at a fairer rationing decision during the pandemic than 23% in pre-pandemic times. 51% of power actors and gatekeepers performed cost-cutting efforts involving reducing the quantities or pack size of medical items but maintained that the move does not endanger the safety and health of patients. Policy actors, however, were concerned with shrinkflation as they regarded the practice as implicitly diluting care and withholding resources, hence driving rationing further downstream. In sum, COVID-19 has a knock-on effect of increasing implicit and explicit rationing in traditional and new ways, such as shrinking pack sizes of medical items provided for patients in gratis.

OP037

Transient Bilateral Mild Ventriculomegaly of the Fetus Post Maternal COVID-19 Infection: Two Case Review

Zainal, Nur Zaireena¹; Subramaniam, Kaithri Devi²; Rangkuti, Harry Surya¹; Masri, Maizatul Azma¹; Carol Lim Kar Koong²

¹Obstetrics and Gynaecology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Obstetrics and Gynaecology, Ampang Hospital, Selangor, Malaysia

More than two years battling with COVID-19 pandemic unveils more of the unknown especially in long term implication to the offspring post-delivery, its impact and aftermath. Although studies shown no evidence of vertical transmission, yet the raised inflammatory markers may have higher associations with pregnancy complications. Recent publications have reveals concerning fetal and neonatal neurological findings with maternal post covid-19 infection. This report aims to review patients with antenatal COVID-19 infection attending Maternal Fetal Medicine (MFM) clinic, Hospital Ampang with incidental findings of transient bilateral mild ventriculomegaly of the fetus. The progress, management, and outcome of pregnancy were reviewed. We report two cases of fetal ventriculomegaly post infection despite normal fetal morphology during assessment prior to infection. Both patient had 2 doses of COVID-19 vaccination pre-pregnancy. The first patient had category 2a COVID-19 infection at 20 weeks and was under home quarantine, while the other had category 3 requiring admission for symptomatic management. They recovered well post infection. Subsequent visit noted incidental findings of mild bilateral fetal ventriculomegaly in both fetuses measuring between 12mm to 13mm respectively with normal brain structures. The fetal growth was corresponding to date and insignificant infective viral screening (TORCHES). The ventriculomegaly resolved 4weeks and 8 weeks later. The pregnancy progressed well, and both delivered at term with good fetal assessment. Transient bilateral mild ventriculomegaly of the fetus may reflect maternal inflammatory reaction following recent COVID-19 infection. Emerging evidence revealed severe ventriculomegaly following maternal COVID-19 infection with detrimental effect to fetal brain development and neurological function. Further review and monitoring of fetal brain development and neonatal neurological function should be monitored in maternal with history of antenatal COVID-19 infection.

OP038

Pandemic Aftermath: Pedophile Tracker Application and Its Reliability in Protecting Our Children

Mohammad Lazim, Nur Fahada¹; Zainal, Nur Zaireena²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Obstetrics and Gynaecology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

COVID-19 has moved the whole world in using the internet and social media to communicate in many aspects of our lives. Increasing accessibility even to younger age groups has raised concern specifically in cyber-criminal cases involving pedophiles. Thus, few studies are done looking at the feasibility of a pedophile tracker application in identifying pedophiles. To determine the impact of pandemic and pedophile cases among children and to review the accuracy of pedophile tracker applications identifying pedophile behavior on social media. A scoping review was carried out using electronic databases including ClinicalKey, PubMed, ScienceDirect, Scopus, SpringerLink, and Google Scholar. Keywords used were pandemic, artificial intelligence, pedophile, and pedophile tracker application. Full-text English journals and articles were read and retrieved based on the relevance of the topic. Approximately 19 out of 170 articles met the inclusion criteria. During the first year of Covid-19, the surge in usage of social media as a platform for communication has led to the amplification of sex-cybercrimes against children by 400%. Thus, an alarming concern for parents, and prosecutors especially with the grey area of law for protection and conviction. Therefore, a few models for pedophile tracking applications via text identification have been proposed. Machine learning algorithm such as Support Vector Machine (SVM) identifies text from chat room conversations in which predators disguised as a child and the system can analyze suspicious cyberus conversations which detects pedophile tendencies among the predators. Despite almost 100 percent accuracy in identifying pedophile behaviors by using a pedophile tracker application yet no law enforcement is available to prevent any further complications for the children to be victims of grooming. Awareness of pedophile tracker application availability and its accuracy in protecting our children should be created. Further collaboration with law enforcement, stakeholder, and public health should be explored.

OP039

Differential Expression of MicroRNA and Its Target Genes in Trigona Honey Treated Breast Cancer Cell Line

Derani, Qatrun Nada¹; Nordin, Noraziah¹; Roslan, Nuruliza¹; Gowri, Pathmanathan², Muhammad, Marlina¹; Abdul Rahman, Hayati²; Mohd Manzor, Nur Fariha¹

¹*Department of Medical Sciences I, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia*

²*Department of Medical Sciences II, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia*

Emerging reports on anti-neoplastic properties of Trigona honey were noted recently. The mechanisms behind this effect were linked to microRNA modulation of mRNA from different signaling pathways. This study aimed to investigate the regulatory effect of Trigona honey on microRNA expression of breast cancer cell line, MCF-7. Cells proliferation assay was performed using different concentrations of TH (40mg/ml, 20mg/ml, 10mg/ml, 5mg/ml, 2.5 mg/ml, 1.25 mg/ml, 0.625 mg/ml, and 0.3215 mg/ml). Media with 10% serum serve as experimental control. IC 20 was determined and another set of cell's treatment using this concentration was conducted for 48h. Total RNA from harvested cells were analysed using Qualitative polymerase chain reaction to measure the expressions of selected miRNAs; mir203a-3p, mir200c-3p and RNU6, and mRNAs; SOSC3, ZEB1 and GAPDH, before and after treatment. Paired T-test test was used to compare differences among the groups. P <0.05 was regarded as significant. The IC 20 of Trigona honey on MCF7 cells was recorded as 6.4mg/ml. Findings from qPCR analysis revealed significant expression of mir203c-3p and ZEB1 in Trigona honey treated group as compared to the control group. Anti-cancer effect of Trigona honey could be contributed by its properties to inhibit the proliferation of MCF-7 cells. The mechanism of this inhibition could be due to the induction of microRNAs which target the proliferation-associated genes. These data support that TH may be evaluated as a potential natural agent for new anticancer therapy or to complement conventional cancer treatments in the future.

OP040

Skin Graft as an Acceptable Modality for the Reconstruction of Post-burn Contractures During Pandemic : A Case Report

Ulfa Elfiah¹; Muhammad Fahmi Naufal² ; David S. Perdanakusuma³; Iswinarno Doso Saputra⁴

¹Department of Nutrition and Dietetics, School of Healthcare Professions, University of San Carlos, Nasipit, Talamban, Cebu, Philippines

The COVID-19 pandemic causes the postponement of elective surgery, while patient with post-burn contractures require immediate operation due to impaired function that can lead to depression and disruption of daily life. Operations on contracture patients during a pandemic must be carried out using the principles of accuracy, speed, and safety. Skin graft is one of the most appropriate modalities as a strategy for dealing with release contractures. Sharing clinical experiences of clinical contractures using skin grafts during the pandemic in 2021. We present two cases of post-burn contractures with heavy contracture. They got contracture after burn trauma. All patients underwent release of contracture and skin graft surgery with 3-5 days hospital stay. Surgical results show that graft take is 90%-100% in all patients and 100% epithelialization occurs at the donor site between 2-4 weeks postoperatively. There were no postoperative complications and the patient felt safe and comfortable as soon as he returned home. The fast completion time of surgery and short surgical evaluations are beneficial for both patients and healthcare professionals, since the operating contact time and hospital stay are concise. The skin graft is an effective and suitable technique in treating post-burn contractures in the pandemic era.

OP041

The Use of the Anthocyanin Extract From Red Cabbage *Brassica Oleracea L. Var Capitata f. Rubra* as Meat Freshness Indicator for Chicken *Gallus Domesticus* and Pig *Sus Scrofa Domesticus* Meat

Lumahang, Clyde¹; Omandam, Lufel Joshua¹; Roble, Chiena Mei¹

¹Department of Nutrition and Dietetics, School of Healthcare Professions, University of San Carlos, Nasipit, Talamban, Cebu, Philippines

Anthocyanins are acknowledged for their nutritional superiority and applications in the food industry. As maintaining meat quality remains a big issue in the Philippines, the anthocyanins' ability to manifest varied colors at different pH conditions allowed them to be potentially used in smart packaging to monitor the real-time quality of meat. Over the years, several studies have been conducted regarding anthocyanins that unraveled its potential advancements. Hence, this study aims to test the potential of a film created using red cabbage anthocyanin extract to determine the freshness of chicken and pork. The red cabbage extract (RCE) was extracted from the macerated red cabbage added to the chitosan and cornstarch solution. The mixture was then dried at 150°C using a dry oven for a maximum of 1.5 hours to produce the films. Pre-prepared samples of chicken and pork were measured for temperature and pH meter prior to storing in: (A) room temperature, (B) refrigerator, and (C) freezer. The films were tested by placing the film on the surface of the meat and compared to the standard. The color, temperature, and pH of the meat were measured and compared. All readings were done every 3 hours in triplicates. Based on the findings, the RCE pH film indicator manifested a better color pay-out in the room-temperature-stored samples compared to the refrigerated and frozen samples. Too much film-to-meat exposure, higher concentrations of RCE added in the film, higher temperatures during the drying period, and/or poor drying outcomes of films result in lower water solubility in the films. The higher temperature increases the degradation of red cabbage anthocyanin in the film thus better reading. Therefore, the RCE pH film indicator produced is an effective indicator as the readings were similar to the pH meter. Its sensitivity is directly proportional to the time of exposure, temperature, and concentration of RCE.

OP042

Hujan Pagi: A Monumental Malay Novel Bridging Literature and Psychiatry

Razali, Zul Azlin¹; Musa, Mohd Faizal²

¹Unit Psikiatri, Fakulti Perubatan Sains Kesihatan, Universiti Sains Islam Malaysia

²Institut Alam dan Tamadun Melayu, Universiti Kebangsaan Malaysia

To many, virtual solidarity and emotional support were paramount in the time of pandemic Covid19. To some, reading becomes the savior from the creeping loneliness perpetuated by the movement control order. Using literature to psychoeducate the public on mental health issues is not new. However, in Malaysia, research is scarce regarding the relationship between literature and medicine. Hujan Pagi was written in 1987, shortly after A. Samad Said was awarded National Laureate. It is a work heavily laden with psychopathologies. The report aims to show that literature is a powerful tool to spread mental health awareness in Malaysia. On the other hand, for mental health workers, reading literatures can deepen their understanding of individual's experience of psychological distress. This study uses a descriptive qualitative approach from two sources of data, the novel Hujan Pagi and from the relevant journals. His reputation as a great Malaysian novelist is proven when A. Samad Said creatively employed magical-realism approach to depict depression and psychosis. Even though, the novel's primary message is the predicament of Malaysian journalism, A. Samad Said presented the sufferings of the psychotic journalist and his caregivers in a very elegant way. The seeking of psychiatric treatment also side-stepped the usual Malay health-seeking behavior which is bomoh or shamanism. At the hands of crafty novelists, mental health issues can be portrayed in a more truthful and emphatic manner without jeopardizing the aesthetics pursue and the non- dictating nature of fiction writing.

OP043

Correlation Between NLR (Neutrophil Lymphocyte Ratio) and CRP (C-Reactive Protein) in COVID-19 Patients in Jember Regency

Riyanti, Rini^{1, 4}; Putra, Muhammad RRC²; Agustina, Dini³. Utami, Binar R^{1, 4}; Murthy, Arswendo I^{1, 4}

¹Department of Clinical Pathology, Faculty of Medicine, University of Jember, Jember, Indonesia

²Medical Science Program, Faculty of Medicine, University of Jember, Jember, Indonesia ³Department of Microbiology, Faculty of Medicine, University of Jember, Jember, Indonesia

⁴Department of Clinical Pathology, dr Soebandi Regional Hospital, Jember, Indonesia

Coronavirus disease (COVID-19) is a disease caused by novel coronavirus (2019-nCoV). The neutrophil-to-lymphocyte ratio (NLR) has a prognostic role and the C-reactive protein (CRP) level can predict severity in patients diagnosed with COVID-19. This study aimed to determine the association of NLR with CRP values in COVID-19 patients in Jember Regency. This study used an observational analysis approach using secondary data from COVID-19 patient's medical records. The data were collected from dr. Soebandi Regional Hospital of Jember and Jember Klinik Hospital from June until August 2021. Pearson's correlation analysis was performed to show the correlation between variables. Thirty patients confirmed with COVID-19 were admitted as the sample, consisting mostly of males (18) followed by female (12). Twenty-one of them were aged 40 and beyond, and the remainder were below 39 years. From the type of hospitalization 23 patients in the non-ICU COVID-19 room and 7 patients in the ICU COVID-19 room. There is a very strong positive relationship between NLR and CRP values ($P = 0.00$; $r = 0.889$). NLR can replace CRP as a marker to predict severity in patients diagnosed with COVID-19.

OP044

Vaccination Program and Stunting Incidence at Tampa Padang Health Center: Effective Coverage Study

Ibrahim, Juliani¹; Azzahra, Nur Ainun².

¹Department of Public Health, Faculty of Medicine, University of Muhammadiyah, Makassar, Indonesia

²Undergraduate Student, Faculty of Medicine, University of Muhammadiyah, Makassar, Indonesia

The national vaccination program has been enjoyed by people in the age group of 12 years and above. The program is to obtain immunity children and eradicate a disease from the population of an area or country. However, one-third of children under five are still malnourished and stunting. Therefore, this research objective is to find out the relationship of achieving vaccination targets with stunting events in the working area of Tampa Padang Health Center. Retrospective observational study was used with collecting data based on medical records of toddlers who had vaccination and coverage of basic components of vaccination package. We specified targeted sample into crude coverage, services contact, quality adjusted coverage and user adherence coverage while implemented be on time. Effective coverage of vaccination with following the percentages of (45.6%), (26.7%), (29.0%) and (13.4%) from crude to user adherence coverage respectively. However, limited data available and obtained while we analyzed effect of vaccination to incidence of stunting. Just more than 29 children under five years old were observed during period of study into stunting and malnourishment and show significant result with p-value 0.046 with alternative Fisher's exact test. Since limited data obtained, the effectiveness in this study may affect that within vaccination and stunting status have a weak relationship. Coverage of vaccination is low and measurement of effective coverage is low also. Therefore, it would more valuable for local government to do sustainable interventions and monitoring on children.

OP045

Multiple Giant Cell Tumor With Hyperparathyroidism in a 33-Year-Old Male: A Case Report

Abidin, Moh Asri¹, Idulhaq, Mujaddid², Prasetyo, Dimas³

¹ Faculty of Medicine, Universitas Muhammadiyah, Makassar, Indonesia

² Oncology Orthopaedic Surgeon, Prof. Dr. R. Soeharso Orthopaedic Hospital, Surakarta, Indonesia

³ Orthopaedic and Traumatology, Faculty of Medicine, Universitas Sebelas Maret, Surakarta, Indonesia

Giant cell tumor (GCT) is a destructive benign bone tumor. These tumors are caused by increased osteoclast activity. The presence of hyperparathyroidism is a synergistic factor to increase the risk of bone destruction. A 33-year-old man complained of a painful lump in the left clavicle for three months before his admission to the hospital. Plain radiographic examination showed a lytic lesion with Magnetic Resonance Imaging (MRI) results suggesting an enchondroma. a Fine Needle Aspiration Biopsy (FNAB) was performed and showed chronic inflammatory changes with features suggestive of GCT. The patient underwent wide excision and internal fixation of the clavicle. After six months of surgery on the left clavicle, the patient presented with a pathological fracture of the left proximal femur and had a GCT of the femur. The patient underwent parathyroid hormone (PTH) examination with increased results. In addition, the patient also underwent a thyroid ultrasound examination that showed a mass with indistinct boundaries, suspicious of malignancy. From the collective data, the patient underwent thyroidectomy surgery with histopathological results of thyroid follicular adenoma. There was an improvement in function on the 12-month postoperative evaluation based on the Musculoskeletal Tumor Society (MSTS) score. A total score of 30 on the left clavicle and a total score of 27 on the left thigh. In addition, there was a decrease in PTH levels compared to the initial examination. Early detection and appropriate treatment are very important for patients with musculoskeletal tumors. History taking, clinical examination, radiographic findings with histopathological confirmation must be done carefully to establish the correct diagnosis.

OP046

Neurological Manifestations of COVID-19 at Pelamonia Hospital as Teaching Hospital in Makassar City

Andi Weri Somp¹; *Hartina Harun¹*; *Riska Amelia Mimika²*; *Ramlia³*

¹*Department of Neurology, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Pelamonia Hospital, Makassar, Indonesia*

²*Undergraduate students, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Makassar, Indonesia*

³*Department of Neurology, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, RSKD Dadi Hospital, Makassar, Indonesia*

Corona Virus Disease 2019 (COVID-19) is an infection with multiorgan manifestation caused by the severe acute respiratory syndrome (SARS-CoV-2) virus, first discovered in China, Wuhan in 2019 and finally spread to various countries. The major manifestation of COVID-19 is in the respiratory system but cannot be denied that other organ systems were involved including nervous system, causing neurological symptoms. To determine the neurological manifestations of COVID-19 at Pelamonia Hospital, Makassar, Indonesia. This was a retrospective observational study. Data were collected from COVID-19 inpatients medical records at Pelamonia Hospital from September - December 2021. Sex, Age, and various neurological manifestation were recorded. Among 424 COVID-19 inpatients, mostly were female (62.3%) with peak age at 20 - 40 years old (43%). There were 105 patients with headache (24.6%), anosmia 44 (10.5%), ageusia 48 (11.3%), myopathy 14 (3.4%), stroke 10 (2.3%), seizures 5 (1.1%), and impaired consciousness 7 (1.7%), no neurological symptoms 191 (45.2%). Patients with COVID-19 generally can experience neurological symptoms involving the central nervous system, peripheral nervous system, and musculoskeletal as its main complaint -such as headache, myalgia and stroke syndrome. It is necessary to anticipate the COVID-19 among patients without respiratory symptoms.

OP047

Evaluation of *Clitoria Ternatea* L. Flower Extract in Preventing Complications of Diabetes Mellitus

*Intisari, Dewi*¹; *Chodidjah*²; *Hussaana, Atina*³

¹Postgraduate of Biomedical Science, Medical Faculty of Sultan Agung Islamic University, Indonesia

²Department of Anatomy Laboratory, Medical Faculty of Sultan Agung Islamic University, Indonesia

³Department of Pharmacology Laboratory, Medical Faculty of Sultan Agung Islamic University, Indonesia

The increasing prevalence of type 2 diabetes mellitus (DM) has increased awareness to anticipate short-term and long-term complications. *Clitoria ternatea* flower extract contains anthocyanins and flavonoids that can inhibit the activity of pancreatic - amylase and intestinal -glucosidase, and reduce oxidative stress. Routine HbA1c tests need to be done to measure glycemic levels associated with the risk of DM complications, while malondialdehyde (MDA) is important to measure the risk of complications related to lipid peroxidation. This study aimed to evaluate the effect of *Clitoria ternatea* flower extract on HbA1c and MDA in STZ-NA-induced diabetic rats. This post-test-only control group study used 36 white male Wistar rats which were divided into six groups; K. N (pellets and water), K - (STZ-NA), K + (STZ-NA + acarbose), P. I (STZ-NA + *Clitoria ternatea* flower extract 150 mg/kg BW), P. II (STZ-NA + *Clitoria ternatea* flower extract 300 mg/kg BW), and P. III (STZ-NA + *Clitoria ternatea* flower extract 600 mg/kg BW). Fasting blood glucose, HbA1c, and MDA plasma were evaluated after 28 days of administration. Data were analysed using the Kruskal Wallis test and one-way ANOVA. The results of the Kruskal Wallis test for fasting blood glucose and HbA1c levels showed a p-value = 0.000 ($p < 0.05$). The lowest fasting blood glucose (90.430.94) and HbA1c levels (26.040.13) were found in group P. III. The one-way ANOVA test results for MDA levels showed a p-value = 0.000 ($p < 0.05$). The lowest MDA level (3.130.09) was found in group P. III. *Clitoria ternatea* flower extract affects fasting blood glucose, HbA1c, and MDA levels in STZ-NA-induced diabetes in Rats, so it has the potential to prevent DM complications.

OP048

COVID-19 Pandemic Lesson Learned: Student Volunteers During COVID-19 Pandemic as a Feasible Undergraduate Student Education

Rachmania, Sheilla^{1, 2}; Handoko, Adelia^{1, 2}; Hakiim, Arsyizilma¹, Kurniawan, Aditya^{2, 3}

¹Faculty of Medicine, University of Jember, Indonesia

²COVID-19 Disaster Preparedness Response Team, University of Jember, Indonesia

³Faculty of Teacher Training and Education, University of Jember, Indonesia

In response to the “new normal” COVID-19 era, the University of Jember has a social responsibility to educate people to adopt preventative public health behavior. The COVID-19 Disaster Preparedness Response Team of University of Jember has been deploying student volunteers to help promotive and preventive of COVID-19 within the university population. This study aims to examine the student volunteers’ perceptions of the motivation, expectation, and benefits of their participation in the volunteer group. The information collected was used to assess the possibility of health-associated volunteer work for undergraduate student education. Anonymous online questionnaires were sent to the student. Further in-depth interviews were conducted afterward using semi-structured questions. The respondents (n=209) from various faculties mostly enrolled in the program due to the academic credit gained through the program (83.7%), though they also aimed to be involved directly in COVID-19 promotive and prevention (79.9%), building connections (64.1%), and obtaining information and new experience during pandemic (46.9%). Generally, the volunteers expected they would be able to change public health behaviors (83.7%) through their volunteering project. A majority of volunteers observed their improvement in knowledge, social skill, and medical skill during the program. Most students (76.1%) thought that all students from different majors (i.e social/non-medical faculties) have the same responsibility in health mitigation during the pandemic era. The student volunteer program is an important internship program, especially in practical fieldwork. Proper training, facilities, and psychological support are needed to maximize its potential.

OP049

Diarrhea in Patients With COVID-19 and Intestinal Parasitic Infection

Nur Muallima¹; Dara Ugi Aras²; Juliani Ibrahim³; Nurmila⁴

¹Internal Department Faculty of Medicine and Health Science, Universitas Muhammadiyah Makassar, Indonesia

²Pharmacology Department Faculty of Medicine and Health Science, Universitas Muhammadiyah Makassar, Indonesia

³Public Health Department, Faculty of Medicine and Health Science, Universitas Muhammadiyah Makassar, Indonesia

⁴Internal Department Faculty of Medicine and Health Science, Universitas Muhammadiyah Makassar

The disease COVID-19 has multiple symptoms and can impact numerous organs. During the pandemic, individuals with early diarrheal symptoms should have COVID 19 on their differential diagnosis list especially in tropical countries. In order to validate or rule out the diagnosis, more steps should be taken, including a complete, focused anamnesis and necessary lab testings. A 49-year-old woman who had been complaining of a fever for five days arrived at the emergency room. Moreover, complaints are accompanied by coughing, shortness of breath, lack of appetite, epigastric pain, and diarrhea 4-5 times a day. Vital signs assessment: temperature is 38°C, blood pressure is 120/70 mmHg, pulse is 100 beats per minute, respiration rate is 26 beats per minute, and oxygen saturation is 98 percent. Both lungs showed signs of crackling during a pulmonary examination, while an abdominal exam revealed pain in the epigastrium and accelerated intestinal peristalsis. White blood cell count was 5.1 10⁹/L, Hb was 14.4 g/dl, plt was 255 10⁹/L, quick antigen test was positive, and PCR was positive in the lab test. Pneumonia was confirmed radiologically on both lungs. The patient complained of continuing diarrhea and abdominal pain on the third day of administration of the covid therapy. From stool analysis revealed the presence of *Ascaris lumbricoides* worm eggs as well as *Oxyuris vermicularis* and *Trichuris trichuria*. Gastrointestinal symptoms such as diarrhea, vomiting, and abdominal discomfort may also be present in COVID-19 patients. Studies have revealed that the epithelial cells of the small intestine exhibit the angiotensin converting enzyme 2 (ACE2) receptor, which is the human receptor for COVID-19 which in certain individual may be the only or first symptom. The early symptom of diarrhea during the COVID-19 pandemic requires the medical staff to take considerable care, particularly while determining the diagnosis.

OP050

International Normalized Ratio for Predicting Pediatric Complicated Appendicitis

Darajat, Azka¹; Supangat, Supangat²

¹Emergency Department, Soebandi General Hospital, Jember, Indonesia

²Department of Surgery, Soebandi General Hospital, Faculty of Medicine Jember University, Jember, Indonesia

Appendicitis is one the most common emergency surgery cases in pediatric surgery. There are many diagnostic approaches from clinical manifestation, scoring systems, ultrasonography (USG), computed tomography scan (CT) scan, and laboratory findings. It is also difficult to predict complications due to appendicitis. To evaluate the International Normalized Ratio (INR), a routine laboratory marker to predict complicated appendicitis. Pediatric patients who underwent appendectomy were retrospectively studied. Patients were divided into complicated appendicitis (CA) and non-complicated appendicitis (NCA) groups and their preoperative INR results were reviewed. Mann-Whitney test was used for statistical analysis. A total of 75 pediatric patients were included, 31 with CA and 44 with NCA. There was a significant difference in INR between CA and NCA groups ($p=0.000$) ($P<0.05$). There is a significant INR increase in pediatric patient with complicated appendicitis. Further studies using larger population is required.

OP051

The Use of Whatsapp® Group as Telemedicine Care and Education for Pediatric Surgery Patients' Parents During COVID-19 Pandemic: A Survey Conducted at an Agricultural Area in Indonesia

Supangat¹; Elly Nurus Sakinah¹; Muhammad Yuda Nugraha¹; Achmad Ilham Tohari¹; Muhammad Rijal Fahrudin Hidayat¹; Nabil Athoillah¹; Salsabila Imtiyazfauz¹; Peter Lundqvist²

¹PANAH Research Center, Faculty of Medicine, University of Jember, Indonesia

²Department of People and Society, Swedish University of Agricultural Sciences, Sweden

Coronavirus disease (COVID-19) pandemic has affected the entire health-care system that impacts to patients or family. Pediatric surgery care during COVID-19 must be continued to provide the children's health. The aim of this study was to evaluate the pediatric surgery patient's parent satisfaction of WhatsApp® group as telemedicine care during COVID-19 pandemic. This study was conducted from March 2022 to April 2022 for the patient that was starting treatment before and during pandemic at Soebandi Regional Hospital, Jember, Indonesia. The satisfaction evaluated using questionnaire with linier scale (1-10) for the use of WhatsApp® group as telemedicine care then analyzed for the mean satisfaction score using Ms Excel®. During this period, we interviewed 62 patients' parent that routinely come with diagnosis 31 (50%) anorectal malformation and 31 (50%) Hirschsprung's diseases. Based on the evaluation, the satisfaction score for telemedicine care using this platform is 9.44 and 93,7% participants feel that it was very useful. We also provided several training and education for nurses and patient's parents to increase the knowledge especially to handle several problem in patient during COVID-19 restriction. The use of WhatsApp® as telemedicine platform appears to be very useful and satisfactory.

OP052

Correlation Between Risk Factors and the Incidence of Knee Osteoarthritis

Hasan, Muhammad¹; Hairrudin²; Nadhira, Athalia G³

¹*Department of Anatomy, Faculty of Medicine, University of Jember, Jember, Indonesia*

²*Department of Biochemistry, Faculty of Medicine, University of Jember, Jember, Indonesia*

³*Medical Science Program, Faculty of Medicine, University of Jember, Jember, Indonesia*

Osteoarthritis (OA) is the most common musculoskeletal disease that causes disability and decreased quality of life. Osteoarthritis is associated with several risk factors such as age, female gender, genetics, obesity, injury, strenuous physical work and stressful physical activities joints. This study aims to determine the relationship between risk factors: age, gender, body mass index (BMI), occupation, years of service, duration of work, walking long distances, lifting weights, squatting, standing, and climbing stairs with the incidence of knee osteoarthritis. This study is a retrospective observational analysis with a cross-sectional approach. The subjects were patients with knee osteoarthritis who sought treatment at Dr. Soebandi Regional Hospital Jember and Jember Clinic Hospital from January 2020 to June 2022. The data was analysed using Spearman correlation test. There were 10 patients with grade 2, 20 with grade 3 and 23 with grade 4 knee osteoarthritis. Correlation test analysis results showed that there was a significant relationship between the age variables ($p=0.041$), gender ($p=0.006$), BMI ($p=0.016$), and years of service ($p=0.008$) with incidence of knee osteoarthritis. Meanwhile, the work variable ($p=0.062$), work duration ($p=0.724$), walking long distances ($p=0.836$), lifting weights ($p=0.844$), squatting ($p=0.089$), standing ($p=0.607$) and climbing stairs ($p=0.056$) had no relationship significantly associated with the incidence of knee osteoarthritis. There is a relationship between age, gender, BMI and years of service and knee osteoarthritis incidence. However, there is no relationship between work, duration of work, walking long distances, lifting weights, squatting, standing and climbing stairs with the incidence of knee osteoarthritis.

OP053

Effect of Neem Gum on MDA Levels of Diazinon-Induced Rat

Sakinah, Elly Nurus¹; Mustika, Arifa^{2}; Wibisono, Sony³*

¹Doctoral Programme, Faculty of Medicine, Airlangga University; Department of Pharmacology, Faculty of Medicine, University of Jember, Indonesia²Department of Pharmacology, Faculty of Medicine, Airlangga University, Indonesia

³Department of Internal Medicine, Dr. Soetomo Teaching Hospital School of Medicine, Airlangga University

Diazinon is an organophosphate pesticide that can cause an increase in acetylcholine. The increase in Acetylcholine causes the formation of Reactive Oxygen System (ROS) and is able to cause oxidative stress with the end product of malondialdehyde (MDA) which is destructive in various tissues. Gum neem (*Azadirachta indica*) is a sap from the neem plant with a high polysaccharide content, which has the potential as a natural antioxidant that can neutralize free radicals. The purpose of this study was to determine the effect of giving neem gum in preventing the increase in plasma, brain, kidney, and liver MDA levels of diazinon-induced wistar rats. A total of 15 wistar rats were divided into 3 groups: the normal group (KN) was given corn oil, the negative control (KD) was induced by diazinon 100 mg/kgBW, and the treatment group (KP) was given neem sap solution at a dose of 15 g/kgBW, and induction Diazinon 100 mg/kg body weight. The treatment was carried out for 8 days by giving neem gum solution and diazinon induction simultaneously. The average brain MDA levels obtained through the Thiobarbituric Acid Reactive Substances (TBRAS) test, KN = $2,17 \pm 0.34$; plasma MDA KD = $0,120 \pm 0,55$; KP = $0,062 \pm 0,02$; brain MDA, KD = $0,188 \pm 0.03$, KP = $0,142 \pm 0.17$; Hepar MDA; KD = $0,328 \pm 0,36$; KP = $0,102 \pm 0,20$; Renal MDA = KD = $0,142 \pm 0,03$; KP = $0,108 \pm 0,01$. One Way ANOVA test showed a significant difference in MDA levels ($p < 0.05$) between treatment groups. This indicated that neem gum solution at a dose of 15 g/kgBW was able to prevent the increase in MDA in plasma, brain, kidney, and liver of diazinon-induced wistar rats.

OP054

Effect of Buni Fruit Extract (*Antidesma bunius* L.) on Body Weight and Fasting Blood Sugar in a Streptozotocin (STZ)-Induced Hyperglycemia Wistar Rats Model

*Aras, Dara Ugi*¹; *Hatta, Mochammad*¹; *Tawali, Suryani*³; *Bukhari, Agussalim*⁴; *As'ad, Suryani*⁴; *Umar, Husaini*⁴; *Kurniawan, Liong Boy*⁶

¹Department of Pharmacology, Faculty of Medicine and Health Science, University of Muhammadiyah Makassar, Indonesia

¹Department of Microbiology and Biomolecular, Faculty of Medicine, University of Hasanuddin, Makassar, Indonesia

³Department of Public Health, Faculty of Medicine, University of Hasanuddin, Makassar, Indonesia

⁴Department of Clinical Nutrition, Faculty of Medicine, University of Hasanuddin, Makassar, Indonesia

⁵Department of Internal Medicine, Faculty of Medicine, University of Hasanuddin, Makassar, Indonesia

⁶Department of Clinical Pathology, Faculty of Medicine, University of Hasanuddin, Makassar, Indonesia

Since the 1980s, the number of people with diabetes has quadrupled. The International Diabetes Federation (IDF) estimates that by 2045, there will be 693 million people with diabetes worldwide, becoming a top health concern in the twenty-first century. The role of micronutrients, especially polyphenols, was addressed in the Medical Nutrition Therapy (MNT) recommended by the American Diabetes Association (ADA). One fruit rich in polyphenols is Buni (*Antidesma bunius* L.) which is believed to affect carbohydrate metabolism. This study focused on determining how the Buni fruit affected the body weight and fasting blood glucose in Streptozotocin (STZ)-induced wistar rats. Pre-post interventional study design with a control group was used in this interventional/quasi-experimental study. Buni fruit extract was prepared using 70% ethanol and given at concentrations of 100 and 300mg/kg body weight. It was administered for six weeks in STZ-induced wistar rats at a dose of 45mg/kg body weight to accomplish hyperglycemia state. The body weight and fasting blood sugar of rats before and after the intervention were recorded. A One-Way ANOVA test was conducted to determine the impact of Buni fruit extract, and the findings were statistically significant ($p > 0.05$). The group that received the 100 and 300 mg/kg body weight extracts had the largest effect on changes in body weight, according to the Post-Hoc LSD test results. With variations in fasting blood sugar, the group receiving a dose of 300 mg/kg body weight of Buni fruit demonstrated a significant p value ($p = 0.026$). In wistar rats, administration of Buni fruit extract lowered body weight and fasting blood sugar.

OP055

Sensitivity of Lontar Leaves Extract (*Borassus Flabellifer*) Towards The Growth of *Vibrio Cholerae*

Sumarni¹, Azzahra 1, Najwa¹

¹Faculty of Medicine and Health Sciences, Muhammadiyah University of Makassar, Indonesia

Infectious diseases are a major global health issue and a number of these infectious diseases is prevalent in Indonesia. One of the infectious diseases that is still a major concern in Indonesia is diarrhea that is caused by *Vibrio cholerae* bacteria. This is because some strains of *Vibrio cholerae* undergo certain mutational changes that ultimately makes the microorganism resistant to some antibiotic. In light of this, we were interested to investigate the properties and bioactive compounds in lontar leaves or *Borassus Flabellifer* as an alternative medication for diarrhoea. To determine the presence of antibacterial activity and the effect of increased concentrations of lontar leaves extract towards the growth of *Vibrio cholerae* bacteria in-vitro. This is an experimental research, where the lontar leaves extract that was made using maceration method is dripped on a paper disc that is placed on Muller-Hinton Agar Medium that has already grown *V. cholerae* bacteria. The antibacterial effect of lontar leaves extract towards the growth of bacteria is observed based on the diameter of inhibition zone that appear around the paper disc. Based on the sensitivity test of lontar leaves extract towards the growth of *Vibrio cholerae*, the results were obtained that the lontar leaves extract provides antibacterial effect towards *Vibrio cholerae* while the extract with 80% concentration showed the biggest inhibition with a mean diameter of 18,37 mm which in accordance with the Greenwood, 1995 classifications, proves that it demonstrates a moderate inhibition. Lontar leaves extract demonstrates moderate antibacterial effect towards the growth of *V. cholerae*.

OP056

The Challenges of Community Leaders in Managing Flood Disasters During COVID-19 Pandemic

Noremy Md.Akhir¹; Fauziah Ibrahim¹; Aizan Sofia Amin¹; Siti Marziah Zakaria¹; Mohd Suhaimi Mohamad¹; Azlinda Azman²; Noorus Sarah Aqilah Mohd Yusof¹

¹Centre for Research in Psychology and Human Well-Being, Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia, Selangor, Malaysia

²School of Social Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia

The role as a community leader is challenging when it comes to managing flood disasters in unexpected situation. It's become more challenging when it has to manage during COVID-19 pandemic. Exploring the challenges faced by community leaders in managing flood disasters during the COVID-19 pandemic. This study used qualitative method with a multiple case study as research design involving four selected locations, namely the state of Selangor, Pahang, Kedah and Johor. The sampling technique used in the selection of the sample is purposive sampling by setting inclusive criteria such as: (i) Appointed as the head of the community (ii) Have experience in managing flood victims (iii) Aged 25 years and above. The data collection method used was in-depth interviews using a semi-structured questions as protocol of study. Data was analyzed by using thematic analysis techniques. The results of the study found that there are eight main themes obtained related to the challenges of community leaders in managing flood disasters during the COVID-19 pandemic, namely the attitude and mentality of flood victims in evacuation centers that violate SOPs; stigma of community members in helping flood victims infected with COVID-19; limited facilities; unsystematic guidelines and SOPs from NGOs coming to help flood victims; logistical problems and inadequate equipment at the community level; unclear information from top management to the communities; poor medical and health assistance to flood victims; and lack of support from youth in helping communities. Challenges faced by community leaders need to be taken into account by Disaster Management Committees at district level and relevant agencies such as the National Disaster Management Agency (NADMA) in providing appropriate support to community leaders as they are the liaison agents between the government and the communities.

OP057

Efficacy of Corn Bran as an Ingredient in the Production of Edible Sporks

Chang, Jezeljean¹; Jison, Mharnelle June¹; Laput, Eunice Grace¹

¹Department of Nutrition and Dietetics, School of Health Care Professions, University of San Carlos-Talamban Campus, Philippines

Like many food technology innovations, corn bran has been found to be an acceptable component in creating edible sporks as an alternative for conventional cutlery. Plastic waste products have its affordability, use, and durability. However, improper management of plastic waste, including failure to burn, bury, or recycle it can have detrimental effects on the environment, human health, and economy. It poses a major threat to land and marine ecosystems because plastic may survive for many centuries. The goal of this study is to reduce environmental devastation reducing the use of plastics through producing an innovative product such as the edible spork with corn bran. The purpose of the study was to formulate corn bran spork using different mixtures of corn bran and all-purpose flour as well as testing its physical quality through absorption test and tensile strength test. The corn bran spork was formulated using corn bran powder, all-purpose flour, and water. The researchers applied materials testing on the edible sporks to evaluate its physical qualities by using water absorption test and tensile strength test. Results showed that the best level of corn bran addition to baked product was at least 50% and 75%, whereas in water absorption test, sample with 75% corn bran had the highest water absorption capacity, and with the tensile strength test showed that CB spork samples with 25% CB ratio and 75% CB ratio are the most susceptible to breaking when force is applied. In conclusion, samples at 75% to 100% of CB were ineffective due to their brittleness. The 25% to 50% CB indicate characteristics of compactness; corn bran at particular ratios in the CB spork has been shown to absorb water. The CB spork could withstand the force required to slice or perforate chiffon cake, ham, fried chicken, and rice at 0 percent to 50% CB. This research suggests to invest and acquire excellent quality spork molder to enhance its quality, and to explore other supplemental ingredients that could heighten the use of corn bran in other types of edible cutlery. The best formula for CB spork is 50% CB in terms of physical qualities.

OP058

The Sensory Evaluation of a Prebiotic Drink From Banana (*Musa acuminata* × *M. balbisiana* (AAB Group) 'Silk') and Oats (*Avena sativa* Steel Cut Oats)

Apolinario, QT Marie¹; Caliso, Chrisly Mae¹; Pareja, Shane Allyne¹

¹Department of Nutrition and Dietetics, University of San Carlos, Cebu

Prebiotics are food components that are not digested by the host but aid in the growth of beneficial bacteria in the intestine. The beneficial effect on the digestive system is due to their selective metabolism. They are used as a supplement for probiotics, and sources include bananas and whole oats. Prebiotic drinks have less research studies and exposure in the market; therefore, this study was conducted to introduce a new prebiotic drink. The research study aims to develop a prebiotic drink using raw banana and oats and determine the drink's quality and acceptability through sensory evaluation. The prebiotic drink was prepared by blending the banana and oats separately, strained, and mixed with other ingredients to create the drink. The drink was subjected to variable screening: Plackett Burman Design. The factors that were identified were then further subjected through formulation using the Central Composite Design. Sensory evaluation was done to determine the aroma, color, taste, and acceptability of the product, and the data was analyzed using IBM SPSS Software v. 21. Based on the result, the plackett burman shows a significant outcome on the color which led to the process of ccd, while the taste and aroma are insignificant. based on the spss data, the ccd are all insignificant variables interpreting that there are no difference and the judges slightly like and slightly dislike the prebiotic drink. Therefore, the result showed an insignificant outcome due to the result of the Plackett Burman in which it appears that color was the only variable that is significant. The taste and aroma had no difference and was acceptable to the judges.

OP059

The Role of Interleukin-6 Inhibitor and Janus Kinase Inhibitor in Ameliorating Cytokine Release Syndrome Induced by Severe Infectious Disease: A Systematic Review of Randomized Controlled Trial Studies

Dini Agustina¹; Yehuda Tri Nugroho Supranoto²

¹Department of Microbiology, Faculty of Medicine, University of Jember, East Java, Indonesia

²Medical student, Faculty of Medicine, University of Jember, East Java, Indonesia

Cytokine release syndrome (CRS) or commonly known as cytokine storm is an immunobiological phenomenon characterized by significant elevation of circulating pro- inflammatory cytokines such as interleukin-1 β (IL-1 β), IL-2, IL-3, IL-6, IL-8, IL-10, and tumour necrosis factor- α (TNF- α) that is caused by an overreactive immune system as a response to an acute systemic infection. CRS plays a major role in orchestrating a multi-organ failure. Management of various types of CRS needs to be done especially from the host perspective. Currently, there are new strategies using biological agents to inhibit the activation and production of IL-6, a cytokine that plays a key role in CRS, using IL-6 inhibitor and Janus Kinase Inhibitor (JAKi). This review aimed to systematically summarize the efficacy and safety of IL- 6 inhibitor and JAK Inhibitor in the treatment of CRS induced by severe infectious disease. This review adhered to the guideline of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). A literature search was carried out with several databases, such as PubMed, Cochrane Library, ScienceDirect, and Google Scholar. We combined a search strategies using MeSH terminology and [Title/Abstract] with keywords cytokine release syndrome, interleukin-6 inhibitor, janus kinase inhibitor and infectious disease. We only included randomized controlled trial (RCT) studies. All of the studies' quality were evaluated using Cochrane Risk of Bias 2 Tool. We included 21 RCTs from all the databases. The results showed that IL-6 inhibitors and JAK inhibitors were associated with reduced all-cause mortality in patients with CRS. Both treatments showed no increase in the risk of adverse events. Also, there was a significant reduction of circulation pro-inflammatory cytokines after both treatments were administered. This review provided evidence that IL-6 inhibitor and JAK inhibitor plays a critical role for reducing the mortality events in patients with CRS induced by severe infectious disease.

OP060

The Stress Level and Coping Strategies Among Nursing Students in Universiti Kebangsaan Malaysia During COVID-19

Karim, Jalina¹; Mohd Nazri, Hajar Qistina¹; Md Yusof, Nor Akmalisa¹; Mohd Khairul, Nurul Khaleda¹

¹Department of Nursing, Faculty of Medicine, Universiti Kebangsaan Malaysia

The 2019 Coronavirus disease (COVID-19) was a public health emergency of international concern and posed a challenge to psychological resilience. Students were affected by the sudden transition from physical to online classes. This study aimed to determine the level of stress and coping strategies among nursing students in Universiti Kebangsaan Malaysia (UKM) during COVID-19. A cross-sectional descriptive quantitative design was employed to conduct this study. This research was conducted in Universiti Kebangsaan Malaysia (UKM), Cheras, Kuala Lumpur. The study involved nursing students that consisted of year 1, year 2, year 3 and year 4. On average, students under this study were at moderate level of stress (n=76, 63.9%). The stress level was found not significantly associated with some of sociodemographic data on age (p = 0.118), gender (p = 0.353), year of study (p = 0.646), and group of family income (p = 0.627). Meanwhile, the coping strategies showed that most of the respondents (n = 98, 86.7%) was in the approach coping strategies, followed by avoidant coping strategies (n = 15, 13.3%). The coping strategies was found not significantly associated with some of sociodemographic data on age (p = 0.0001), gender (p = 0.012), year of study (p = 0.387), and group of family income (p = 0.0090). This was found related to many amendable factors such as age, gender, year of study and group of family income. These call for a radical change in the practice of nurses working for the students. The findings of this study are important to indicate the needs in psychological support and the stress management programs.

OP061

***Plasmodium berghei* Infection Post Spleen Autotransplantation in the Mice Model**

Adlina Mohammad¹; Fadlul Azim Fauzi Mansur¹; Wan Omar Abdullah¹; Asral Wirda Ahmad Asnawi¹; Anuar Sani¹; Nizam Baharom¹; Razrim, Rahim¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Erythrocytic deformability caused by *Plasmodium* sp. infection is a critical condition which requires removal by the spleen. The absence of spleen in cases of splenectomized patients hence renders them a higher risk of contracting severe malaria infection. Spleen autotransplantation has been suggested as an alternative to prevent severe malaria disease by preserving the spleen tissue and its function. This study aimed to determine whether spleen autotransplantation is able to protect against severe malaria infection and prevent mortality. Thirty male Balb/C mice were divided into five groups: negative control, positive control, sham, splenectomy and spleen autotransplantation groups. The mice were infected with *Plasmodium berghei* after a 10-week period post-operation (spleen autotransplantation). The percentage of *P. berghei* infected erythrocytes were counted on days three and six post-infection. The mice were then sacrificed, and their spleen tissue harvested and stained with hematoxylin and eosin for morphological observation. Mice which underwent spleen autotransplantation showed a lower parasitemia level (44% 0.04) than splenectomized mice (58%0.02) with zero mortality on day six post-infection. Autopsy of mice which underwent spleen autotransplantation and infected with *P. berghei* revealed that the white and red pulps of the regenerated splenic tissue showed similar architecture to normal spleen. The findings demonstrated the value of spleen autotransplantation in plasmodium infection. It also highlights the risk of splenectomy patients who are at risk of malaria.

OP062

The Protective Effect of High Fibre Diets Against Severe COVID-19: A Scoping Review

Nor Aripin, Khairun Nain¹; Addnan, Faizul Helmi¹; Sani, Anuar¹; Mansor, Fadlul Azim Fauzi¹; Baharom, Nizam¹; Anuar, Khairullah¹; Pachal, Sangita¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

High fibre diets promote the growth of a healthy gut microbiome, which is thought to play an essential role in modulating immune responses especially to inflammation. Recent studies have shown that COVID -19 significantly alters gut microbiota composition with a related worsening of inflammatory markers and disease severity. Observational studies further show that plant-based diets were associated with lower rates of severe COVID -19. Considering that severe COVID -19 is driven by the inflammatory process of a cytokine storm, a high fibre diet may offer protective effects. The aim of this scoping review is to outline the current available research investigating the potential protective effects of high fibre diets against severe COVID -19. A scoping review was designed using the Prisma extension for scoping reviews, PRISMA-ScR 2018. Pubmed was searched with a pre-determined search strategy optimized to detect reports of eligible studies. All study designs were included. Once eligibility was determined, the full texts of the reports were obtained. Study characteristics and relevant findings were then compiled to outline the latest evidence on the topic. The search yielded 88 study titles, of which 6 were eligible to be included in this review. Two were review papers on the topic, 2 were clinical trial protocols of nutritional interventions, 1 was a cross-sectional study on gut dysbiosis caused by COVID -19 and 1 was a case report on a high fibre interventional diet found to improve long COVID -19. The sparse research on this subject is disappointing. The link between high fibre diets and a healthy gut microbiome is well established with research suggesting an association between gut microbiota composition with COVID-19 severity. Population-based observational studies looking at COVID-19 and high fibre diets are viable considering the vast numbers of COVID -19 infections and should be conducted.

OP063

Coronary Artery Bypass Graft in High-Risk Patients With Postoperative Cognitive Dysfunctions Downregulate Killer Cell Immunoglobulin-Like Receptor Genes

Abu Yazit, Noor Anisah¹; Norsham Juliana^{1}; Suhaini Kadiman²; Kamilah Muhammad Hafidz²; Nur Islami Mohd Fahmi Teng³; Nazefah Abdul Hamid¹; Nadia Effendy¹; Sahar Azmani¹; Izuddin Fahmy Abu⁴*

¹Faculty Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Anaesthesia and Intensive Care Unit, National Heart Institute, Kuala Lumpur, Malaysia

³Faculty of Health Sciences, Universiti Teknologi MARA, Bandar Puncak Alam, Selangor, Malaysia

⁴Institute of Medical Science Technology, Universiti Kuala Lumpur, Kajang, Malaysia

Incidence of postoperative cognitive dysfunction (POCD) is an unsolved problem particularly following a cardiac surgery. Multiple changes in gene expressions were found to be involved in POCD patients in order to elucidate the underlying mechanisms. In term of immune response related genes, however, were less understood and studies are still scarce. The present study aims to elucidate the differential expression of related genes in immune responses in patients undergoing coronary artery bypass grafts with POCD. This is a prospective cohort study on high-risk coronary artery bypass graft patients aged 40 to 75 years, with normal preoperative cognitive assessment, non-dialysis dependent, nonpregnant and with normal liver function. Patient's POCD status was based on decline of more than one standard deviation of postoperative scores compared to preoperative scores of neurocognitive assessments. The differentially expressed genes were identified using microarray methods, where genes with fold changes ≥ 2 and $p \leq 0.05$ were considered significant. Quantitative RT-PCR validation was done on the genes of interest. Forty-six patient completed the study with 17% of them were found to have POCD at discharge. Six samples were selected for the gene expression analyses (3 non-POCD and 3 POCD samples). The findings showed five differentially expressed genes in the POCD group compared to non-POCD (four downregulated genes and one upregulated). The upregulated gene was ERFE, while the downregulated genes were KIR2DS2, KIR2DS3, KIR3DL2 and LIM2. Killer cell immunoglobulin-like receptor (KIR) genes were found to be associated with POCD conditions. This result can be used to find potential proteins for POCD diagnostic and predictive biomarkers.

OP064

Reshaping Medical Care in the Aftermath of COVID-19 With Paxlovid: How Much Are Our People Willing and Able to Pay for Health?

Azzeri, Amirah¹; Mohamad Mahadi, Humaira¹; Huzarein, Nur Afrina¹; Abdullah, Nursuaidah¹; Ruddi, Muhammad Amir Firdaus¹; Ahmad Takri, Muhammad Faizzuddin¹; Jaafar, Mohd Hafiz¹

¹Public Health Unit, Department of Primary care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

The antiviral drug, Paxlovid (nirmatrelvir/ritonavir) was found to be effective for the early stage of COVID-19 infection. Now, the drug is given for free in Malaysia. However, there is a possibility that patients may need to purchase the drugs through out-of-pocket expenditure in future. This study was conducted to evaluate the ability to pay(ATP) and willingness to pay(WTP) for the COVID-19 antiviral drug and the factors associated with it. A preliminary cross-sectional study was conducted for six months. A set of validated questionnaires was used to gather the data. Data on sociodemographic characteristics and history of COVID-19 infection was collected. The ATP and WTP were obtained through comprehensive open and close-ended methods via face-to-face interviews. Income, ATP and WTP were reported in Ringgit Malaysia(RM)[the price year 2022]. The mean(SD) age of respondents was 45(11.28). The majority of them were females, Malays, not married, had completed at the most tertiary level of education and was employed. 51% of the respondents had a history of a mild stage of COVID-19 infection. The mean income reported was RM6000. For the open-ended method, the mean ATP and WTP were RM138.62 and RM133.50, while for the close-ended, the mean ATP and WTP values were RM93.63 and RM114.90. The ATP and WTP values in the open-ended approach were higher because the respondents were able to negotiate through bidding processes to get the best price. Bivariate analysis showed that females, with higher education status and a history of COVID-19 infection, recorded significantly higher ATP and WTP values($p < 0.05$). This study found that the ATP and WTP values were lower compared to other countries, possibly due to the highly subsidised healthcare services in Malaysia. Should the need arise; findings from this study could facilitate the government to set an appropriate market price to ensure the affordability of the antiviral drug.

OP065

Prevalence and Factors Associated With Depression Among the Elderly in Pondo, Negeri Sembilan

Jaafar, Hafiz¹; Azzeri, Amirah¹; T Mohd, Tengku Amatullah Madeehah¹; Mohamad Nor, Nadeeya 'Ayn Umaisara¹; Abu Baharin, Mohamed Fakhri¹; Baharom, Nizam¹; Ramli, Shalinawati¹; A. Rahman, Zairina A¹; Mohd Rani, Mohd Dzulkhairi¹; Mohamad Yusuff, Aza Sherin¹

¹Public Health Unit, Department of Primary Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.

The prevalence of depression among the elderly in Malaysia was higher (11.2%) compared to the worldwide prevalence (5.7%). Therefore, it was very important to identify factors that could be associated with depression among the elderly in Malaysia. The objective of this study was to determine the prevalence of depression and its associated factors among the elderly in Mukim Pondo, Tampin, Negeri Sembilan. A cross-sectional study was conducted among 102 elderly in Mukim Pondo, Tampin, Negeri Sembilan from 11th April 2022 to 27th May 2022. The universal sampling method was used to select the study participants. Data collection was conducted via face-to-face interviews. Validated Malay version questionnaires were used to collect data for social isolation (LSNS-6), loneliness (De Jong Gierveld-6-Item Loneliness Scale), social support (OSS-3), daily activity limitation (Katz-ADL), physical activity (PASE) and depression (M-GDS-14). Chi-square test was used to determine the associations between the sociodemographic, social isolation, loneliness, social support, daily activities limitation, and physical activity with depression. Majority of the study participants were Malay (n=97, 95.1%), female (n=56, 54.9%), married (n=64, 63.7%), low education level (n=61, 59.8%) and income less than RM4000 (n=96, 94.1%). About 80 (78.4%) of the study participants were not lonely, 54 (52.9%) had strong social support, 61 (59.8%) were not socially isolated, 73 (71.6%) had normal daily activity and 74 (72.5%) had a high level of physical activity. There were also 20 (19.6%) of the elderly were categorized as depressed based on the M-GDS-14 score with significant results (p-value <0.05) with depression recorded for age, education level, loneliness, social support, social isolation and daily activity limitation. Prompt intervention is needed to minimize the impact of depression among the elderly in the study population since the prevalence was higher than both national and worldwide prevalence.

OP066

Sports Performance and Cardiorespiratory Fitness After COVID-19 Infection Among Athletes

Norazmi, Abu Ubaidah Amir¹; Wan Rosli, Saarah¹; Nazarallah, Hilmi¹; Azman, Nur Dina¹; Md Shariff, Mohd Shaffid¹; Bain, Mohd Ashaari¹; Mohd Razali, Sakinah¹

¹Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Sports performance and cardiorespiratory fitness (CRF) are the main components in athletes' life. New emergence of severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2) had caused quandary to sports community. Primarily attacking lungs, COVID-19 may cause multi-organ problems. Even though 94% of athletes were asymptomatic or only presented with mild symptoms, they need to return to their performance and fitness as early as possible to meet the demand of the game. The aim of this review is to examine the effect of COVID-19 infection on sports performance and CRF among competitive athletes. The relevant articles were searched through PubMed and Science Direct using "COVID- 19", "sports performance", "cardiorespiratory fitness" and "athletes" as keywords and search term. Studies were selected if they (a) compared the result before and after COVID- 19 infection (b) used athlete as sample/patients (c) able to return to sports after the infection and (d) were primary studies. Athlete's performance and CRF result after COVID-19 infection varies across the sports. Most of the athletes were able to return to their peak performance and fitness after COVID- 19 infection but evidence also showed athletes experienced symptoms and signs of detraining, affecting their performance and CRF. Performance parameters showed improvement as early as 2 weeks post-infection, however, some athletes failed to reach their pre-infection performance and CRF even after 2 months. Return to play (RTP) protocol and guidelines after COVID-19 may help sports association, coach, and medical teams for the decision of RTP. Gradual return to play and close monitoring ensures safe return of athletes into the sports with longer duration can be expected to attain best sports performance and CRF after COVID-19 infection.

OP067

Dental Students' Oral Health Knowledge, Attitude, and Practice Towards Oral Health Status: A Cross Sectional Study

Fatin Ain Najwa Normi¹; Abdul Muiz Mun'im Lokman¹; Wan Nur Alwani Wan Abdul Aziz¹; Normaliza Ab Malik²

¹*Periodontology Department, Faculty of Dentistry, USIM, Malaysia.*

²*Conservative Dentistry and Prosthodontic Department, Faculty of Dentistry, USIM, Malaysia.*

Dental students' oral health knowledge, attitude, and practice are important because it affects their capacity to translate information to their patients. This research was conducted to evaluate the effect of oral health knowledge, attitude and practice (KAP) on oral health status of Universiti Sains Islam Malaysia (USIM) dental students. Data were collected through a combination of self-reported questionnaire and clinical examination. The estimated sample size was 128. The subjects were divided into two groups. Group 1 was composed of preclinical dental students and group 2 consisted of clinical year dental students. The questionnaire covers the sociodemographic background, knowledge (K), attitude (A) and practice (P) regarding oral health. For oral health status, Basic Periodontal Examination (BPE) and DMFT index were used to determine the participants' periodontal health status and caries status respectively. The data was analysed using IBM SPSS version 26. A total of 161 dental students participated in this study. There were no significant differences ($p > 0.05$) were found among the groups in their oral health KAP except two questions in the knowledge component and one question in practice component. There were also no significant differences were found among the groups in their oral health status. However, clinical group were having higher DMFT score compared to preclinical group. Lastly, no significant differences were found between oral health KAP & oral health status except for question no. 3 in attitude (I think bleeding gum is a problem) which had significant difference towards BPE. Positive correlation was established between oral health KAP and oral health status between USIM dental students.

OP068

Loneliness Among Older Adults in a Rural Village in Negeri Sembilan

Tengku Mohd, Tengku Amatullah Madeehah¹; Baharom, Nizam¹; Azzeri, Amirah¹; Abu Baharin, Mohamed Fakhri¹; Mohamad Nor, Nadeeya 'Ayn Umaisara¹; A. Rahman, Zairina¹; Mohd Rani, Mohd Dzulkhairi¹; Mohamad Yusuff, Aza Sherin¹; Jaafar, Hafiz¹

¹Public Health Unit, Department of Primary Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Loneliness reduces the quality of life of older adults. The impact of COVID-19 pandemic may have changed the prevalence of loneliness among older adults living in rural areas. The study is aimed at identifying the prevalence of loneliness and its associated factors among rural older adults in a rural area in Negeri Sembilan. A cross-sectional study was conducted among older adults aged 60 years and above in Kampung Pondo Negeri Sembilan. Universal sampling was applied and face to face interview was conducted among the participants. The 6-items Jong Gierveld Scale was used to measure loneliness. Apart from sociodemographic data, depression and social isolation was measured using the Geriatric Depression Scale and the Lubben Social Network Scale respectively. A total of 102 respondents were included in this study, with 45.1% (n=46) men and 54.9% (n=56) women. The mean(SD) for age was 69.3(7.33) years old ranging from 60 to 89 years old. The majority of the respondents were Malay (95.1%), from the B40 (94.1%) group, had at least one comorbidity (71.6%), has low level of education (59.8%), married (62.7%), living with someone (85.3%), not socially isolated (59.8%) and not depressed (80.4%). The prevalence of loneliness among the older adults was 21.6%. Bivariate analysis did not find any significant association of sociodemographic factors and social isolation with loneliness. Only feeling depressed was associated with loneliness. However, sub-analysis conducted among those who lived alone found significant associations between social isolation ($p<0.29$) and depression ($p<0.01$) with loneliness. Loneliness among older adults should be addressed as it is still relatively high. Older adults with depression and live alone are more likely to suffer from loneliness. Therefore, screening should be done among those who have these characteristics to provide them much needed intervention.

OP069

Perception and Acceptance of COVID-19 Vaccination Among Pregnant Mothers and Its Impact on Maternal Mental Health

Samson, Muhammad Waras¹; Zainal, Nur Zaireena²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Obstetrics and Gynaecology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

COVID-19 vaccination in pregnancy has received various types of response among pregnant mothers despite proven safety and efficacy. The acceptance and perception still hover with controversies leads to psychological stress with regards to the unborn child. The aim of this study is to review the prevalence of perception and acceptance of COVID-19 vaccinations among pregnant mothers and to identify the factors that determine the decision on COVID-19 vaccination acceptance. This study also looked at the maternal mental health impact upon COVID-19 vaccination decision. This scoping review was done using electronic databases which include PubMed, Science Direct and Google Scholar. Full text English Journal articles searched from the year 2020 to date. Journals that fit into the inclusion criteria were analyzed. Out of 94 journals retrieved, 21 papers fit into the inclusion criteria and analyzed. The prevalence of COVID-19 vaccination acceptance during pregnancy has wide range between 35% to 70.2%. The factors for vaccine acceptance in pregnancy was the awareness of its preventive value, efficacy in reducing morbidity and passive immunity to the unborn child. In another hand, doubts on its safety and efficacy, possible side effects that may complicate pregnancy or unintended harm to the fetus were the opposing reasons. Considering COVID- 19 vaccination has cause more psychological stress upon the pregnant mother. Yet, limited published paper addressing this matter. Law enforcement, public awareness campaign, socioeconomic status, and accessibility did influence the acceptance and perception of COVID- 19 vaccination in pregnancy. Surprisingly despite the fear of vaccination risk and complication highlighted by public, studies show that the anxiety of COVID-19 infection morbidity and mortality drives the antenatal vaccination. In a nutshell, further study on psychological effect of COVID-19 vaccination's approach on maternal mental health should be explored.

OP070

Eating Pattern and Nutritional Status Among Sangguniang Kabataan in San Isidro, San Francisco, Cebu

Denzel Oliver M. Imbing¹; Myrill Shane A. Otadoy¹; Monica S. Surbano¹

¹Department of Nutrition and Dietetics, School of Health Care Profession, University of San Carlos, Cebu City, Philippines

The Department of Health (2017) revealed that malnutrition has been a long-standing burden in the Philippines with 12.4% of young adults being wasted and 8.3% being overweight or obese. On the other hand, the Sangguniang Kabataan, a council that involves youth in a community, is facing the prevalence of being underweight and overweight and observed some having poor food choices according to the Sangguniang Kabataan data of 2019. Moreover, the provision of Article II, Section 13 of the 1987 Constitution of the Republic of the Philippines, recognizes the key roles of the SK members in nation-building but in order to perform their expected roles, a healthy body is a must. This study aimed to determine the eating pattern and nutritional status of Sangguniang Kabataan members of San Isidro, San Francisco, Cebu, the results of the data will be used to develop a health and nutrition program that will improve the well-being of its members, in accordance to Article 11, Section 13 of the 1987 Constitution which states that the State recognizes the vital role of the youth in nation-building and shall promote and protect their physical, moral, spiritual, intellectual, and social well-being. The eating pattern and nutritional status of 123 Sangguniang Kabataan members in San Isidro, San Francisco, Cebu provided their usual food intake and were evaluated using the Daily Nutritional Guide Pyramid For Filipinos. The nutritional status was determined using the Body Mass Index Asian-Pacific criteria, and the Body Fat Percentage was measured using Omron Fat Monitor. The Pearson Correlation Coefficient was used to determine the relationship of eating pattern to the Body Mass Index and Body Fat Percentage of each respondent. The results showed that half (55.3%) were within healthy weight but the remaining half were underweight, overweight, and obese. With regards to Body Fat Percentage, 65% were within low to normal but the rest of 35% was slightly high to high Body Fat. Their diet had enough fruits and vegetables (83.7%) but excessive in carbohydrates (53.7%), protein-rich food (56.9%), and fats/oils (52.8%) group. Processed foods (81.3%), sugars/sweets (77.2%) were consumed within the recommended intake. Overall, both the Body Mass Index and Body Fat Percentage and eating pattern with energy-yielding food groups showed weak to moderate positive correlation ($r=0.23067$) and ($r=0.30517$). Meanwhile, BMI, Body Fat Percentage, and Fruits and Vegetables were found weak negative relationship ($r=-0.2519$) and ($r=-0.16685$). A significant number of malnutrition exists among the Sangguniang Kabataan members, with a Body Fat result of slightly high to high. Unhealthy diets were recorded since they eat food items in inadequate or excessive intake. Results suggest a need for promotion and knowledge dissemination of good nutrition and health among Sangguniang Kabataan members.

OP071

Comparing Complete Freund's Adjuvant and Monosodium Iodoacetate-Induced Knee Joint Arthritis in Wistar Rats

Normasari, Rena^{1, 2}; Purwanto, Bambang³; Tinduh, Damayanti⁴

¹Doctoral Program, Faculty of Medicine, Airlangga University, Surabaya, Indonesia

²Pathology Anatomy Department, Medical Faculty, Jember University, Jember, Indonesia

³Physiology Department, Faculty of Medicine, Airlangga University, Surabaya, Indonesia

⁴Physical Medicine and Rehabilitation Department, Airlangga University, Surabaya, Indonesia

Disability and movement-related pain are major symptoms of joint arthritis, motivating the development of methods to quantify motor behaviour in rat joint pain models. We compare pain behavior and the levels of biochemical mediators in animal models of arthritis in rats. Eighteen male wistar rats were assigned randomly into 3 groups: 6 rats in each group, group I (control), group II (MIA), and group III (CFA). Either complete Freund's adjuvant (CFA) or monosodium-iodoacetate (MIA) solution was injected into the left knee joint to obtain a model for rheumatoid arthritis and osteoarthritis respectively. Weight, knee diameter, and knee bend score were recorded on days 1, 3, 5, 7, 11, and 14. On day 14 all animals were sacrificed. Synovial fluid of the left knee was collected, and the interleukin-1 β (IL-1 β) and C-telopeptide of type II collagen (CTX-II) levels were measured by ELISA. There was a decrease in body weight in the group injected with MIA and CFA. Knee diameter increased significantly in the CFA and MIA groups compared to the control group. The pain was assessed by a knee bend test, and scores were significantly increased in the CFA and MIA groups compared to the control group. IL-1 β levels were found to be increased in the MIA and CFA groups compared to the control group. Meanwhile, CTX-II levels were found to be significantly increased in the MIA group compared to the CFA group and control group. These results indicate that both CFA and MIA injection will increase inflammatory mediators. MIA can cause more cartilage damage than CFA. This work shows that knee joint injection of MIA and CFA resulted in almost similar profiles in rats, which may mirror what has been found in human patients with arthritis and osteoarthritis.

OP072

Otorhinolaryngological Manifestations in Long Covid Patients and Its Effect on Quality of Life

Amir Yusdi, Siti Aishah¹; Salahuddin, Nor Azirah¹; Md Arepen, Siti Asmat¹; Hassan, Nor Eyzawiah¹

¹Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Long COVID or post-COVID-19 syndrome is a set of symptoms that persist for more than 28 days after diagnosis of COVID-19. Multisystemic involvement leads to manifestation of various symptoms. Otorhinolaryngological (ORL) symptoms include hearing loss, tinnitus, anosmia, dysgeusia, sore throat, cough, dysphonia and dysphagia. To determine the prevalence and the otorhinolaryngological (ORL) symptoms in long COVID syndrome and its effects on patients' quality of life. A narrative review was conducted through an extensive search using electronic databases such as ScienceDirect, Pubmed and Cochrane Library. Initial 50 related articles were identified based on the titles, after which 31 eligible articles were selected and full-text assessment were done upon establishing the inclusion and exclusion criteria. Eventually, 15 articles were included in this review. The prevalence of ORL symptoms in long COVID patients in the reviewed articles ranging from 23.3% to 81% with a mean average of 41.35%. Top 3 most prevalent symptoms are cough (43.8%), anosmia (35.4%) and sore throat (27%). Quality of life was proven to be reduced according to physical (45.2% required a reduced work schedule), mental (88% have cognitive dysfunction, 43% of self-reported depression), emotional and social (87% experienced "Reduced enjoyment of food"), safety related issue (45% were unable to smell smoke that others could perceive) and financial well-being (22.3% unemployed). ORL symptoms among long COVID patients were significant and it affects their quality of life in various aspects. Otorhinolaryngologist played an important role in facilitating the recovery and rehabilitation process of a long COVID patient.

OP073

Infection Control Measures in the Radiology Department During the COVID-19 Pandemic: A Scoping Review

Ab Rahman, Siti Soraya¹; Nik Mazian, Assyifaa¹; Zulkifle, Ahmad Farid¹; Roslly, Mohd Zulkimi¹

¹Radiology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia

Protection of patients and staff while delivering effective health care services during a pandemic requires rigorous infection control practices. Implementation of appropriate infection control measures can minimise the introduction of SARS-CoV-2 infection into a health facility, and, if introduced, reduce the possibility of onward transmission to other patients, healthcare workers and the community. This review aims to identify the measures taken by various Radiology Departments to minimise the risk of infection during the COVID-19 pandemic. Using the Joanna Briggs Institute manual for scoping reviews as guidance, four databases were searched from 2020 to June 2022. All papers relating to infection prevention and control measures which were implemented in radiology departments during the COVID-19 pandemic were included. Screening and data extraction were conducted by two reviewers independently. Frequency and thematic analyses were conducted. A total of 775 abstracts were screened, with 37 papers meeting the eligibility criteria. Infection control measures which were practiced can be grouped into several themes. Firstly, protection of staff through provision of personal protective equipment (PPE), vaccination, and training on infection control guidelines. Secondly, triage of patients to those with confirmed COVID-19, suspected COVID-19, Person(s) Under Investigation (PUI) or uninfected patients. Visitors are also limited to protect them from contracting or transmitting the SARS-CoV-2 infection. Thirdly, designation of separate equipment and area for COVID-19 patients. Fourthly, workflow modification in terms of prioritization of examinations, staff scheduling, and guidelines during preparing or examining patients prior to an imaging study. Finally, disinfection of equipment and environment after exposure to COVID-19 patients. The COVID-19 pandemic has placed a significant burden on healthcare workers, including those in the Radiology Department. Infection control is a vital component of radiology preparedness and ensures that the risk of occupational acquisition of COVID-19 is minimised.

OP074

Traumatic Epistaxis in Association with Pneumocranium

Anuar, Khairullah¹

¹Department of Otorhinolaryngology, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Traumatic epistaxis can usually be self-limiting with application of pressure gauze or intranasal packing. However, epistaxis with skull fracture harbours the risk of the concomitant presence of other injuries such as pneumocranium. This case illustrates the importance of identifying the cause of the epistaxis and managing it appropriately. A 12-year-old girl alleged was chased by a dog, she panicked and fell into a drain which was 1-metre in depth. She lost consciousness for about 10 minutes and sustained a laceration wound on her forehead that was associated with epistaxis and vomiting. On arrival to the Emergency Department, her GCS was full and the epistaxis resolved. She underwent a CT scan of the brain and noted there was a comminuted fracture at the inferior posterior wall of the right side of the frontal sinus with right frontal pneumocranium. Nasoendoscopy was done and showed blood stain at the right posterior nasopharynx and anterior septum. However, no active bleeding seen. She was treated with intravenous antibiotics and close observation for a few days before being discharged well. Early recognition of the cause of the epistaxis and the importance of radiological imaging in identifying the pneumocranium assisted in appropriate management of this patient.

POSTER PRESENTATION

PP001

Prevalence of Anxiety Among Dental Students in Universiti Sains Islam Malaysia (USIM) During COVID-19 Pandemic

Norashikin A¹, Muhammad Abdillah MU²

¹Department of Oral and Maxillofacial Surgery, Medicine and Pathology, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

²Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur Malaysia

As COVID-19 infections quickly increased across Malaysia, public universities were forced to adapt and make urgent changes. Within the dental schools, all physical lectures and elective procedures were cancelled, and students must attend lectures online. Suspension of educational activities can lead to frustration and in severe cases, anxiety. Studies have shown increased prevalence of anxiety among students during pandemics. The objective was to assess the prevalence of anxiety among dental students in Universiti Sains Islam Malaysia (USIM) during COVID-19 pandemic. A questionnaire with 3 main parts which were socio-demographic background questions, open-ended questions regarding risk perception and General Anxiety Disorder-7 (GAD-7) questionnaire was distributed during the second semester of academic session 2020/2021, from March 2021 to June 2021, to 195 students of Faculty of Dentistry, USIM. A total of 158 questionnaires were completed; 1.9% of respondents displayed severe symptoms of generalised anxiety, 38% with mild to severe symptoms whereas 60.1% with minimal anxiety symptoms. The higher average GAD-7 score was noted among female dental students. There was no statistically significant difference between the GAD-7 scores for pre-clinical and clinical students ($p=0.109$). The most common concern among the students was their academic performance (48.7%), followed by their friends and families' health (12.7%). Dental students in USIM displayed high prevalence of GAD symptoms, with the main reported concern was their academic performance. Our results add to the collection of data on the prevalence of anxiety among dental students during COVID-19 pandemic. The long-term effect of this pandemic on the prevalence of anxiety among dental students is still unknown. Future studies are needed to reassess the general anxiety symptoms among the students once the COVID-19 outbreak ended.

PP002

Who are Most Affected During COVID-19 Pandemics: Private or Public Dental Practitioners?

Nurul Haini Najwa MM¹, Raja Nur Nabiha RMH¹, Nor Faharina AH², Azlan J³

¹Faculty of Dentistry, Universiti Teknologi MARA, Sungai Buloh, Selangor, Malaysia

²Centre of Restorative Studies, Faculty of Dentistry, Universiti Teknologi MARA, Sungai Buloh, Selangor, Malaysia

³Department of Periodontology & Community Oral Health, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur Malaysia

A series of lockdown during COVID-19 had significantly affected dental practitioners across the globe. The objective was to identify the factors affected dental practitioners, private and public in Malaysia, during the COVID-19 pandemics. A cross-sectional study was conducted among registered Malaysian dental practitioners. A validated questionnaire was distributed using convenient sampling through an online platform. Data analysis was performed using SPSS with p-value was set less than 0.05. A total of 111 private (23.7%) and 357 public (76.3%) dental practitioners responded to the online survey. Majority of dental practitioners have changed their routine dental practice and experience decreased number of patients. However, most of private dental practitioners perceived of income affected and use other source of income during the pandemic compared to public dental practitioners ($p < 0.05$). Private dental practitioners was financially affected during the pandemics. Reopening of dental practice encourage the return of patient after the pandemics, aid in the survival of private dental businesses.

PP003

Virtual Clinical Teaching During COVID-19 Pandemic: USIM's Medical Students Evaluation

Noor Fadzilah Z^{1,2}, Ruhi Fadzlyana J^{1,3}

¹Medical Education Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Pathology Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

³Surgical Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

The COVID-19 pandemic has caused an unprecedented disruption especially in clinical medical education worldwide due to limited access to clinical facilities. USIM has embraced the virtual clinical teaching using the readily available online platforms adopting different approach of teaching pedagogies such as: Virtual history taking using real and simulated patients, case discussion, demonstration and video clips on physical examinations and clinical procedures. We aimed to provide an evaluation of the virtual clinical teaching experience from USIM's medical students by exploring the feedback of the learning process through a cross-sectional survey. A total of 94 students responded, half of them (50%) are among the final year students, while the rest are from fifth year (25.5%) and fourth year (24.5%). Majority (61.70%) agree that they can perform a complete history taking confidently with the virtual clinical teaching. A total of 28.72% were unsure and 9.58% were not confident. However, 41.49% were not confident to perform physical examinations on patients, 42.55% were unsure and only 15.96% were confident. The concept of patient management was adequately grasped by the students (59.58%), 32.98% were unsure and 7.44% felt they were incompetent. With the online learning experience, minority (35.11%) agrees, while 36.17% disagree and 28.72% were unsure if virtual clinical teaching successfully complement the limited face to face clinical exposure. Nonetheless, the virtual clinical teaching experience had met the expectation of most of the students (75.53%), 18.09% rated it as more than expected and only minority (6.38%) rated it as below the expectation. These evidence suggest that virtual clinical teaching is partially effective in complementing and enhancing the clinical knowledge and communication skills. However, the clinical examination skills are still best trained in physical classes. Moving forward, development of virtual learning resources should be encouraged to enrich the learning experience.

PP004

The Relative Indirect Anthelmintic Effect of Date Palm Fruit on Mucins Gene Expression in Vitro 04 Using IL-22 Treated LS174T Cells Model of Helminth Infection

Fadlul M¹, Anis R¹, Faizul A¹, Nur-Fariha MM¹, Wan A¹, Omaima N²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Biology, College of Education for Pure Science, Mosul University, Mosul, Iraq

Mucus secretion by intestinal goblet cells constitutes an important mechanism in TH2 response following helminth infection mediated by the key cytokine IL-22. This indirect mechanism rather than directly attacking the parasite is important in preventing helminth attachment hence promoting helminth expulsion from the intestinal tract. Many plant-based products like fruits and leaves have been found to possess anthelmintic activity. One such example is date palm fruit. However, the mechanism by which date palm fruit exerts its anthelmintic effect remains uncertain. The objective of this study was to determine whether date palm fruit would exert an indirect anthelmintic response. Using human intestinal LS174T cells treated with IL-22 to simulate helminth infection, we investigated the potential of date palm fruit extract to induce MUC1, MUC3, MUC4 and MUC5B genes expression. IL-22 induced helminth infection model was confirmed. However, the indirect anthelmintic effect of date palm fruit was only relative as treatment of date palm fruit extract in LS174T cells and IL-22 in vitro did not significantly induce MUC1, MUC3, MUC4 and MUC5B genes expression when compared to treatment with IL-22 alone. Date palm fruit was not significantly associated with the mechanism of increased mucus production through upregulation of mucin genes by intestinal cells. Our findings suggest that date palm fruit exerts its anthelmintic effect directly onto worms rather than indirectly through increased mucus production.

PP005

Factors Influencing Immediate Psychological Response Among Healthcare Workers in a District Hospital in Malaysia During 2020 COVID-19 Pandemic

Ahmad Ashraf Ilman Z¹, Iwin Soossay S¹, Muhammad Nazrin Asyraf A¹, Nurul Hana I¹, Muhammad Razali HA², Siti Norhamizah S³; Umi Kalsom MI¹

¹Department of Psychiatry, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

²Department of Rehabilitation, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

³Counselling Unit, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

In March 2020, Coronavirus disease 2019 (COVID-19) became a pandemic causing psychological distress especially among healthcare workers (HCWs). This study aims to determine the immediate psychological response of HCWs at the beginning of the pandemic and to elucidate factors affecting the response. This is a cross-sectional secondary data analysis on data collected by the Mental Health and Psychosocial Support (MHPSS) team of a district hospital in Malaysia during the first two weeks of the pandemic response. Link to the online questionnaire was distributed to all HCWs working in the hospital. Data analysis excluded house officers, security guards, and maintenance workers. Psychological response was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS-21). Bivariate and multiple logistic regression were used to elucidate significant relationships between the variables. 1092 responses were analysed with a response rate of 51.31%. The prevalence of psychological distress was 19.2% with 17.9% reported anxiety symptoms. Male HCWs were more psychologically distressed than females ($p < 0.01$). Chinese HCWs were more prone to be depressed and Indian HCWs were more prone to be stressed compared to Malay HCWs ($p < 0.05$). The professional & administrative (P&A) service group experienced more psychological distress compared to supporting staff ($p < 0.01$). Being involved with the COVID-19 response is not significantly associated with psychological distress. Gender and service group emerged as significant predictors of psychological distress in the first two weeks of the pandemic. Psychological distress was detected among HCWs in the beginning of the COVID-19 pandemic with gender and service group as significant predictors. More research is needed to study the factors underlying the difference in psychological response among genders and service groups to guide strategic interventions to preserve the mental health of HCWs during stressful events.

PP006

Mental Health Status of B40 Single-mothers during COVID-19 Pandemic

Siti Marziah Z¹, Norehan A², Mohd Radzniwan R³, Aizan Sofia A¹, Noremy MA¹, Wan Nurdiyana WY¹, Asila Nur Adlynd MS¹

¹Faculty of Social Science and Humanities, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

²School of Economics, Finance & Banking, College of Business, Universiti Utara Malaysia, Sintok, Kedah, Malaysia

³Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Previous studies reported that single mothers have relatively high stress level, which was mainly related to financial constraints (insufficient income), hectic daily routines, and health concerns. Single mothers also reported as having extensive roles and feeling accountable for many aspects of their family lives, including their children's health and well-being. This study aimed at exploring mental health status of B40 single mothers during COVID-19 pandemic. A qualitative study was applied by conducting a focused-group discussion to ten (10) informants. The inclusion criteria for the informants are single mothers with income category of B40, aged 20-60 years old, and having young children living with them (below 18 years old). A series of focused group discussion has been conducted in Balik Pulau, Penang, Malaysia. A total of twelve semi-structured questions were used to explore single mothers' mental health status. The data has been analyzed by applying thematic analysis. Single mothers reported a sense of anxiety, grieving, stressed, and depressed. A sudden life change from married mothers to single mothers due to the demise of their spouses is a very traumatic life event. Most of the single mothers expressed high level of worry about financial constraints during the pandemic. This has led to sleepless nights, fatigue, and anxiety. COVID-19 pandemic has affected their income as most of them are small-scale entrepreneurs. The informants also reported a sense of isolation, inferiority, and helplessness due to their status as single mothers. They also face stigma as the society are prejudice towards them. In conclusion, single mothers reported to have poor mental health status. They expressed symptoms of stress, depression, and anxiety. Lack of social support and stigma in the society may worsen their mental health.

PP007

Food Intake in Islam; A Review

Mohamad Syahir R¹, Fathima Begum SM¹, Norhasnira I²

¹Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Faculty of Quranic and Sunnah Studies, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Improper food intake causes obesity and affects health. Islam guides eating behaviour, to preserve the body and soul for ‘ibadah’. This review highlights healthy eating practices in Islam to benefit the community. The review's key aim is to identify the healthy eating practices from the Islamic view. The electronic databases were Google Scholar, Medline and PUBMED and the findings compared with Quran and Hadith. Other related books, journals, and articles were also read. Data extracted from the past 15 years until 2020. This review informs that the beginning of healthy eating is from birth as in the Holy Quran. The food intake of Rasulullah s.a.w, was in moderation. He encourages to masticate food well and eat fruit before a meal. Clinical study shows that eating fruit before a meal has a significant effect on an individual's satiety. GLP-1 is a hormone produced in the human gut following food ingestion that delays gastric emptying. This suppresses appetite, which then aids in regulating an individual's weight. Consumption of olive oil, barley and dates is encouraged. Fasting was also practiced by Rasulullah s.a.w. Studies find that fasting burn fat quickly, control blood glucose, boost the immune system, improve the digestive and respiratory system. Lastly, this review identifies the importance of Halalan Tayyiban food whereby the principal value is spirituality. This is established by positive emotions of the realization of a relationship with Allah s.w.t. This will then lead to the tranquility of the heart. Islam has provided guidelines for healthy eating practices in the Holy Quran and Hadith. A physician should recommend these dietary practices to Muslim patients. More future research relating to eating practices and Islam is needed in future.

PP008

Perceived Difficulties in Obtaining Healthcare Assistance and Facilities Among B40 of Single Mothers - A Descriptive Nationwide Study in Malaysia

Mohd Radzniwan R¹, Siti Marziah Z², Aizan Sofia A², Noremy MA², Norehan A³, Wan Nurdiyana WY², Asila Nur Adlynd MS²

¹Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Faculty of Social Science and Humanities, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

³School of Economics, Finance & Banking, College of Business, Universiti Utara Malaysia, Sintok, Kedah, Malaysia

Being a single mother with financial inadequacy poses great challenge to obtain better healthcare. The study aimed at assessing the perceived difficulties in obtaining healthcare assistance and facilities among B40 single mothers in Malaysia. The information is useful in creating better policy for health care among this unfortunate group. This was a cross-sectional study conducted from the 1st of September 2021 till the 5th of March 2022, by face to face in a few centers and google form distribution throughout Malaysia. The inclusion criterion was single mothers who fall in the category of B40 groups. Those who remarried were excluded. Questionnaires assessing the difficulties of obtaining healthcare assistance and facilities were used to obtain the data which was analysed descriptively via IBM SPSS 20. Ethical approval had been obtained. A total of 567 respondents were included. Majority aged in between 41-60 (61.9%), Muslim (70.7%), Malay (88.9%), living in middle zone (43.2%), residing in towns (57.1%) attained education at SPM level and above (72.3%) and employed (73.9%). Majority too reporting that the healthcare facilities were nearby (88%), and they had no difficulties in getting the followings; medicines (77.4%), equipment (93.6%), diagnostic tests (87.0%), doctor's appointment (85.4%), social assistance (72.3%) and preventive medicine services (86.2%). Minority reported only able to afford healthcare cost in private vs government facilities (4.9% vs 74.6%). Obtaining proper healthcare services are important to achieve better health. Fortunately, the study had demonstrated no difficulties in getting those services among B40 single mothers in Malaysia. However, majority still cannot afford the private healthcare facilities. Perhaps designing better private-public partnership could fill the gap thus helping the B40 of single mothers in getting access to both private and public healthcare services equally.

PP009

The Associations between Sociodemographic, Clinical Characteristics, and Psychiatric Admission among Psychiatric Patients after Acute Community Treatment

Muhammad Arif MR², Hamidin A¹, Kit-Aun T³, Siti Hazrah SD², Nathratul Ayesah Z¹

¹Unit of Psychiatry, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Psychiatry, Hospital Tuanku Ja'afar, Seremban, Malaysia

³Department of Psychiatry, Hospital Universiti Putra, Serdang, Selangor, Malaysia

Admission rate is a crucial indicator in medical systems including psychiatry services, due to high cost and proven negative impact on disrupting lives of patients and their families. Acute community-based interventions were introduced in reducing psychiatric hospitalization by treating acute presentations in the community. This study was conducted to examine the associations between socio- demographics, clinical characteristics, and psychiatric admission after seeking Acute Community Treatment (ACT). This prospective cohort study done among psychiatric patients (n = 102) in Hospital Sultanah Bahiyah, Alor Setar, Malaysia. Ethical clearance received from the National Medical Research and Ethics Committee (MREC) of the Ministry of Health (MOH), Malaysia. Participants were recruited via systematic sampling method using Threshold Assessment Grid (TAG) and the Brief Psychiatric Rating Scale (BPRS). The psychiatric illnesses were confirmed by doctors using the Mini-International Neuropsychiatric Interview (M.I.N.I.) 6.0, and particulars on sociodemographic, past psychiatric admission and clinical characteristics were collected prior to ACT. Data analyses were performed at bivariate (chi-square and simple binary logistic regression) and multivariate levels (hierarchical binary logistic regression). After ACT, the cumulative incidence of psychiatric admission was 15.7%. By bivariate level, history of previous admission for last 2 years and psychotic symptoms were significantly associated with psychiatric admission after the treatment. Higher BPRS and TAG scores were also associated with psychiatric admission after ACT. By multivariate level it was revealed that a higher score of TAG and history of previous admission were predictors of psychiatric admission after ACT while adjusting for sociodemographic factors (age, gender, marital status, employment status, and living condition). When designing and implementing ACT, more emphasis should be placed on patients with a history of previous admission and high level of risk. Further ACT improvement could target on the promotion of safety, risk, and needs and disabilities in psychiatric services.

PP010

The Recent Occupational Diseases and Injuries in Malaysia: A Thematic Review

S Maria A¹, Maznieda M¹, Kuang Kuay L¹, Norsyaqilah S¹, Tuan Amin TL¹

¹Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia, Setia Alam, Selangor, Malaysia

Occupational diseases or injuries are any disease or injury that occurs directly due to the nature of work and workplace environment which may reduce workers' productivity, increase sick leave and reduce the quality of life. This study aims to review and summarize the occupational diseases and injuries in Malaysia from 2016 to 2021. A systematic literature search was conducted using specific keywords via PubMed and Scopus databases for literatures from 1 January 2016 to 8 September 2021. Data were extracted into the Mendeley Desktop and Atlas.ti 8 software. Two independent researchers were assigned to manage the title, abstract and full-text screening according to the inclusion and exclusion criteria. The other authors made the final decision for any discrepancies. A thematic analysis was conducted according to the deductive and inductive code and later grouped as subthemes and themes. The results were presented as a set of themes, a few tables for descriptive analysis and cross-tabulation between the themes. A total of 2929 records were identified, and only 120 records were included in this study. Seven subthemes under the theme of the main health problems were identified such as mental health (24.2%), infectious disease (23.3%), work-related musculoskeletal disorders (23.3%), injury (11.7%), respiratory problems (10.0%), cardiovascular diseases risk (5.0%) and hearing problem (2.5%). The findings also showed an increasing trends of mental health problems in pandemic COVID-19 years, and the hospital was the highest workplace with occupational health problems. This study summarized the literature on the evidence of occupational diseases in Malaysia over the recent five years. There was substantial literature on the mental health problem, infectious disease and work-related musculoskeletal disorders as the main health problem among workers in Malaysia

PP011

Diabetic Ketoacidosis Induced by FOLFOX Chemotherapy; A Rare Adverse Effect in Colorectal Carcinoma Patient with Background of Latent Autoimmune Diabetes in Adults

Anwar R^{1,2}, Kishore Kumaar V², Azmi H², Nurul Hayati C³

¹Department of Surgery, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia

²Department of Surgery, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

³Family Medicine Unit, Department of Primary Health Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Diabetic ketoacidosis (DKA) is a life-threatening acute complication of diabetes characterized by hyperglycaemia, hyperketonaemia and metabolic acidosis. In most cases, the trigger is an infection, new-onset diabetes, myocardial infarction, or non-compliance with treatment. FOLFOX (5-fluorouracil, leucovorin, and oxaliplatin) is one of the systemic adjuvant chemotherapy regimens for advanced-stage colorectal carcinoma. Haematological side effects of the 5-FU chemotherapy are well known. However, evidence shows it is also associated with the new development of diabetes mellitus and worsening glycaemic control in known diabetics. This case report highlights the rare and fatal adverse effect of FOLFOX chemotherapy. The authors report on a case of DKA in a 60-year-old diabetic woman after a day following her second cycle of FOLFOX chemotherapy. She was diagnosed with latent autoimmune diabetes in adults since thirty-year age under physician clinic follow up with poor control of glycated haemoglobin, HbA1c 8%. She was discharged well following DKA management with self-glucose monitoring advice at the nearest health clinic. Multidisciplinary team management is essential to ensure the diabetes control of Type 2 diabetes mellitus patients with advanced colorectal carcinoma is good before undergoing FOLFOX chemotherapy.

PP012

A Case Report of Massive Cerebral Venous Sinus Thrombosis As An Unexpected Severe Hyperthyroidism Complication

Muhamad Rafiqi H^{1,2}, Mohd Rahman O², Wan Fadzlina WMS¹, Wan Mohd Nazaruddin WH¹, Chandran N³

¹Department of Anaesthesiology and Intensive Care, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia

²Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

³Department of Radiology, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia

CVST (cerebral venous sinus thrombosis) is a rare but potentially catastrophic neurological disease that is frequently linked to prothrombotic conditions. Identifying the underlying cause of CVST is critical, but it can be challenging, especially when the condition is characterized as rare. Here, we present a case of a previously healthy 31-year-old Malay male who presented with massive CVST complicated with status epilepticus and arrhythmia in the setting of undiagnosed severe hyperthyroidism. The patient subsequently improved following intensive care therapy, thyroid storm protocol treatment, and antiplatelet medications. This case emphasizes the importance of ruling out hyperthyroidism in individuals with atypical neurological symptoms, particularly CVST, even if no other risk factors are present.

PP013

Relationship between Turning Difficulty and Fall Risk Among Geriatric Population: A Pilot Study

Premala K^{1,2}, Kamala K¹, Meneka Naidu M¹, Arti VK¹, Yee Soon C¹

¹Department of Physiotherapy, Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman, Kajang, Selangor, Malaysia

²Department of Mechatronics and BioMedical Engineering, Lee Kong Chian Faculty of Engineering and Science, Universiti Tunku Abdul Rahman, Kajang, Selangor, Malaysia

Falls are the second leading cause of accidental or unintentional injury deaths worldwide and a great number of fatal falls are from the elderly population. Turning activity is a major contributor to fall in elderly. Most geriatrics suffering from turning difficulty complain of fall incidences. Fall from turning usually result in fracture of femur and the result was eight times more than fall during straight forward walking. Devastating consequence of fall such as long standings pain, functional impairment, disability, and death highlight the need for targeted fall assessment and management. To investigate the relationship between turning difficulty and fall risk among geriatric population using standardised physiotherapy outcome measures. A cross-sectional study design with simple random sampling method was adopted. A total of 69 participants were recruited within Klang Valley. Prior assessment, they were screened using a standardised health status questionnaire. They were assessed with Time Up and Go Test (TUG) for turning difficulty and Modified Fall Efficacy Scale (MFES) for fall risk. Descriptive statistics, independent t-test, and One-way ANOVA Test were used for data analysis. 80% of the participants completed TUG within 14 seconds. The mean score of MFES was 8.03. Age, coexist medical conditions, medications used, frequency of fall, reason for fall and use of assistive device were significantly associated with MFES. Age, coexist medical conditions, medications used and use of assistive device were significantly correlated with TUG. Independent t-test showed TUG was significantly associated with MFES. Turning difficulty and fall risk are correlated among the geriatrics. Hence, preventive measures need to be taken to reduce the fall risk.

PP014

Perceptions of Blended Learning Approach Among Physiotherapy Students: A Cross Sectional Study

Arti VK¹, Meneka Naidu M¹, Premala K¹, Zhen Xin T¹

¹Department of Physiotherapy, Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman, Selangor, Malaysia

The COVID-19 pandemic outbreak imposed many educational institutions to transit from physical to virtual learning. Adapting to this change, educational institutions begun to introduce blended learning (BL) in their curriculum. However, to implement an effective BL environment, students' perceptions towards BL needs to be understood. There are dearth of evidence available on the perceptions of BL in the physiotherapy education. To identify the perception of BL approach among physiotherapy students in Universiti Tunku Abdul Rahman (UTAR). A cross-sectional study was carried out between October to November 2021. Questionnaires consisting of demographic information, and BL implementation were distributed among 133 physiotherapy students. Data was analysed using descriptive statistics by expressing the values in frequencies, means, and standard deviations. Students general view on the implementation of BL is positive with an average mean of 3.20 (SD=0.980). Most students agree that learning the subject using BL mode is much more attractive than full online mode with a mean value of 3.75 (SD=1.047). On the other hand, students also scored low for domain 10 in the general view of BL implementation with a mean score of 2.05 (SD=0.862). This suggests, some disagree that BL enhances their motivation to study using online platform. Students generally have a positive perception on the BL approach. They are satisfied with the implementation of BL, however, their willingness to accept the BL approach after the pandemic is neutral. Nevertheless, the preferred learning and assessment platform result indicated that BL is still considered a potential academic teaching and learning mode. To ensure the effectiveness of BL method, faculty members are advised to continuously study the feedback from educators and students on ways to improve BL approach in education.

PP015

Potential Intervention to Mitigate The Psychological Distress Among Postnatal Women During Covid-19 Pandemic: A Scoping Review

Nur Adilah Z¹, Fathima Begum SM², Teh Rohaila J³, Suhaiza S⁴

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Primary Healthcare, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

³Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur Malaysia

⁴Department of Family Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Malaysia

The COVID-19 pandemic that started in 2019 resulted in psychological distress, particularly among the vulnerable group like the postnatal women. The upsurge in psychological disorders is due to the personal, financial, and psychosocial factors. Reviews suggested to structure potential interventions and programs to provide quality care for the postnatal women during a pandemic. The study aimed at reporting current literatures on potential structured interventions and programs to mitigate the mental health risk and improve the well-being of the postnatal mothers during pandemic. The review was conducted from January 1st, 2020, to May 31st, 2021 emulating the five-phase framework for conducting scoping reviews by Arksey and O'Malley, using four databases; MEDLINE, Scopus, ProQuest, and EBSCOhost. The MeSH term used were ((postnatal OR postpartum) AND (coronavirus OR COVID-19 OR COVID-19 lockdown)) AND (psychological distress OR maternal mental health OR postpartum depression OR anxiety OR stress). Duplicates and irrelevant articles were removed. Non-English articles were excluded. A total of 937 articles were screened from the title and abstract level, of which 20 articles were assessed at full text. The majority of the papers were cross-sectional studies (n=14), longitudinal cohort studies (n=4) and 2 qualitative studies. Generally, most of the papers discussed briefly on the intervention programs. Whereas 5 of the papers focused on the importance of telehealth services, self-empowerment with variable resources, surrounding support, and relaxation techniques for the mothers. It is important to identify possible interventions to prevent psychological distress among postnatal women. This will assist to provide supportive environment and quality care to the mothers and their infants at this critical time. This can also be a reference in future pandemic situations.

PP016

Knowledge, Attitude and Perception among Orthodontists Towards Smoking Cessation Therapy

Asma Alhusna AA¹, Khadijah Hasanah AA², Nurul Asyikin Y³, Noor Sam A³

¹Department of Paediatric Dentistry & Orthodontics, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

²Psychiatry Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

³Department of Family Oral Health, Faculty of Dentistry, Universiti Kebangsaan Malaysia, Kuala Lumpur Malaysia

Smoking has been a significant addiction problem in Malaysia. A successful intervention for tobacco addiction starts with effective identification of the user, which dentists may do intraorally. As the only dental specialist who sees patients on a regular monthly basis for 2-3 years, orthodontists may have a role to play in promoting smoking cessation. This cross-sectional study will generate baseline data on the potential role of orthodontists in becoming a part of the smoking-combating team. An online self-administered survey form was conveniently distributed to orthodontists to assess their knowledge (15 items), attitudes (12 items), and perception (6 items) of their role in smoking prevention. Most of respondents were Malay (72%) female (86%) between the ages of 35 to 44 (56%) and worked in government facilities (52%). Generally, all 43 respondents had good knowledge of dental-tobacco related issues, with 60-98% of them answered correctly. However, inadequate knowledge of smoking cessation methods was discovered, with respondents' correct answers ranging from only 9-42%. They were confident in their ability to detect the habit (95%) and refer appropriately (95%). In their orthodontic practice, most of them explained smoking risks to patients (98%) but only a minority offered cessation counselling (47%). Among the barriers to performing cessation counselling were the lack of time (84%), limited educational material (77%), and lack of training (74%). Orthodontists are well-versed in dental issues caused by smoking but not so much in smoking cessation therapy. Because of the limited clinical time and lack of expertise, they can detect the smoking habit and explain the risks, but they will refer patients for counselling. It may be suggested that training in smoking cessation be included in the orthodontic postgraduate curriculum to better equip future orthodontists in promoting smoking cessation.

PP017

Re-strategizing Recruitment for a Randomised Pilot Feasibility Trial in Response to the COVID-19 Pandemic

Aida J^{1,2}, Sherina MS^{1,7}, Chai-Eng T^{1,3}, Noor Azimah M³, Rosliza AM⁴, Chai Nien F⁵, Zailiza S⁶, Nazhatussima S⁷

¹Department of Psychiatry, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

²Primary Care Unit, Faculty of Medicine and Defence Health, Universiti Pertahanan Nasional Malaysia, Malaysia

³Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia

⁴Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

⁵Department of Population Medicine, Universiti Tunku Abdul Rahman, Kajang, Selangor, Malaysia

⁶Health District Office Hulu Langat, Ministry of Health, Selangor, Malaysia

⁷Klinik Kesihatan Ampang, Ministry of Health, Selangor, Malaysia

Social restrictions during the COVID-19 pandemic have severely affected data collection for research. Healthcare researchers must explore different strategies to recruit suitable subjects for clinical trials. This study aims to describe the recruitment process during the lockdown and the utilisation of technology available for the recruitment screening medium. The challenges for recruitment via the usual methods were discussed. An alternative method based on the use of instant messaging service to recruit participants was attempted in order to reduce face-to-face contact. The response rate, dropout rate, and a critical analysis of the strengths and limitations of this strategy will be presented. Based on the inclusion and exclusion criteria, 26 pregnant women were enrolled in the pilot study over three months, representing a recruitment rate of 54.2% (26/48). There were 6 dropouts from the intervention group with attrition rates of 37.5% (6/16), and 4 from the control group with 40.0% (4/10). The main challenge for recruiting study participants during this period was disseminating the study information to the potential study participants. This alternative recruitment method was still inadequate to achieve the targeted sample size. Potential solutions include active involvement from the health clinics and sharing the information via WhatsApp. This study reported several challenges and recruitment strategies taken to complete the trial. Several amendments in the study protocol are suggested to be conducted in the future full RCT study.

PP018

An Uncommon Co-Infection of Pulmonary Tuberculosis and Leprosy - A Case Report

Yafizah Y¹, Nurul Akmanidar Z², Anu Suria G¹, Fathima Begum SM¹

¹Family Medicine Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Klinik Kesihatan Penampang, Penampang, Sabah, Malaysia

Pulmonary tuberculosis (PTB) and leprosy are endemic in Malaysia, however, their co-infection is rare. We report a case of concurrent PTB and leprosy in a patient with no comorbidities. A 48-year-old man, an ex-chronic smoker presented with chronic productive cough for a month associated with loss of appetite and loss of weight. However, no haemoptysis, night sweat, or contact with PTB patients. He was cachexic with BMI of 19 kg/m². Examination revealed crepitations over the bilateral upper zone of the lung and CXR showed bilateral lung opacities involvement with sputum AFB showed 3+. The diagnosis of extensive smear positive PTB was made, and anti-tuberculosis treatment (ATT) for 9 months was planned. After one month on ATT, he developed an erythematous skin lesion over bilateral upper limbs associated with itchiness for four days. He was treated with multiple topical treatments for a month but no improvement. He was referred to Family Medicine Specialist. Further history, the patient had the lesion for a year and become worsen after a month of ATT treatment, as well as developing new lesions and patches. On examination, there was generalized dry skin, multiple erythematous hyperpigmentation lesions over the trunk and upper limbs with reduced sensation at the central lesion, thickened supraorbital ridge, and thickening of the ulnar nerve. Split skin smear (SSS) was performed, and he was diagnosed with multibacillary leprosy with type 2 lepra reaction. Multidrug treatment (MDT) for one year was started concurrently with oral steroid in tapering dose for one month, on top of ATT treatment. He responded well to the treatments. He was required to have yearly SSS for 5 years and clinical surveillance for 10 years. Even though concurrent PTB and leprosy are rare, a thorough history and physical examination are vital, as to prevent complications from both diseases.

PP019

Anxiety Among Malaysian Medical Students During The COVID-19 Pandemic and Their Psychological Resilience And Coping Styles

Bentham Liang Sen T¹, Jin Kiat A¹, Eugene Boon Yau K¹, Chuong Hock T²

¹Department of Psychiatry, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor, Malaysia

²Department of Psychological Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Malaysia

The unprecedented Coronavirus Disease 2019 (COVID-19) pandemic has swept the world by storm and caused a myriad of devastating consequences particularly disruptions in medical education and bedside learning. Many medical students had an abrupt hiatus in their medical training and the uncertainties in their studies and adaptation to virtual learning had caused a multitude of psychological sequelae even long into the endemic period. This study aims to examine the level of anxiety among medical students and to determine its association with several psychological factors and their coping strategies during the COVID-19 pandemic. This cross-sectional study involved 371 medical students from Universiti Putra Malaysia (UPM) from 27th January to 27th May 2022, using a printed questionnaire consisting of demographic data, Rosenberg Self-Esteem Scale (RSES), General Self-Efficacy Scale (GSES), Brief COPE, and General Anxiety Disorder-7 (GAD-7). 21.6% and 15.4% had reported moderate and severe anxiety respectively. The majority of medical students used approach strategies to cope ($M=34.30$, $SD=6.684$) and acceptance was the most preferred method ($M=6.10$, $SD=1.36$), whereas self-distraction was the most practiced option among the avoidant strategies ($M=5.98$, $SD=1.50$). There were significant differences in anxiety scores between students who live alone ($M=8.77$, $SD=7.59$) and students who live with others ($M=8.09$, $SD=5.56$; $t(369)=0.429$; $p=.031$) as well as knowing someone immediate with COVID-19 ($M=8.42$, $SD=5.91$) and knowing someone distant with COVID-19 ($M=7.58$, $SD=5.11$, $t(369)=1.379$, $p=0.006$). Correlation analysis showed higher self-esteem ($r=-0.132$, $p<0.001$) and self-efficacy ($r=-0.280$, $p<0.001$) associated with a lower level of anxiety while students who preferred avoidant coping had a higher level of anxiety ($r=0.561$, $p<0.001$). It is imperative to build resilience, inculcate positive coping and integrate effective psychological interventions in our budding healthcare providers to better equip them for any unforeseeable disasters.

PP020

Pure Red Cell Aplasia with Autoimmune Myelofibrosis: A Rare COVID-19 Complication

Intan Noorliza MS¹, Jacinta E¹, Andy T¹, Ngee Siang L¹, Alina F^{1,2}, Asral Wirda AA^{1,2}

¹Department of Haematology, Hospital Ampang, Ampang Jaya, Selangor, Malaysia

²Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Most people who have coronavirus disease 2019 (COVID-19) recover completely within a few weeks. However, many long-term effects are unknown and are being reported. Much is still to be revealed about how COVID-19 will affect people over time, but research is ongoing. Pure red cell aplasia (PRCA) associated with COVID-19 has previously been described. However, the coinciding presence of fibrosis in the bone marrow is a very rare occurrence. In this case report, we aim to outline the clinicopathological syndrome of autoimmune myelofibrosis. A 51-year-old lady was referred to our center for chronic anaemia of 6 months. The haemoglobin level was hovering around 7 g/dL and was as low as 4 g/dL at presentation. No apparent cause for anaemia was found and she required repeated red cell transfusions every 2 months to alleviate symptoms. She had only been receiving treatment for type 2 diabetes and hypertension but had never been diagnosed with a hematological disorder. Prior to this presentation she contracted COVID-19 twice which she recovered from. The more recent infection being 3 months earlier. Bone marrow biopsy was performed twice prior to presentation, however no diagnosis was offered. She was pale but not jaundiced, and other systemic examination was uneventful. Direct Coombs test was positive but other biochemical markers of haemolysis were unremarkable. Examination of the bone marrow biopsy showed increased reticulin fibrosis with lack of clustered or atypical megakaryocytes, lack of significant myeloid and erythroid dysplasia, eosinophilia or basophilia. There were multiple irregular lymphoid nodules which were reactive and lack of osteosclerosis. She was treated with intravenous immunoglobulin and oral cyclosporine. Diagnosis is mainly made by exclusion. Myelodysplastic syndrome with myelofibrosis and acute myelofibrosis are important differential diagnoses to consider. However, the morphological findings must be correlated with the clinical course of symptoms.

PP021

A Case Report of Deadly Infection by *Streptococcus anginosus*: Rare Finding of Pyogenic Pericarditis; Local Spread from Liver Abscess

Nadiawati AR^{1,2}, Siti Asma MS²

¹Forensic Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia

²Department of Forensic Medicine, Hospital Serdang, Selangor, Malaysia

Streptococcus anginosus group (SAG) is gram-positive streptococci and a commensal in upper respiratory, digestive and reproductive tracts. It is tacitly not recognized as a causative pathogen and death due to the infection is also uncommon. However, they can cause invasive infections and induce pyogenic infection with abscess formation under certain conditions. In forensic practise, interpretation of microbiological result is challenging especially when the culture grow commensal organisms. Two main theories explaining bacterial growth in postmortem blood and tissue cultures are either from agonal spread or postmortem bacterial transmigration. Both conditions may result in positive culture with commensal organisms. We report a rare case of pyogenic pericarditis in a male deceased who presented with a sudden death which the history from next-of-kin was not helpful. The underlying pyogenic pericarditis and the culprit organism were identified via post-mortem examination. Local spread from adjacent organs is rare. SAG pyogenic pericarditis is infrequent but serious condition that fatal. Holistic approach of the case must emphasize post-mortem findings in a case that the history is limited especially in forensic practise. Deciding a cause of death due to commensal pathogen is the most daunting tasks in forensic medicine and conscientious analysis of post-mortem investigations are vital.

PP022

Depression & Anxiety Among Dental Students During Covid-19 Pandemic: A Cross-Sectional Study

Aina Natasha R¹, Ainul Hafeezah D¹, Nurul Asyikin Y¹, Ahmad ShuhudIrfani Z¹, Asma Alhusna AA², Khadijah Hasanah AA³

¹Faculty of Dentistry, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

²Department of Paediatric and Orthodontic, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

³Department of Psychiatry, Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

COVID-19 pandemic has taken its toll on each person, including dental students. The situation may indirectly influence dental students' performance due to preventive measures to contain the disease. This study aims to assess undergraduate dental students' depression and anxiety levels (preclinical and clinical) and determine the challenges faced in two public universities in Kuala Lumpur, Malaysia, during the COVID-19 pandemic. A cross-sectional questionnaire was conducted online using the 9-item Patient Health Question (PHQ-9) and 7-item Generalised Anxiety Disorder (GAD-7). Of the 281 respondents in this study, 149 were preclinical, and 132 were clinical students. Generally, the level of depression and anxiety is higher in preclinical students than in clinical students. More clinical students always find it difficult to complete their clinical requirements (18.2% vs 6.0%, $p=0.001$) and cope with online classes (0.8% vs 6.7%, $p=0.002$) compared to preclinical students. Also, more clinical students never had internet connection problems than preclinical students (5.3% vs. 1.3%, $p=0.021$). Alternatively, more preclinical students always feel lagging in studies (11.4% vs. 3.6%, $p=0.002$). A statistically significant difference was seen in the social support between preclinical and clinical students ($p=0.006$), but most students had support from their family and friends. Preclinical students have more severe depression and anxiety than clinical students. The significant challenges the students face are the feeling that they are lagging in studies, difficulty completing clinical requirements, and difficulty coping with online classes.

PP023

Scuba Diving-Related Middle Ear Barotrauma-From the Ear of a Physician to the Ears of All Physicians

Wei Ming T¹, Sarah Zulaikha S¹, Hana Maizuliana S¹, Koon Ket S²

¹Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia

²Department of Internal Medicine, Hospital Ampang, Ampang Jaya, Malaysia

Middle ear barotrauma (MEB), being the most common diving-related injury, constitutes approximately 50% of diving-related presentations to medical practitioners. It is the result of swift ambient pressure changes from Eustachian tube dysfunction. We report a case of middle ear barotrauma during an open water diver certification course in a 35-year-old physician with no previous medical illness or history of allergic rhinitis. Prior to that, he did not complain of any upper respiratory tract symptoms. He experienced left otalgia during the initial descent of a few metres. Nonetheless, no bleeding was noticed from his left ear. Otalgia resolved but the sensation of fullness was persistent in his left ear with no tinnitus. The video otoscopy done by the Ear, Nose and Throat consultant demonstrated bubbles behind an erythematous left tympanic membrane. Grade 1 middle ear barotrauma was diagnosed with the Modified Teed classification. He was prescribed symptomatic treatment of loratadine and oxymetazoline nasal spray with a week of 250 mg cefuroxime tablets twice daily. Barotrauma resolved on a repeated video otoscopy done a fortnight later. MEB occurs primarily on descent when effective equalization with Valsalva manoeuvre fails, especially near the surface of the water where a small increment in depth causes a significant reduction in relative gas volume in the middle ear. The divers commonly experience pain and pressure sensation of the affected ear. Complications such as middle ear effusion and tympanic membrane rupture may occur. Treatment of MEB comprises topical and systemic decongestants with antibiotics if secondary infection happens. Most importantly, divers must be trained adequately for early and effective pressure equalization to reduce the risk of MEB. All medical practitioners must be able to recognize the common presentations and devise basic management principles of one of the commonest diving-related otological injuries.

PP024

Effectiveness of Counselling Among Parents in Managing Children with Disabilities at Rehabilitation Centre, Esenyurt, Istanbul During Pandemic

Afzan MY¹, Hüsamettin T²

¹Vocational School of Health Services, Karabük University, Safranbolu/ Karabük, Turkey

²Özel Esenyurt Terapi Yaşam Rehabilitasyon Merkezi (Special Education and Rehabilitation Centre), Istanbul, Turkey

During pandemic, Covid-19 has disrupting normal day-to-day activities including working patterns, education and movement across countries. It serves as a new stressor to parents of children with disabilities in providing proper care and needs. Therefore, the study aimed to evaluate the effectiveness of counselling among parents in managing children with disabilities at the “Özel Esenyurt Terapi Yaşam Rehabilitasyon Merkezi” or Rehabilitation Centre, Esenyurt, Istanbul during pandemic. A total of 48 parents were selected to undergo counselling. Parents of children with disabilities were given pre- and post- evaluation tests in assessing their level of knowledge. The counselling was focusing on four aspects: children’s health condition, communication, arrangement of activities and tasks and emotional competence. Data collected was then analysed by using frequency and percentages. Based on findings, parents have less knowledge on arrangement of activities and task and emotional competence. The study reveals that there is a positive impact on the counselling towards level of knowledge among parents of children with disabilities. All parents (n=48; 100%) were able to understand all four aspects in managing children with disabilities after the counselling conducted. It is hoped that the findings can provide useful information to parents of children with disabilities in Turkey so that their children’s needs can be addressed properly.

PP025

COVID-19 Quarantine Effect on the Emotion of the Mak Nyah

Fathima Begum SM¹, Mohamed Fakhri AB¹, Zainora D², Khadijah Hasanah AA¹, Nizam B¹, Rafidah Hanim M¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Faculty of Quranic and Sunnah Studies, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

The COVID-19 pandemic affected the Mak Nyah emotionally. They are the vulnerable group and deserve equitable healthcare. It is important to attend to their emotional condition as this will help them to empower their health. This study assessed the emotional effect of COVID-19 quarantine on this group. Methodology: A qualitative study, with a phenomenological approach, was conducted. In- depth interviews among eleven transwomen from a state in Malaysia who volunteered for the study. The data were transcribed, translated into English and analysed for coding and thematic analysis. Emotional effect: All participants voiced their sadness due to quarantine. They had a fear for the future and worried about the pandemic. Many worried about their family and financial situation. Two respondents became unemployed and had to spend money wisely. Four of them informed on how they cope emotionally. They accepted the pandemic situation and try to be optimistic. However, some had negative coping like smoking and being involved with illicit drugs. Two participants had the thought of going back to sex work to get money. They want to live comfortably as before the pandemic. Fears about own health: They were concerned about their health during the lockdown. More than half of them have some form of chronic illness as many that volunteered for this study were in their middle age. More than half have a good insight into their health. For the medical follow-ups and medication supplies, their friend had helped them due to the quarantine. Some have good insight to cope with their stress to prevent exacerbation of their health condition. The Mak Nyahs were affected emotionally by the quarantine. There should be more studies, particularly post-pandemic to follow up on their emotional status. Psychological support for this group should be emphasized.

PP026

Self-treatment of Insomnia with Melatonin: A Case Report - Is it Beneficial or Harmful?

Sharifah Najwa SM^{1,2}, Mohd Radzniwan AR^{1,2}, Izzat T^{1,2}

¹*Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia*

²*USIM Specialist Health Clinic, Nilai, Negeri Sembilan, Malaysia*

The first-line treatment options for insomnia are benzodiazepine receptor agonist, non-benzodiazepine receptor agonist, or melatonin-receptor agonist, in adjunct to behavioral therapy. Treatment of insomnia with melatonin is off-label, despite some evidence demonstrating its potential to treat various sleep disorders in adults. This case depicts a lady who developed insomnia post COVID-19 infection and had self-treated with melatonin, which posed a challenge to the treating clinician in terms of the safety profile of this hormone. A 36-year-old librarian complained of first episode of difficulty to fall sleep associated with fatigue for 2 weeks from the last day of her COVID-19 infection quarantine. She has a history of small non-toxic multinodular goiter and is not on treatment. There is no regular caffeine consumption, no psychiatric symptoms and sleep hygiene had been observed. She initiated a self-treatment with 3 mg of melatonin at night, which she bought from a health supplement distributor and felt it was helpful. On examination, she was not pale, no goiter, no other hypo- or hyperthyroid signs and mental state examination was normal. Her blood pressure was normotensive, with normal pulse rate and rhythm. Systemic examinations were unremarkable. A repeated thyroid profile revealed normal result. Melatonin is not widely available in Malaysia and not approved as an over-the-counter supplement by the Ministry of Health, since essentially, it is a hormone. In this case, the patient had initiated melatonin without a doctor's advice and was keen to continue consuming it, despite advised for the recommended medications for insomnia. Recent systematic reviews show variable results in terms of effectiveness and safety profile of melatonin. Self-treatment with melatonin is a challenge to clinicians. More high-quality empirical research is needed to determine the effectiveness and safety profile of melatonin in Malaysia.

PP027

A Virus with a Sweet Tooth - A Case of COVID-19 and Diabetic Ketoacidosis

Sarah Zulaikha S¹, Wei Ming T¹, Hana Maizuliana S¹, Koon Ket S²

¹Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Internal Medicine, Hospital Ampang, Ampang Jaya, Malaysia

Diabetic ketoacidosis (DKA) is a complication that has a high rate of mortality and morbidity, consequently leading to longer hospital stay. Identification of risk factors and prompt diagnosis are important to avoid further complications. We report a case of a 47-year-old obese lady with underlying diabetes mellitus and hypertension who presented to the Emergency Department (ED) with a 2-week history of reduced appetite, myalgia and lower limb weakness. She also suffered a productive cough for the last 5 days with nausea and had been consuming sugary drinks for energy. She defaulted her medications for the last 1 month citing poor appetite. On arrival to ED, she was tachycardic with a heart rate of 113 and blood pressure 92/67mmHg. She was saturating at 96% on air. Her respiratory, abdominal and cardiovascular examination were insignificant. Her sugar level was 20.1mmol/l, her ketone was HI and her bicarbonate was 11.9 mmol/l fulfilling the diagnosis of DKA. She was fluid resuscitated and her COVID and DKA managed as per hospital protocol, and she was discharged well a few days later. COVID-19 increases the possibility of patients developing DKA. Certain infections are known to result in insulin resistance, glycaemic decompensation and DKA. In addition, COVID-19 is managed with steroids and subsequently resulted in patients developing steroid induced DKA, which highlighted a group of similar patients who are obese, middle aged and previously non-insulin dependent diabetics who develop DKA soon after administration of steroids. The SARSCOV-2 virus also affects the ACE-2 receptor in pancreatic islet cells resulting in β -cell dysfunction and subsequent hyperglycaemic complications. COVID-19 can precipitate diabetic ketoacidosis via multiple pathways, including direct effects of the virus on the pancreatic islet cells. Clinicians should be vigilant when managing diabetic patients with COVID-19 to prevent mortality or morbidity.

PP028

Molecular Dynamics Simulations Reveal the Antibiotic Inhibition of MlaC Protein in *Escherichia Coli*

Umairah R¹, Mohamad Jamali MA¹

¹Faculty of Science and Technology, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Gram-negative bacteria consist of a complex cell envelope comprising an inner membrane (IM), an outer membrane (OM), and a thin cell wall layer named peptidoglycan. The OM acts as an additional barrier to protect the bacterium against the intrusion of many toxic substances, including antibiotics. Antimicrobial resistance has emerged as a global public health concern. Gram-negative bacteria such as *Escherichia coli* are among the bacteria that pose the biggest threat to human health due to their increasing antibiotic resistance. Gram-negative bacteria have a system named OmpC-Mla pathway. It is vital to maintain the outer membrane lipid asymmetry. MlaC protein is one of the components in this system that transfers phospholipid from OMs to IMs to ensure the integrity of the membrane is always maintained. Inactivation of MlaC protein increases the penetrability of OM and increases the antibiotic's sensitivity. Screening for inhibitors that can bind strongly to the MlaC protein, which then inhibits the function of MlaC, is a good strategy for antibiotic development. The objective of this study is to investigate inhibitors of MlaC protein by screening using peptide screening. It also aims to determine the potential inhibitor of MlaC protein from *E. coli* by docking simulation and identifies inhibitors' binding mode and stability in native environments by MD simulation. In this study, we performed inhibitor screening using Swiss Similarity software and docking simulation using Auto-Dock Vina and UCSF Chimera software. Then, we performed an MD simulation using GROMACS and visualized the simulation using VMD. Our measurement of the average deviation on the complex shows that Albacarcin V, Chlorobiocin, and Chaetochromin have stable root-mean-square fluctuation (RMSF). Comparison of RMSF between lipid as natural ligand with these inhibitors indicated that selected inhibitors have a strong binding affinity to the active site pocket of MlaC protein.

PP029

Female Intimate Hygiene - Friend or Foe?

Adleen Farhana MF¹, Anu Suria G², Fathima Begum SM², Yafizah Y²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Family Medicine Unit, Department of Primary Health Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Various feminine hygiene products used by women as part of their daily cleansing routine. It is widely available in the market, however their advertisement frequently highlights how desirable it is for women to have ‘clean’ and ‘fresh’ female intimate area. There is, however, a paucity of published medical literature discussing the hazards and benefits of female hygienic care for the vulvovaginal area. This literature review aims to discover more about the mechanism of female intimate products towards women's intimate hygiene, the factors that influence women to use them, benefits and the effects of these products on women's health. A literature search was done using the keyword “female feminine wash” and “female intimate hygiene” via electronic databases such as Google Scholar and PubMed. According to literature reviews, the female intimate products mechanism is designed specifically for the vaginal environment such as containing lactic acid, hypoallergenic and free from fragrance to favours the growth of normal vulvovaginal commensals. Globally, women practice female intimate hygiene due to several factors such as religious beliefs, personal perspectives, life events, age and education. Good female intimate hygiene can help to protect women against vulvar irritation and infection, boost their self-confidence besides staying fresh and comfortable. However, inappropriate use of these products may cause vulvovaginal disorders such as vaginal candidiasis and bacterial vaginosis, urinary tract infection, subfertility and bad obstetrics outcome. Women worldwide should be aware of the importance of optimal hygiene care as unhealthy practices may raise vulvovaginal problems. Therefore, maintaining proper personal hygiene for female genital organs by using the correct female intimate products is necessary to protect the vulvovaginal area without destroying its natural microbiomes.

PP030

The Association of Sleep Quality with Eating Behaviours and Stress Level among Medical Students of a Malaysian University during the COVID-19 Pandemic

Chuong Hock MT¹, Muhammad Nur Ramadhan M², Shi Min K², Wan Fatin WB², Nurul Azah Afifah A², Marlynna S³, Sharifah Nor Fatimah WMS³

¹Department of Psychological Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia

²Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia

³Department of Basic Medical Sciences, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia

Sleep is a crucial determinant of physical and mental health. Stress may lead to sleep disturbance, thereby influencing eating patterns. Medical students frequently suffer from trouble sleeping owing to the stringent academic requirements. The issue is aggravated by the pandemic crisis, having to adapt to the shifts in life routine and the rapidly changing structure of medical education. This study investigated the relationship between sleep quality and eating behaviours as well as stress levels among medical students of a public university during the pandemic. In this cross-sectional study conducted from January to April 2022, medical students completed an online questionnaire consisting of demographic data, Pittsburgh Sleep Quality Index (PSQI), Perceived Stress Scale (PSS), and Adult Eating Behaviour Questionnaire (AEBQ) that could be categorized into food approach [Enjoyment of food (EF), Emotional over-eating (EOE), Food responsiveness (FR), Hunger (H)] and food avoidance [Emotional under-eating (EUE), Food fussiness (FF), Slowness in eating (SE), Satiety responsiveness (SR)] eating behaviour. Among 339 respondents, 60.5% reported poor sleep quality, and 88.5% perceived moderate- to high-stress levels. Food approach (M=52.69, SD=11.56) was the preferred eating behaviour compared with food avoidance (M=49.81, SD=11.09). Poor sleepers had a significant higher stress level ($t=6.192$, $p<.001$) and significantly adopted food avoidance eating patterns ($t=2.281$, $p=.023$). Pearson correlation analysis showed significant positive correlation between PSQI and PSS ($r = .474$, $p = .000$), EOE ($r=.128$, $p=.018$), EUE ($r=.178$, $p=.001$), H ($r=.173$, $p=.001$), SR ($r=.151$, $p=.005$), and negatively correlated with EF ($r=-.112$, $p=.039$). There was no single predictor affecting the quality of sleep. Quality of sleep is closely related to the level of stress and eating behaviours and could be multifactorial. Healthy eating habits and positive stress coping could improve sleep quality among medical students.

PP031

Case Series of Ocular Syphilis in Hospital Shah Alam: Only Affects Men?

Muhammad Najmi K¹, Azlina M¹, Maimunah AM¹, Norlelawati Z¹

¹Ophthalmology Unit, Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Ocular syphilis is a subtype of neurosyphilis that can be associated with uveitis, optic neuropathy and other vision-threatening conditions. The community at highest risk are men who have sex with men (MSM). We aim to highlight the demography of patient diagnosed with ocular syphilis presented to Hospital Shah Alam. Retrospective review of all cases of ocular syphilis presented to ophthalmology clinic in Hospital Shah Alam from October 2015 to December 2018. A total of 13 newly diagnosed ocular syphilis cases confirmed with positive Venereal Disease Research Laboratory (VDRL) titre were included. All patients had high risk behavior MSM and presented with only ocular symptoms which includes blurring of vision, eye redness and/or floaters. Clinical examinations on presentation showed positive signs of ocular inflammation, classified either as anterior, intermediate, posterior or panuveitis. Mean age of patient was 31 years old with 62% of patients were below 30 years of age. All patients were men. Only one patient was Indian, others were all Malay. The results for HIV co-infection were only available in 9 patients. 7 out of 13 patients had HIV co-infection and 2 out of 13 had Hepatitis B co-infection. Ocular syphilis is a serious manifestation of syphilis and is a potential blinding condition but readily treatable. MSM remained as the single most important risk factors among ocular syphilis patients. All patients diagnosed with ocular syphilis should be tested for HIV co-infection.

PP032

The value of C-Reactive Protein/Albumin Ratio in The Severity and Mortality in COVID-19 Patients

Norsyuhadah M¹, Wan Norlina WA¹, Nor Amirah MN¹, Aniza MJ¹, Tuan Ismail TI¹, Azian H², Najib Majdi Y³, Sarina S⁴, SirajudeenKuttulebbai Naina MS⁵, Mahaya CM⁶

¹*Department of Chemical Pathology, School of Medical Sciences, Universiti Sains Malaysia (Health Campus) Kelantan, Malaysia*

²*Department of Medical Microbiology and Parasitology, Universiti Sains Malaysia (Health Campus) Kelantan, Malaysia*

³*Unit of Biostatistic and Research Methodology, Universiti Sains Malaysia (Health Campus) Kelantan, Malaysia*

⁴*Human Genome Centre, Universiti Sains Malaysia (Health Campus) Kelantan, Malaysia*

⁵*Department of Basic Medical, Kuliyyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Malaysia*

⁶*Department of Pathology, Hospital Raja Perempuan Zainab II, Kelantan, Malaysia*

The continuing coronavirus disease 2019 (COVID-19) pandemic provides several concerns for physicians. Thus, saving maximum lives as possible and finding people at risk of serious problems is essential. This study aimed to determine the association of CRP/albumin ratio with severity, duration of hospital stay and mortality in COVID-19 patients. The patient aged 18 to 80 with positive COVID-19 at Hospital Raja Perempuan Zainab II (HRPZ II), Kota Bharu, Kelantan, with available CRP/albumin ratio data on admission, were retrospectively evaluated from March 2021 to March 2022. Disease severity was categorized based on Annex 2e guidelines by Malaysia's Ministry of Health, which further classified them into mild to moderate disease (Stage 1-3) and severe to critical illness (Stage 4- 5). The CRP/albumin ratio levels on Day 1 admission were archived from the electronic medical record system and compared between the two groups. The study included 141 COVID-19 patients with a mean age of 51.11(SD± 16.66) for mild to moderate and 58.06 (SD± 13.87) for severe to critical. The severe to critical group had significantly higher values of patients' age (p=0.015). The frequency of patients according to severity, 36(26%) were mild to moderate, and 105(74%) were severe to critical. CRP/Alb ratio was significantly elevated in the severe to critical illness group (p<0.001). 28 (20%) patients died, 113 (80%) survived, and median CRP/albumin ratio values were higher in non-survivors compared to survivors (p<0.001). High CRP/albumin ratio levels were associated with longer hospital stay (correlation coefficients 0.295, p<0.001). Receiver operator characteristic analysis showed that the area under the curve (AUC) for CRP/albumin ratio was 0.755 (95% CI: 0.670- 0.840). The optimal cut-off point of CRP/albumin ratio was 1.494 (sensitivity 60%, specificity 89%, PPV 0.94, NPV 0.43, LR+ 5.41, LR- 0.45, DOR 12). CRP/Alb ratio on Day 1 admission is associated with COVID-19 severity and mortality.

PP033

A Clinical Audit on Screening of Diabetic Kidney Disease in a Primary Care Clinic

Hasliza AH¹, KienKeat Ng¹, Ambigga Devi SK¹, Maizatulilfah M¹, Siti Salmiah A²

¹Department of Primary Care Medicine, Faculty of Medicine and Defense Health, National Defense University of Malaysia, Kuala Lumpur, Malaysia

²Pusat Perubatan Angkatan Tentera Sg. Besi, Kuala Lumpur, Malaysia

The high prevalence of diabetes predisposes patients to high number of diabetic complications which include diabetic kidney disease (DKD). DKD may be present at Type 2 Diabetes Mellitus (T2DM) diagnosis and is a main course of chronic kidney disease. DKD increases cardiovascular morbidity and mortality, progresses to ESRD, and increases healthcare costs. Therefore, it is important to screen the condition early which encompasses assessment of albuminuria and estimation of glomerular filtration rate (eGFR). This study aimed to improve the quality of care for T2DM patients by ensuring the adherence of recommended DKD screening based on Malaysian Clinical Practice Guidelines (CPG) on Management of T2DM, 2020. This is a convenient sampling involving medical records of T2DM patients in PPAT, Sg Besi. Adult T2DM patients diagnosed for more than one year with no existing nephropathy and on active follow-up were included in this study. Criteria were based on the CPG and standards were set at 70% based on the literature review. A total of 30 medical records were audited. Most of the subjects (72%) were in the 40-69 age group, (53%) were women and majority (67%) have been diagnosed with T2DM for 5 to 10 years. Within the past one year, urine albumin was performed in 80% of patients, while renal profile including eGFR was tested in 93% of the diabetics. Urine microalbumin was not done (0%) in diabetics who have negative proteinuria. The DKD screening in this clinic is satisfactory as the annual eGFR and urine albumin have achieved the standard. However, urine microalbumin was not performed on patients with negative proteinuria. Urgent intervention which includes training of the health care providers and enhancing the clinic protocol on the relevant issues need to be done to improve the overall diabetes care.

PP034

Acral Vitiligo, Refusal of Treatment and Respect of Patient's Autonomy: A Case Report

Hasliza AH¹, Aimi Nadia MY², Nazatul Shima AR³

¹Department of Primary Care Medicine, Faculty of Medicine and Defense Health, National Defense University of Malaysia, Kuala Lumpur, Malaysia

²Department of Medical Ethics and Law, Faculty of Medicine UiTM, Sungai Buloh Campus, Malaysia

³Department of Dermatology, Hospital Putrajaya, Putrajaya, Malaysia

Vitiligo is an autoimmune skin depigmentation condition with a worldwide prevalence of 0.5% to 2%. It is a multifactorial disorder characterized by functional melanocytes loss. Vitiligo is a clinical diagnosis based upon the findings of acquired, amelanotic, non- scaly, chalky-white macules with distinct margins in a typical distribution: periorificial, lips and tips of distal extremities, penis, segmental and areas of friction. Acral vitiligo is a common subtype of non-segmental vitiligo which is characterized by depigmented macules limited to the distal extremities. It may further progress to include other body sites and known as generalized vitiligo. It may result in significant psychosocial distress. Treatment for vitiligo aims to prevent spread of the disease and facilitate repigmentation. The mainstay of treatment is topical agents (corticosteroids, calcineurin inhibitors), phototherapy and systemic agents. In this case report, we describe a 64-year-old hypertensive patient with 3 years history of skin depigmentation. The diagnosis of acral vitiligo was made and was planned for further intervention. He was also diagnosed as prediabetes. However, he refused dermatologist referral and further management despite advice given. Hereby, this case report will highlight the stepwise approach to tackle refusal of treatment and respecting patient's autonomy. Few issues need to be addressed in patient who refuse treatment, i.e., he is making that decision being fully informed of the benefits of treatment, the risks or complications that can arise without treatment, availability of alternative treatment and any other relevant information which is significant to the patient and his condition. Most importantly, he has the mental capacity in making the decision of treatment refusal. Managing the patient's refusal of treatment in this non-life-threatening medical condition must take into account the ethical considerations as to ensure the patient's rights and autonomy are well respected.

PP035

Post COVID-19 Vaccination Vestibulopathy

Nor Eyzawiah H¹, Alliah Hanum MY², Azreen Zaira AB², Nor Azirah S¹, Siti Asmat MA¹

¹Otorhinolaryngology unit, Department of Surgical-based, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

²Department of Otorhinolaryngology, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

COVID-19 infection has crippled health system globally in no time. Urgent efforts to develop and the emergency use approval has been granted to COVID-19 vaccines to combat the pandemic. However, there are numerous adverse events following immunization (AEFI) of COVID-19 vaccines have been reported. The aim was to report a series of acute vestibulopathy following COVID-19 vaccination. All cases have been diagnosed as acute vestibulopathy following COVID-19 vaccination. There was no intracranial symptoms nor was there any trauma or upper respiratory infection. Except for imbalance gait, positive Fukuda test, bilateral abnormal Head impulse test and abnormal audio-vestibular test, other physical and radiological test were unremarkable. They showed significant improvement following short term oral vestibular sedative, oral supplements and vestibular rehabilitation. Report 1: A 59-year-old man, presented with acute vertigo, left ear fullness and tinnitus associated with vomiting on 3rd day following his second dose of Sinovac-coronaVac. Audio-vestibular test revealed a left unilateral profound SNHL and bilateral peripheral vestibular hypofunction warranted him to receive a 3 cycles of left intratympanic Dexamethasone. He has a significant improvement after 8 months. Report 2: A 69-year-old lady, presented with episodic non triggered vertigo following her 3rd day of first dose of COMINARTY vaccine. The tests showed a bilateral moderate SNHL and bilateral peripheral vestibular hypofunction. Report 3: A 53-year-old man, presented with acute vertigo and tinnitus following his first dose of Sinovac-coronaVac 1 day prior to presentation. He had a mild postural control abnormality. Audio-vestibular test revealed a bilateral mild-moderate SNHL and right peripheral vestibular hypofunction. His symptoms of right vestibulopathy have completely resolved after 1 year. Vestibulopathy could be part of AEFI of COVID-19 vaccine and should be a diagnosis of exclusion. Although vestibulopathy is not a life-threatening condition, inadequate treatment may lead to severe functional and social loss.

PP036

Acute Hemorrhagic Leukoencephalitis Presenting with Flaccid Paralysis, Atypical Presentation of a Rare Disease

Hana Maizuliana S^{1,2}, Sarah Zulaikha S^{1,2}, Wei Ming T^{1,2}, Jiun Jyh O², Koon Ket S², Shomesh Raj SR², Firdaus B²

¹Internal Medicine Unit, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Department of Internal Medicine, Hospital Ampang, Ampang Jaya, Selangor, Malaysia

Acute hemorrhagic leukoencephalitis (AHLE) is a rare acute demyelinating disease in adult. Patients present with a severe neurological deterioration. We report a case of a female with AHLE presented with acute flaccid paralysis and was unresponsive to multiple therapies. A 36-year-old female presented to the Emergency Department (ED) with two days history of ascending weakness associated with worsening dyspnea. On arrival, she was tetraplegic with flaccid paralysis, and was intubated for severe respiratory depression. Initial diagnosis of Guillain Barre syndrome was made, and intravenous immunoglobulin (IVIG) was administered. Cerebrospinal fluid analysis showed mild polymorphonuclear cells with slightly elevated protein of 0.5 g/L. Autoimmune and infective screenings were negative. MRI brain and spine showed multiple microhemorrhages and extensive long segment intramedullary lesion, indicating AHLE. Her conscious level fluctuated, but at times able to respond with eye blinking. IV methylprednisolone was given, and plasmapheresis was performed. However, no neurological recovery was seen. Throughout her admission, she developed multiple hospital-acquired infections and required various antibiotics. She also developed multiple episodes of cardiac arrest, likely due to autonomic dysfunction. She eventually succumbed to her disease after four months of hospital admission. AHLE is an adult variant of acute disseminated encephalomyelitis and causes rapid inflammation of the central nervous system. Due to its rarity and complex diagnostic work-up, it is mostly underrecognized and underreported. Unlike this patient, majority of AHLE patients presented with meningism, seizure, rapidly reduced consciousness, and upper motor pattern of limb weakness. Currently, there is no establish guideline for AHLE treatment. Glucocorticoids and IVIG were among the therapies used. Reports showed high mortality and morbidity. AHLE is a rare and fatal disease. High clinical suspicion and early imaging diagnosis of this entity can allow doctors to adopt more aggressive treatment thus may improve its prognosis.

PP037

Patient Activation: Level and Associated Factors in Patients with Type 2 Diabetes

Syahnaz MH¹, Idayu Badilla I², Shalisah S³, Nasrin J⁴, Rafidah B⁵, Norfazilah A²

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

²Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

³Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

⁴Freelance Public Health Physician, Dhaka, Bangladesh

⁵Department of Psychiatry, University of Cyberjaya, Cyberjaya, Selangor, Malaysia

Managing type 2 diabetes is crucial for preventing macrovascular and microvascular complications. In recent years, there has been an increased recognition that patients' active role is a key factor in diabetes management. Patient activation is a concept that marks patients' ability and confidence in managing a chronic condition like diabetes. Current evidence demonstrates that activated patients have better clinical outcomes, including glycaemic control. Despite this, nearly half of patients with diabetes were reported to be at a low activation level. The concept of patient activation has been investigated in Western societies, but a similar effort is still limited in the local population, particularly among patients with diabetes. The objective of the current study was to determine the level of patient activation and its associated factors. This study was a cross-sectional design and was conducted in 2019 at a university primary care clinic. A total of 190 completed questionnaires were analysed. Patient activation was assessed by the Patient Activation Measure (PAM) scale. The total score of all items was calculated and categorised into low and high activation levels. Among the factors that were evaluated are sociodemographic and clinical characteristics, problem-focused coping, perception towards diabetes, diabetes-distress and resilience. The mean PAM score of the participant was 53(SD 9.77) and 127(66.8%) were at PAM level 1 and 2, indicating a lower activation level. Based on the analysis of the General Linear Model, higher educational level, being on insulin treatment, employing problem-focused coping and being resilient were significantly associated with patient activation. Our findings provide insights to healthcare providers to focus on developing resilience and enhancing problem-focused coping for patients with diabetes. More research should be conducted to explore how best to incorporate these aspects for future intervention programmes, particularly for patients with diabetes.

PP038

A Cross-Sectional Study on Internet Addiction, Internet Gaming with Depression Among Medical Students in a Public University During COVID-19 Pandemic

Nurazah I^{1,2}, Ahmad Izzat T¹, Hafiz Jaafar³; Azlin B^{2,4}

¹Psychiatry Unit, Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Malaysian Society of Internet Addiction Prevention, Universiti Putra Malaysia (UPM), Serdang, Malaysia

³Public Health Unit, Department of Primary Health Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

⁴Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

During the initial phase of COVID-19 pandemic, the Internet has become an important communication tool and a medium for learning activities, particularly for students. However, a rise in internet usage may raise the risk of internet addiction (IA) and internet gaming (IG). Concerns have also been raised over the fact that the prevalence of depression has increased throughout this pandemic. This study aims to determine the prevalence of depression among medical students during the initial phases of pandemic, as well as their associations with IA and IG. In this cross-sectional study that was conducted from 12th November 2020 till 10th December 2020, a total of 237 students were selected through proportionate stratified random sampling. A set of online self-reported questionnaires including the socio-demographic questionnaires, the Malay version of the internet addiction test (MVIAT), the Malay version of internet gaming disorder-short form (IGDS9-SF) and the Malay version of the depression, anxiety and stress scale (DASS-21) were given to them. The prevalence of depression was 15.2%, while for IA and internet gaming disorder (IGD) were 83.5% and 2.5% respectively. A multiple logistic regression showed that the sociodemographic characteristics, academic background, internet use characteristic, internet addiction test and internet gaming disorder scale were not significant to depressive level. In conclusion, internet use is highly prevalent during the initial phase of COVID-19 pandemic with numerous benefits and its usage has not contribute mainly to the depressive levels.

PP039

Cervicofacial Subcutaneous Emphysema: A Unique Presentation of Congenital Defect of Foramen of Huschke

Siti Nurafiqah S¹, Noor Azrin A¹, Siti Asmat MA², Nor Eyzawiah H², Nor Azirah S²

¹Department of Otorhinolaryngology, Head and Neck Surgery, Hospital Ampang, Ampang Jaya, Selangor, Malaysia

²Department of Surgical-based, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Congenital defect to the Foramen of Huschke is rare, accounting for 2.3% of all cases. Only 26% manifesting as temporomandibular joint (TMJ) soft tissue herniation. Patient may present with non-specific symptoms such as otalgia, mandibular joint pain, tinnitus and conductive hearing loss, and scarcely facial subcutaneous emphysema. Here, we report a patient presented with cervicofacial subcutaneous emphysema secondary to a congenital defect of Foramen of Huschke. A 45-year-old gentleman presented with right-sided neck swelling and right otalgia with a crackling sound over the right ear upon chewing. Examination showed right-sided fullness with subcutaneous emphysema from zygoma to upper neck. Otherwise, it is non-tender with no skin changes. The facial nerve is intact. Otoendoscopy showed erythematous soft tissue bulging of the anterior wall of the right external auditory canal (EAC) upon closing the mouth and prolapsed upon mouth opening. The right tympanic membrane was intact. Contrast-Enhanced Computer tomography (CECT) of neck and temporal revealed extensive cervicofacial subcutaneous emphysema with bony defect at the anterior wall of the right EAC, indicating fistulous communication between the right EAC and TMJ. Right subcutaneous emphysema resolved after treatment of the right otitis externa was initiated. The patient is subjected to transcanal external auditory wall repair. TMJ herniation into the anterior EAC is rare; however, the patient presentation may varies. CECT is the gold standard for diagnosing and facilitating treatment options. Treatment choice is based on the patient's condition, including conservative or surgical intervention.

PP040

Effects of Classical Music Therapy on Transfer and Reduction of Pain Stimulus in Patients of Post Caesarian Section Operation

Sitti Zakiyyah Putri¹, Sitti Maryam Bachtiar¹, Nurlina¹, Muhammad Syadli Umar²

¹Nursing Department, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Makassar, Indonesia

²Nursing Department, Marendeng Health Sciences College in Majene, West Sulawesi, Indonesia

Caesarean section is a surgical procedure for the birth of a fetus with an incision through the abdomen and uterus and causes pain. Music therapy is a non-verbal therapy. With the help of music, the client's mind is allowed to wander, to reminisce about happy things. Our objective is to determine the effect of classical music therapy on diversion and reduction of pain stimulus in patients after caesarean section. The research design used was quasi experiment with a pre-Experimental approach in one group. One-Group with Pre-test and post-test design. The number of samples was 10 people selected by incidental sampling from all existing caesarean section patients. Collecting data was by using pain scale observations using the Numerical rating Scale and analyzed by using the Wilcoxon Signed Rank Test. Based on the age with the total of 10 respondents with the average age is 25 years, the lowest age is 20 years and the highest age is 36 years, the education level of respondents is mostly high school and junior high school education, pretest pain scale with a total of 10 respondents, all caesarean section patients who experienced moderate pain, based on the posttest (transition) pain scale with a total of 10 respondents, respondents with mild pain scale after treatment were 9 people or 90.0%, and respondents who continued to experience moderate pain after treatment were 1 person or 10.0%. Posttest pain scale (transition) with a total of 10 respondents, respondents with a mild pain scale after treatment, were 9 people or 90.0%, and those who still experienced moderate pain after treatment were 1 person or 10.0%. The results of the analysis using the Wilcoxon test obtained a p-value of = 0.005 smaller than the value (α) = 0.05. There is an effect of classical music therapy on the transfer of pain stimulation in caesarean section patients, and also obtained a p-value of = 0.011 which is smaller than the value (α) = 0.05. There is an effect of classical music therapy on reducing pain stimulation in caesarean section patients

PP041

Antibacterial Properties of *Syzygium Samarangense* Leaves Extracts Against *Streptococcus Mutans*: An In-Vitro Study

Mohamed Hisham MJ¹, Siti Aisyah AG², Muhamad Azim AF³, Nurul Hidayah AL³

¹*Department of Oral and Maxillofacial Surgery, Pathology and Medicine, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia*

²*Department of Basic Sciences & Oral Biology, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia*

³*Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia*

Syzygium samarangense or ‘JambuMadu Air’ originated from South-East Asia. There is no evidence or study of antibacterial effect of *Syzygium samarangense* leaf extract against *Streptococcus mutans* reported to date. We investigated the antibacterial properties of *Syzygium samarangense* leaves extracts against *Streptococcus mutans*. Chemicals and reagents used were obtained from USIM oral laboratory and *Syzygium samarangense* fresh leaves were acquired from MARA College Banting. *Streptococcus mutans* was subcultured in BHI broth and agar. Hexane, ethanol and aqueous extracts of *Syzygium samarangense* leaves with different concentrations were tested against *Streptococcus mutans* via disc diffusion assay, minimal inhibitory concentration (MIC) and minimal bactericidal concentration (MBC). Penicillin was used as positive control while DMSO was used as negative control. Data was analyzed using SPSS and significant was accepted at $p < 0.05$. Disc diffusion assay shows that all extracts show inhibition against *Streptococcus mutans*. Aqueous extract shows the greatest inhibition properties (11.00 ± 0.50 mm) in comparison to hexane and ethanol extract (9.33 ± 0.58 mm) at concentration of 200 mg/mL. MIC values for aqueous, ethanol and hexane are 0.0977 ± 0.03 mg/mL, 1.0417 ± 0.45 mg/mL, and 1.0417 ± 0.45 mg/mL respectively whereas MBC values for ethanol and hexane extracts are 1.5625 mg/mL while 100 mg/mL for aqueous extract. Results are concentration dependent, the higher the concentration of extract, the better the inhibition properties. *Syzygium samarangense* leaf extracts was found to possess antibacterial properties against *Streptococcus mutans* whereby hexane and ethanol extracts exhibit better bactericidal properties while aqueous extract shows better bacteriostatic properties.

PP042

The Prevalence, Factors Associated and Psychological Impacts on Teenage Pregnancy Mothers: A Literature Review

Nurul 'Ain Farhana MN¹, Yafizah Y², Anusuria G², Fathima Begum SM²

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Family Medicine Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Teenage pregnancy is a pregnancy that occurs in adolescent girls aged 10 to 19 years old. It is one of the important issues in the health care system because of the variety of adverse health and social outcomes that affect teenagers and families and society. Every year, an estimated 5.6 million teenagers have abortions, and 3.9 million teenage mothers have unsafe deliveries, both of which contribute to maternal morbidity and mortality. The purpose of this literature review is to investigate the prevalence, factors associated and psychological impacts on teenage pregnancy mothers. A literature reviews were done to gather the evidence on the prevalence of teenage pregnancy, factors associated with teenage pregnancy, and psychological impacts on them. Four databases were used which are EBSCOHost, PubMed, Uptodate, and Google Scholar. Malaysia had a 2.8 percent prevalence of teenage pregnancy, which was lower than the Philippines, Thailand, Indonesia, the United Kingdom, and Ethiopia, which had prevalence of 9, 11, 11.4, 27, and 30 percent, respectively. Significant factors associated with teenage pregnancy were older adolescent age group, lack of reproductive and sexual health education, low education level, infrequent contraceptive use, parents' marital status, and employment status. Anxiety, depression, psychological distress, parenting concerns, and community stigma were identified as significant psychological impacts on teenage pregnancy mothers. Although the prevalence of teenage pregnancy in Malaysia was low in comparison to other countries, various interventions are needed because of the numerous psychological effects on teenage mothers. Health education and awareness must be provided to family members and the community, resulting in no stigmatisation of teenage mothers, after which they will provide full support to teenage mothers during their pregnancy and motherhood phases.

PP043

Knowledge And Attitude Towards Breastfeeding Among Expectant Fathers Attending a Maternal and Child Health Clinic in Penang

Nurul Syuhada S^{1,2}, Ezura Madiana MM¹

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

²Klinik Kesihatan Butterworth, Pulau Pinang, Malaysia

Fathers' knowledge and attitude towards breastfeeding were identified as the factors associated with their involvements in the breastfeeding process and supporting mothers, subsequently influencing the breastfeeding initiation and duration in their infants. This study assessed the level of knowledge and attitude of expectant fathers towards breastfeeding and their association with the participants' sociodemographic profiles. A cross-sectional study was done among expectant husbands or partners of expectant mothers attending antenatal care at Butterworth Maternal and Child Health Clinic, Seberang Perai Utara, Penang. A link containing the questionnaire was given to the expectant fathers/partners and if agreed, they would answer a self-administered online questionnaire which include their sociodemographic profile and the Knowledge and Attitude Breastfeeding Questionnaire (KA-BFQ). A total of 66 participants responded, however only 55 completed the questionnaire. About 50.9% of participants demonstrated good knowledge on breastfeeding and 54.5% of participants showed good attitude towards breastfeeding. The sociodemographic factors that were significantly associated with the level of knowledge were age ($p = 0.009$), monthly household income ($p = 0.016$), number of children ($p < 0.001$), and history of breastfeeding ($p < 0.001$). The number of children was the only factor associated with the level of attitude towards breastfeeding ($p = 0.030$). Spearman's correlation showed a positive correlation between the level of knowledge and the level of attitude. This study demonstrated there is a need for an educational intervention targeted towards expectant fathers/partners as well as expectant mothers throughout all stages of pregnancy and breastfeeding to improve their breastfeeding journey and outcome.

PP044

Detection Of Resistance Genes in Linezolid Non-Susceptible Enterococci (LNSE) In Hospital Kuala Lumpur

Nurazian AB^{1,2}, Umi Kalsom @ Satariah A¹, Zalina I¹, Madon, Mazriza M²

¹Department of Medical Microbiology & Immunology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

²Medical Microbiology Unit, Department of Pathology, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Linezolid is regarded as the last-resort therapy for the treatment of vancomycin-resistant enterococci (VRE). Hence, the emergence of linezolid non-susceptible *Enterococcus* species (LNSE) is a worldwide concern. This study aimed to determine the prevalence of LNSE in Hospital Kuala Lumpur, as well as the genes associated with LNSE and the clinical characteristics of patients with LNSE/genes. A total of 1,350 enterococcal isolates from various clinical samples were collected between February 2021 and February 2022. Of these, all viable non-duplicated enterococcal isolates exhibiting linezolid minimal inhibitory concentration ≥ 3 $\mu\text{g/ml}$ were investigated by polymerase chain reaction (PCR) and sequencing for the presence of *cfr*, *cfr(B)*, *cfr(D)*, *optrA*, and *poxtA* genes. Meanwhile, the clinical characteristics were retrieved from the medical records. Isolates with missing clinical and laboratory records were excluded. Data was analyzed using descriptive statistics. Among 1,350 enterococcal isolates, 41 (3.04%) were linezolid non-susceptible. Of these 41 isolates, only 27 isolates were subjected to PCR as the other 14 isolates were excluded due to non-viability or missing clinical records. *OptrA* was identified in 14/27 (51.9%) isolates, all of which were harboured by *Enterococcus faecalis*. However, *cfr*, *cfr(B)*, *cfr(D)* and *poxtA* were not detected in all isolates. None of the patients had previously been prescribed linezolid, but 18/27 (66.7%) had been treated with other antibiotics prior to LNSE isolation. Other possible risk factors for LNSE infection or colonization found in this study were recent corticosteroid therapy, co-morbidities including diabetes mellitus and malignancy, prior abdominal surgery, and a history of hospitalization within the previous year. The emergence of *optrA*-mediated LNSE in a Malaysian tertiary care hospital is concerning, necessitating adequate infection control measures and diligent surveillance due to the potential for gene transfer between *Enterococcus* species.

PP045

Spiritual Coping Among Middle-Aged Malay Trans Women Amidst a Pandemic in Malaysia

Baharom, Nizam¹; Syed Mohideen, Fathima Begum¹; Abu Baharin, Mohamed Fakhri¹; Daud, Zainora²; Abang Abdullah, Khadijah Hasanah¹; Mokhtar, Rafidah Hanim¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

²Faculty Of Quranic and Sunnah Studies, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

The lockdown order during the first wave of COVID-19 pandemic in Malaysia affected all walks of life in all dimensions of health. The trans women community was also impacted mentally, financially and physically. Worldwide literature reported high levels of stress, anxiety and depression among these vulnerable groups. We aimed to explore the spiritual wellbeing of Malay trans women during the lockdown period during the first wave of COVID-19 pandemic, in Negeri Sembilan, Malaysia. Using qualitative study design, semi-structured, in-depth interviews were conducted among eleven Malay trans women from a state in Malaysia, using snowball sampling. The interviews were audioloy recorded, transcribed verbatim, coded and analysed using thematic analysis. Three emerging themes were identified. (1) COVID-19 pandemic increased their spiritual awareness. Participants viewed that, the lockdown and pandemic symbolised as reminder from God and brought them closer to Him during tested times. (2) Increased spiritual activities during the lockdown period. Participants disclosed that they had more opportunities to perform and also to improve by learning more on religious activities. (3) Spirituality as coping mechanism during lockdown period. Participants recognised that spirituality and performing spiritual activities alleviated stress and anxiety during the lockdown period. This group of middle-aged Malay trans women in Negeri Sembilan viewed the pandemic as an opportunity to improve their spiritual wellbeing. Faith and spiritual coping mechanism facilitated them to relieve the overwhelming psychological impact during the lockdown period of the pandemic.

PP046

The Case of Kartagener's Syndrome- The Importance of Early Detection the Triad via Clinical Diagnosis

Suhaidi, Siti Sarah Aishah^{1,2}; Selvarasan, Sabrina²; See, Kwee Ching²

¹ Department of Pediatric, Faculty of Medicine and Health Sciences, University Science Islam Malaysia, Negeri Sembilan, Malaysia

² Department of Pediatric, Hospital Sungai Buloh, Selangor, Malaysia

Kartagener's syndrome is an autosomal recessive primary ciliary dyskinetic disorder with clinical diagnosis triad of sinusitis, bronchiectasis and dextrocardia. To highlight the early diagnosis of recurrent otitis media in younger age in this patient as red flag of Kartagener's syndrome. We report a case of a 6 -months old male boy with body weight 6.8kg presented with recurrent otitis media since age 3 months. At age 3 months, he developed right acute suppurative otitis media (ASOM) as he presented with right ear discharge for 3 days in ORL clinic. He was later treated with syrup Augmentin for 7 days. He was seen again in ORL clinic at 4 months of age for ear discharge and was given Pocin H ear drops and Sterimar spray. At 5 months old, his ASOM was declared resolved and he was discharged. He was then admitted to ED at 6 months old with weight 6.8kg with septicemia shock as he developed fever and lethargy for a week, reduced oral intake for one day with GI losses. On examination, he was septic looking with impending respiratory distress and septicemia shock. Resuscitation with intubation and fluid done (total bolus normal saline 80mls/kg) followed with maximum four inotropes. A CXR done showed patient has dextrocardia. Patient eventually succumbed, at approximately 9 hours after admission. Blood culture and CSF culture showed no growth and urine culture showed *Klebsiella pneumoniae*. A high index of suspicion is needed to make an early diagnosis so that timely treatment options may be offered to prevent mortality in Kartagener's syndrome patient. The correct diagnosis of Kartagener's syndrome in early life based on clinical judgement is very essential in preventive of mortality in Kartagener's syndrome, as it was not done in this case.

PP047

Pulmonary Pathology Found in Autopsy of COVID-19 Patients

Faiz Raafik¹; Kharmila A.¹

¹*Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia*

During the early days of coronavirus disease 2019 (COVID-19) outbreak in China, there are insufficient data to explain the cause of death in COVID-19 patients. Hence, postmortem findings of lung pathology may be the key to the researchers and clinicians to be able to understand the pathogenesis of the new emerging disease. This review aims to study the lung pathology of COVID-19 deceased in view of macroscopic, microscopic, and histopathological findings to better understand the pathogenesis of COVID-19 infection. Literature search was conducted based on relevant keywords on electronic databases such as PUBMED and Google Scholar. Several journals and papers were obtained based on topic's relevancy and reviewed. There are broad-spectrum changes that correlate with pulmonary findings, and it differ from the individuals. However, the major pathological features in the lung of COVID-19 deceased is coagulopathy. Pulmonary embolism along with the formation of microthrombi in small vessel and capillaries of the lungs appear to be high incidence in most of the cases. Typical histological and radiological findings revealed, diffuse alveolar damage with hyaline membrane formation and ground glass opacifications observed in post-mortem computed tomography (PMCT). At the time of this review, coagulopathy might be the culprit for the cause of death in COVID-19 deceased, especially the one that progress to pulmonary embolism. Nevertheless, more well-designed prospective studies are needed to further validate the reported findings.

PP048

Stress and Coping Mechanism among Dental Undergraduates: A Comparison between Islamic Based and non-Islamic Based Universities in Malaysia

Abdul Aziz, Afifah¹; Zainal, Zarifah Dayana¹; Ibrahim, Zurairah¹; Jaafar, Azlan¹.

¹Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

This study investigated the association between stress and coping mechanism among dental undergraduates in Islamic based and non-Islamic based university in Malaysia. General objective is to assess the perceived stress level of clinical dental students and coping mechanism. Specific objectives are to identify the contributing factors that affect the stress level and stress coping mechanisms among undergraduate dental students. A total of 208 undergraduate dental students from Universiti Sains Islam Malaysia (USIM), Universiti Islam Antarabangsa (IIUM) and Universiti Teknologi MARA (UiTM) in the academic year of 2020/2021, participated in this study. Self-administered questionnaires, the Dental Environment Stress (DES) Questionnaire, were used to evaluate stress level among dental undergraduates and Brief COPE Questionnaire to assess the coping mechanisms among dental undergraduates between the three universities. The mean DES score for USIM and IIUM were significantly higher than UiTM dental students. The mean scores for five of the categories of Brief COPE were significantly higher for USIM and IIUM compared with UiTM dental students. Pearson's correlation showed a significant positive correlation between dental environmental stress factors and stress coping strategies. This study showed that there are differences in perceived stress level and coping strategies between Islamic based and non-Islamic based universities in Malaysia.

PP049

Tik Tok videos in Forensic Medicine education as innovative pedagogical edutainment

Abdul Razak Nadiawati¹

¹Forensic Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia

The use of social media has benefits as well as challenges, with the advantages being most apparent in the accessibility of course materials, video clips, and the transmission of instructional notes. TikTok is being used by lecturers to provide digital tasks to replace the customary oral presentation. The goal is to encourage students to utilize the app to complete assignments since it engages them on a platform they can relate to, helps them grasp ideas, and facilitates peer-to-peer education. This small-scale study aims to assess the effectiveness of TikTok videos as a learning tool in enhancing the delivery of course content. An individual assignment on the small topic of Forensic Medicine was given to each student. Their task was to create a video on that subject that would last between 15 and 60 seconds. These videos are short, simple to create and empower content creators to explain creatively. As part of a continuous assessment, each student's originality and video content will be assessed about the rubric. The survey questions measure the participants' self-evaluation of whether the TikTok videos make them more interested in the subject and whether they consider that they have learned something new from the TikTok videos. Nine out of eleven students agreed that this platform is easy to draw upon students' technical and creative skills. Social media platform is the cheap and convenient tools to use in the learning activity and make the session more fun. Creating a TikTok video can be a great way to engage, reward, and entertain students inside and outside of the classroom, but even more for remote learning and home-based assignments. Furthermore, students have also preferred the new presentation style over the conventional style.

PP050

Interventions of Burnout among Healthcare Professionals during COVID-19 Pandemic

Abdul Wahid, Nurin Izzati¹; Samad, Sarah Zulaikha¹

¹Department of Internal Medicine, Universiti Sains Islam Malaysia

The COVID-19 pandemic has exposed the healthcare workers (HCWs) towards numerous factors that can lead to burnout. Burnout in HCWs results in reduced productivity and potentially affect patient care. Consequently, investigating factors that contribute to burnout and exploring methods to avoid or manage the repercussions are pertinent to ensure our healthcare system can function efficiently. Our study aimed to determine the causes of burnout among HCWs, identify the interventions done in response to their burnout during COVID-19 pandemic and evaluate effective interventions to be implemented in our healthcare system in combating burnout among physicians' post COVID-19 pandemic. Literature review was done using EBSCOhost, PubMed, ScienceDirect and Google Scholars electronic databases. From the studies we have reviewed, we conclude that prevalence of burnout among HCWs during this pandemic is compelling. The contributing factors are pre-existing psychological problems, reduced sleeping hours, increased workload, location of duty (i.e, whether or not they are stationed in intensive care), and COVID-19 related traumatic event. Interventions like Emotional Freedom Therapy (EFT) and Mindfulness In Motion (MIM) have been found to be statistically significant at reducing stress amongst HCWs. In addition, MIM can also be carried out in either the traditional face-to-face method or via virtual meets. Both methods are noted to be helpful at reducing emotional exhaustions amongst HCWs. In addition to individual-based interventions, systems-based mediation via psycho-educational seminars could be an important step if those affected are unable to recognize the symptoms of burnout themselves. Providing interventions to prevent or manage burnout amongst healthcare workers is imperative as it can prevent depression, substance abuse and stress disorders which can subsequently affect patient care. Interventions can be targeted at the individual and systemic level, in addition to adequate communication between HCWs and their administrators.

PP051

Application of Team-Based Learning to Improve Clinical Reasoning in medical Undergraduates: A Scoping Review

Mohammad Khuzaini, Aliyyah¹; Abdul Halim, Halimah¹

¹Paediatric Unit, Universiti Sains Islam Malaysia, Nilai, Malaysia

Clinical reasoning is the complex ability to approach clinical problems and devise an appropriate diagnosis and management plan with the goal of improving patients' quality of life. It is a core competence for medical graduates, yet research on teaching methods to improve clinical reasoning vary with differing effects on student performance. Team-based learning is a relatively new pedagogy where teachers lead small group, student- centred learning using a standardised process with emphasis on learner accountability and collaboration. It allows a facilitator to conduct a large group session, which is labour-efficient compared to problem-based learning. The aims of the scoping review were to explore the utilisation of team-based learning to improve clinical reasoning and its efficacy compared to other modalities. A literature search was conducted on Medline, Pubmed, and Google Scholar with these keywords, namely "team-based learning" and clinical reasoning. Search results were limited to those involving undergraduate students only. The search generated 36 articles. All articles were reviewed by both authors. Only 3 studies described the relationship between team-based learning and clinical reasoning in medical undergraduates. One study compared team-based learning to previously used learning methods, primarily problem-based learning and discovered that team-based learning was superior in clinical reasoning assessment. Another study compared two groups of students with one group receiving supplementary team-based learning sessions. Although they showed better performance in key feature problem assessment, it may be due to the presence of additional learning sessions regardless of the modality. The third study postulated that team-based learning enhances clinical reasoning in more complex topics. Evidence linking team-based learning as an effective method to improve clinical reasoning is still sparse. This research gap should be explored as it is a practical and resource- efficient modality in clinical teaching.

PP052

Coffee and Cholesterol: To Drink or Not to?

Hasbullah, Husna¹ ; Tan, Wei Ming¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia

Coffee offers a flavourful taste and aroma. Its brewing methods can be divided into filtered and unfiltered processes, with the latter retaining diterpenes, the lipid constituents in coffee, such as cafestol and kahweol. As more people consume coffee daily, the impacts of coffee consumption on health particularly the cholesterol levels have become a concern. The literature review aims to establish the relationship between coffee intake and cholesterol levels. PubMed, Ovid, and Springer search engines were used to find the pertinent papers. The following search terms and keywords were used: 'coffee and cholesterol', 'filtered versus unfiltered coffee', and 'coffee consumption'. Journal articles that were published in English within the last 10 years with adult sample populations, were included. The exclusion criteria comprised studies carried out on animals, elderly, or adolescent populations. A total of 2259 articles were screened from the title and abstract levels, of which 10 articles were assessed in full texts. Most of the articles highlighted a positive association between coffee and high-density lipoprotein (HDL). The chlorogenic acids in the coffee were thought to limit glucose absorption from the intestine, lowering insulin secretion. The resulting inhibition of very-low-density lipoprotein (VLDL) leads to reduced level of triglyceride (TG). With the increment in HDL, coffee was hypothesized to protect against cardiovascular diseases. However, a few articles concluded consumption of unfiltered coffee results in higher LDL and TG levels vis-à-vis filtered coffee possibly due to the retained diterpenes in unfiltered coffee. Furthermore, medium roast coffee was reported to increase HDL level. Coffee consumption seems to affect the cholesterol levels although with contradicting results from different studies due to the types of coffee used, the study populations and other confounding factors. Moderate coffee consumption is advised, while concrete evidence of its health impact is established.

PP053

The Prevalence of Overweight and Obesity among Staff of Universiti Sains Islam Malaysia (USIM) and Its Association with Sociodemographic Profile

Jamaah Mohd¹, Mohd Rahman Omar²; Tengku Amatullah Madeehah Tengku Mohamad³

¹University Health Centre, University Science Islamic of Malaysia, Nilai Negeri Sembilan, Malaysia

²Medical Based Department, Faculty of Medicine, University Science Islamic of Malaysia, Nilai Negeri Sembilan, Malaysia

³Primary Health Care Department, Faculty of Medicine, University Science Islamic of Malaysia, Nilai Negeri Sembilan, Malaysia

Malaysia has the highest prevalence of obesity in Southeast Asia, with a reported incidence of overweight of 30.4% and obesity of 19.7% in adults. It is endemic; thus, Universiti Sains Islam Malaysia (USIM) staff is likely similarly affected, but data on its prevalence is still unavailable. This study aims i) to determine the prevalence of overweight and obesity among USIM staff and ii) to identify the association between overweight and obesity with socio-demographic profiles. This cross-sectional study was conducted through an online survey of all USIM staff who volunteered from December 2021 to January 2022. A total of 388 staff participated from 36 departments and nine faculties. The BMI was calculated from self-declared weight and height and a cross-reference from the University Health Center. The socio-demographic data obtained are gender, designation, age, education level, ethnicity, marital status, and salary. The mean body mass index (BMI) of the respondent was 27.5 ± 5.61 kg/m², the prevalence of overweight was 42.5% and obesity of 27.3%, with a total of overweight/obesity of 69.8%. Female respondents (171/251) are overweight/obese, 68.1%, while 73.0% of male respondents (100/137) are overweight/obese. The majority (72.0% or 234/324) of the fat/obesity were from the administrative department (60.3%), came from the lower educational levels of certificate and below (71.4% or 60/84) and were from middle-income groups (73.7% or 101/137). Overweight/obesity was significantly associated with gender $\chi^2=0.437(p<0.05)$, age $\chi^2=0.384(p<0.05)$, education $\chi^2=0.524(p<0.05)$ and salary $\chi^2=0.228(p<0.05)$ but not associated with the designation, ethnicity and marital status.

PP054

Comparison of COVID-19 Vaccines in Malaysia: A Narrative Review

Mustapha, Muaz¹ ; Azmi, Liyana¹.

¹Faculty of Medicine & Health Sciences, Islamic Science University of Malaysia, Nilai, Negeri Sembilan, Malaysia

COVID-19 mitigations were successful with the administration of vaccines worldwide. For Malaysia, the four used vaccines include the mRNA-based Pfizer vaccine, the vector-based AstraZeneca vaccine and the inactivated viral-based Sinovac and Cansino vaccine. To provide a comparative analysis of the mechanisms in inducing immunity, cost-effectiveness, advantages, and limitations of four types of COVID-19 vaccines administered in Malaysia. The following electronic databases were used for the literature review for this study: PubMed, Google Scholars and NCBI, nine journals, seven websites and five newspapers. Twenty of the databases were available in English and one is in Malay. All four types of vaccines each have different mechanisms in stimulating antibodies for COVID-19 protection - each of which presents the antigenic portion of the virus to trigger the immune response. The Pfizer vaccine is the most used COVID-19 vaccine in Malaysia (61.4%), followed by Sinovac (30.2%), AstraZeneca (8.0%) and Cansino (0.3%). At present, Malaysia has allocated RM4.1 billion for 84.8 million doses. The Cansino is most expensive (~RM120.03) and AstraZeneca is the cheapest (~RM35.75). The Sinovac vaccine can be stored at 2°C - 8°C for up to 3 years, but AstraZeneca can only be stored for up to 6 months. Pfizer vaccines can be kept in the standard refrigerator (2°C-8°C) up to 31 days before use but require low temperatures (-70°C) for long-term storage to preserve the stability of the lipid nanoparticles. Studies show that vaccine hesitancy in Malaysia are mostly due to religious beliefs and social pressures. Thus, of all the four vaccines discussed, the Pfizer vaccine is most likely to be accepted and preferred vaccine for Malaysians. However, the range of vaccines are administered to maximise the types of immunity stimulated in the community.

PP055

The Impacts of Movement Control Order (MCO) And Online Learning On Medical Student's Resilience And Motivation

Nik Mohd Anuar, Nik Hur' Ain Jannah¹; Sanip, Suhaila¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Movement Control Order (MCO) implementation acts as one of the essential determinants for the outcome of the COVID-19 pandemic since it can break the chain of transmission and safeguard the high-risk groups. The MCO not only affect the daily life activities but also change the way of education. Due to these unprecedented changes, convergence of technologies and education has gained significance, resulting in a shift from traditional learning mode to online learning mode. The MCO and online learning have challenged the education system in Malaysia and pushed the country to adapt to a different learning mode. This transition indirectly affects medical students' performance in their studies. Prolonged isolation predisposed medical students to diminished resilience and loss of motivation. This critical review of the literature aims to evaluate the impact of MCO and online learning on medical student's resilience and motivation. A critical literature review was conducted using several search engines. The keywords used are "medical student", "resilience", "lockdown" and "online learning". Boolean Operators are applied to each keyword to include only relevant papers, which results in more focused and productive results. Resilience is revealed as one of the protective factors for medical students to sustain their education during the pandemic. Studies revealed that student's resilience is less likely affected by pandemic and online learning. Motivation however, is more likely affected with many disadvantages are perceived by the students. Medical students with higher resilience score perceived the pandemic and online education more positively than the other students who have lower resilience score. Resilience is an important determining factor for positive outcome of online medical education.

PP056

E-Learning Perception on USIM Dental Students

Badlishah Sham, Nurul Iman¹; Idaham, Nurul Izza²; Amran, Fatin Adiba³; Abd Aziz, Fadhilah³

¹Department of Basic Sciences, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

²Department of Periodontology and Community Oral Health, Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

³Faculty of Dentistry, Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

E-learning is not considered a new phenomenon, it is just that e-learning is underutilized in the past. The advent of the novel Coronavirus disease 2019 (COVID-19) has had a tremendous impact on the use of e-learning. Dental educational institutions are obliged to make essential and timely modifications in order to continue delivering education and assure the continuity of student academic development. When the learning activities has been shifted to fully online learning, the education system faced many challenges in coping with the new norms. The main objective of this study was to describe e-learning experience by Universiti Sains Islam Malaysia (USIM) dental students. Secondary objectives were to identify e-learning tools used by dental students as well as to identify the obstacles faced by dental students regarding e-learning. This cross-sectional study was conducted by distributing an adapted questionnaire via Google forms to dental students at USIM. From this study, majority of dental students agreed that e-learning is preferred for learning the theoretical part of education during Coronavirus disease 2019 (COVID-19) pandemic. However, more than half of the dental students preferred face-to-face learning compared to e-learning. There are various personal devices used by the students to support e-learning sessions and the most used devices are laptop and smartphone. Poor internet connection and interruption from family members, friends and pets were the obstacles and challenges encountered during e-learning process. With regards of every challenge that the students faced, they manage to adapt in the new learning approaches in order to cope in line with the pandemic phenomenon.

PP057

The Prevalence of Adverse Events Following Immunization (AEFI) of Sinovac Vaccination at UNISMUH Medical Center Clinic

Muzdalifah¹, As'ari As'ad², Nurainun Syariah³

¹Department of Emergency, Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia.

²Departement of nuclear medicine Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia

³Students of medical education Study Program Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia

Various efforts to prevent COVID-19, one of which is by vaccinating as the most effective and economical way. The Food and Drug Administration (BPOM) has issued an Emergency Use Authorization (EUA) for four types of vaccines that used in Indonesia in handling COVID-19, one of which is Coronavac (Sinovac). However, this vaccine is not one hundred percent free from side effects. Adverse Events Following Immunization (AEFI) after vaccination can cause local and systemic reactions that range from mild to severe. To assess the prevalence of AEFI after Sinovac vaccination at UNISMUH medical center. The study used retrospective observational analytic with a sample of 150 people who were vaccinated. The sampling was using random sampling technique. Based on the age group of 12-17 years, the most experienced mild AEFI symptoms are (52.9%). Most of the 18-59 years age group are asymptomatic (52.5%) and severe symptoms are (1.3%). Based on gender, the majority of AEFI are (55.1%) male. then mild symptoms are (53.1%) that mostly in women and severe symptoms are also found in women (1.2%). of the 150 people who take part in the COVID-19 vaccination, there are (50%) who not have AEFI symptoms, (49.3%) with mild symptoms and (0.7%) with severe symptoms.

PP058

The Correlation Between the Knowledge of Makassar Community About COVID-19 with Compliance in Using Mask

Rosdiana Sahabuddin¹, Bramantyas Kusuma Hapsari², Muhlis Ananta³

¹Department of obstetrics and gynecology, Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia.

²Departement of microbiology, Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia

³Students of medical education Study Program Faculty of Medicine and Health Sciences Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia

Acute Respiratory Syndrome with Severity A brand-new virus that is a subtype of the SARS-CoV virus is called Covid-19 (SARSCoV-2). This virus targets the respiratory system and results in COVID-19, an illness (Coronavirus Disease-2019). There are several other clinical signs of this illness that are frequently seen, such as fever, anosmia, coughing, sore throat, or dyspnea. respiratory and cardiovascular conditions. According to information from the Makassar City Health Office as of August 1, 2021, there are 4310 current cases in Makassar City, with a downward trend in mask use. The goal is to avoid this sickness in various ways, one of which is through wearing masks. The purpose of this study is to determine whether there is a correlation between the amount of public knowledge about COVID-19 and the amount of mask compliance in Gunung Sari Village, Makassar City. The study used non-experimental analytical research with cross sectional method with a sample of 52 people. The sampling was using random sampling technique. Among the 32 people with a knowledge level, 15 people (46.9%) always use masks, 17 people (53.1%) sometimes use masks. Meanwhile, 1 person (5.0%) always uses masks, 16 people (80.0%) occasionally use masks, and 3 people (15.0%) rarely use masks among the 20 people with knowledge of not knowing. Based on the findings, $p = 0.001$ ($p < 0.05$) was discovered. This demonstrates that in Gunung Sari village, there is a significant relationship between the community's knowledge of COVID-19 and the community's adherence to wearing masks. As a result, the level of education influences the willingness of Gunung Sari Village residents to wear masks.

PP059

The Effect of Dzikir on Mental Emotional on Toddlers Aged 3-5 Years at Aisiyah Barumbung Kindergarten

Susanty, Nurbiah Eka¹; Nurlina²

¹Midwifery Study Program, Medicine and Health Faculty, Universitas Muhammadiyah Makassar, South Sulawesi, Indonesia

²Midwifery Study Program, Medicine and Health Faculty, Universitas Muhammadiyah Makassar, South Sulawesi, Indonesia

Growth and development in the preschool period is a strong foundation and foundation that is very influential for further development. The slightest growth and development disorders that occur in children at this age if not detected and intervened as early as possible will reduce their quality in the future. Healthy and good development will take place if the social environment (school) facilities and children's potential can run well. One method that can be applied is the routine of dzikir. The objective of this research to determine the effect of dzikir on emotional mentality in toddlers aged 3-5 years in Aisiyah Barumbung Kindergarten. This study used a quasi-experimental one group pretest-posttest design with a total sampling of 30 children aged 3-5 years in Aisiyah Barumbung Kindergarten. The results showed that the average emotional mental value before getting dzikir was 61.67 with SD = 11.75. Meanwhile, after getting dzikir, the average obtained is 93.53 with SD = 6.78. The results of the paired sample t-test showed t count of 2.2e-16 ($p < 0.05$). There was an effect of dzikir on emotional mentality in toddlers aged 3-5 years. Dzikir is expected to be routinely carried out every day, especially after the five daily prayers, before going to bed and when the toddler's emotional state is unstable.

PP060

The Labor Outcomes of COVID-19 Confirmed Maternity Mothers at Labuang Baji Makassar Hospital

Daswati¹; Nurbiah Eka Susanty¹; Alfira¹

¹Midwifery Study Program, Faculty of Medicine and Health Sciences, University of Muhammadiyah

The World Health Organization (WHO) states that the Maternal Mortality Rate (MMR) is very high. Risa Etika (2021) reported that pregnant women had confirmed Covid-19, there were 1.6% maternal deaths, 1.4% stillbirths, 1.0% neonatal deaths, and 33.7% prematurity. According to the Ministry of Health of the Republic of Indonesia (2020), the data shows that pregnant women, childbirth, postpartum and newborns are vulnerable targets for COVID-19 infection, this condition is feared to increase maternal and newborn morbidity and mortality. The purpose of the study was to determine the delivery outcomes for mothers with confirmed COVID-19 and delivery outcomes for newborns with mothers confirmed with COVID-19. The sample was obtained as many as 84, using a consecutive sampling technique in the period July 2020-April 2021, the data were analyzed univariately. The results showed that vaginal delivery was 7 patients (8.34%), cesarean section 77 patients (91.66%), pregnancies ended <37 weeks of gestation were 8 patients (9.52%), 37-42 weeks were 74 patients (88, 10%) and >42 weeks as many as 2 patients (2, 38%). A total of 4 neonates were born with gemelly so that the neonates were 88 babies, and the results of the antigen swab examination were all negative (100%), born with a weight >4000gm 1 baby (1.14%), weight 2500-4000gr 72 babies (81.82%), below birthweight 1000gm to <2500gm as many as 15 babies (17.04%). There were 44 babies (50%) that experienced asphyxia and neonatal mortality was 7 babies (8%). Maternal deliveries confirmed by COVID-19 vaginally 8.34% and cesarean section 91.66%, with a preterm gestational age 9.52%, at term 88.10% and postterm 2.38%. All infants born tested negative for COVID-19. There were 7.9% of neonatal deaths, 50% of asphyxiated babies and based on birth weight <2500 grams 17.04%, 2500-4000 grams 81.82% and >4000 grams 1.14%.

PP061

A Rare Case of Ruptured Extensive Retropharyngeal Abscess in An Adult

Tajul Azhar, Ain Nadhirah¹; A Bakar, Azreen Zaira¹; Hassan, Nor Eyzawiah²; Md Arepen, Siti Asmat²; Salahuddin, Nor Azirah²

¹Department of Otorhinolaryngology, Head and Neck Surgery, Hospital Kuala Lumpur, Malaysia

²Department of Surgical-based, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

Retropharyngeal abscess in adult is rare. The incidence is high among immunocompromised patients and commonly associated with history of pharyngeal trauma. We report a case of extensive retropharyngeal abscess in adult. A 42 years old gentleman with no comorbid, presented with noisy breathing, shortness of breath, and neck swelling for 5 days. He had history of sore throat, dysphagia, odynophagia 1 week prior. He denied any history of FB ingestion or trauma. On examination, patient was in respiratory distressed and biphasic stridor was heard. There was a diffused anterior neck swelling about 5x5cm extending from hyoid to cricoid level. The overlying skin was erythematous, warm and tender. Flexible scope showed edematous supraglottic structures with tubular epiglottitis obstructing the airway. Bilateral vocal cords were visualized and mobile. Blood investigations showed sign of sepsis with hyperglycemia and metabolic acidosis. Intubation was done in operation theater. Urgent CT scan of neck reported as extensive multiloculated gas containing collection seen at retropharyngeal region from the level of oropharynx, extending into posterior mediastinum at prevetebral level (1.5x5.8x20.9cm), right anterior cervical space, right perivertebral and right supraclavicular region. There was marked edema seen circumferentially worst at hypopharynx and larynx, resulting significant airway narrowing. It also revealed a linear hyperdense foreign body at C2/C3 level. Intravenous antibiotic was given and he underwent DL scopy, incision and drainage of the abscess, neck exploration and esophagoscopy for foreign body removal under GA. Postoperatively, his general condition improved. Retropharyngeal abscess is a life-threatening condition, requires prompt diagnosis and early surgical treatment. Although rare occurrence in adult, early intervention will prevent lethal complications and improve prognosis.

PP062

Agreement Between TST And QuantiFERON-TB Gold Plus in Diagnosing Latent Tuberculosis Infection Among Exposed Health Care Workers at A Malaysian Teaching Hospital

Meor Jamaludin, Wan Husna Barakah¹; Sulong, Anita¹; Abdul Samat, Muttaqillah Najihan¹; Salleh, Sharifah Azura²; Andrea, Ban Yu-Lin³

¹Department of Medical Microbiology and Immunology, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

²Infection Control Unit, Hospital Canselor Tuanku Muhriz (UKM), Kuala Lumpur, Malaysia

³Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Incidence rates of tuberculosis (TB) infection among health care workers (HCWs) were always higher compared to the general population. The tuberculin skin test (TST), which was used to screen tuberculosis contact among HCWs has low specificity due to cross reaction with Bacille Calmette-Guerin (BCG) vaccination or non-tuberculosis mycobacterium infection. QuantiFERON-TB Gold Plus (QFT-Plus) offered higher specificity since it used specific antigens to stimulate the production of interferon-gamma in the serum. QFT-Plus could help narrow down the treatment group for latent tuberculosis infection among HCWs. To determine the agreement between TST and QFT-Plus in diagnosing latent tuberculosis infection among exposed health care workers in Hospital Canselor Tuanku Muhriz. Between January and December 2020, 417 HCWs were screened for TB close contact, 157 had positive TST and 260 had negative TST results. HCWs from both TST groups were selected using a convenient sampling method, and QFT-Plus testing was performed on 107 consented HCWs. From 107 consented HCWs, 21 (19.6%) had positive QFT-Plus. Among the positive QFT-Plus participants, 14 (66.7%) had positive TST, and 7 (33.3%) had negative TST. Meanwhile, among 86 (80.4%) HCWs had negative QFT-Plus, 35 (40.7%) had positive TST, and 51 (59.3%) had negative TST. There was poor agreement between the tests ($\kappa = 0.163$). Poor agreement between TST and QFT-Plus in diagnosing latent tuberculosis infection among exposed HCWs.

PP063

Geometric Morphometrics Method on the Sixth Cervical Vertebra (C6) for Human Sex Identification

Mohd Fauad, Muhammad Faiz¹; Ku Mohd Noor, Ku Mastura¹

¹Department of Medical Sciences 1, Faculty of Medicine and Health Science, University Sains Islam Malaysia, Nilai, Malaysia

Human sex identification is a critical step to establish an accurate biological profile in forensic anthropology. The conventional morphometric method which uses calipers is time-consuming and costly. Geometric morphometric method (GMM) is an approach that utilizes qualitative and quantitative descriptions of biological forms according to geometric definitions of their shape. The aim of this study was to determine the sexual identification by GMM on the sixth cervical (C6) vertebra of the lateral cervical radiograph. This was a cross-sectional study design that involved lateral cervical radiographs of 432 samples, comprising of 262 males and 170 females of known individuals, that aged from 20 to 60 years old. Eleven 2-dimensional (2D) landmarks were applied on the digitalized radiographs by TPSDig2 (Version 2.31) software. GMM analysis was performed by MorphoJ software. Our results yielded fourteen principal components (PC) that were responsible for 100% of the samples. Procrustes ANOVA showed that centroid size and shape are significantly different between different sex. Discriminant function analysis (DFA) revealed a correct classification rate for 85% of cases, with an identification accuracy of 85.5% for males and 84.7% for females. There were significant differences among male and female in the height of the vertebra body, the length of the superior articular process as well as the length of the superior part of the spinous process of C6 with $p < 0.05$ via independent t-test. Humans' sexual identification was able to be determined by the GMM method conducted on the C6 vertebra, which could serve as an alternative method in physical anthropology and forensic medicine.

PP064

Stress-Buster: A Stress Management Program for Medical Students During Pandemic

Suain Bon, Rosnadia¹; Mahmud, Asma Assa'edah¹; Nordin, Muhammad Farhan¹

¹Psychiatry Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia

It is well established that studying medicine during clinical years are stressful. During covid-19 pandemic, learning activities such as bedside teaching for medical students had been replaced with virtual classes. This may contribute to psychological distress for medical students. The program aims to provide psychological support and skills for managing stress among clinical year students of the Faculty of Medicine and Defence Health , National Defence University Malaysia (NDUM) during pandemic COVID-19. A series of virtual stress intervention workshop, "Stress-busters," was conducted in July 2021 among NDUM clinical medical students. The students were divided into groups of 10 participants. The contents of this program include introduction to stress, coping strategies, and facilitator-guided sharing sessions. DASS-21 was used to measure the level of depression, anxiety, and stress at pre and 1-month post-intervention. Total means scores were calculated for each year. The differences between mean score of DASS -21 for both pre- and post-workshop were compared. A total of 126 participants (Year 3 =43, Year 4 = 46, Year 5=37) answered pre-program DASS questionnaire, while 82 participants (Year 3 =25, Year 4 = 28, Year 5=29) completed post program DASS questionnaires respectively . There was 15% reduction in mean depression scores post-intervention, with the most reduction among year 3 and 4 students. Male students showed higher improvement in mean depression scores compared to females (20% vs. 8%). There was 12% reduction in mean anxiety scores in Year 3 students. 84% (n=69) perceived that the program helped to manage their psychological well-being during the pandemic. There were improvements in the mean score of depression and anxiety after the workshop. This indicates the importance of providing good stress management strategies for medical students during pandemic.

PP065

A Rare Case of Acute Generalized Exanthematous Pustulosis Induced by Isoniazid

Dewiyanti, Wiwiek^{1,2}; Christianto, Vannia²; Nurdin, Airin².

¹*Department of Dermatology and Venereology, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah, Makassar, South Sulawesi, Indonesia*

²*Department of Dermatology and Venereology, Faculty of Medicine, Hasanuddin University, Makassar, South Sulawesi, Indonesia*

Acute generalized exanthematous pustulosis (AGEP) is a type IV hypersensitivity reaction in the manifestation of an acute pustular eruption that occurs within hours to days after initiation of drugs, one of which is Antituberculosis Drugs (ATD). We describe a rare case of acute generalized exanthematous pustulosis induced by isoniazid. A 51-year-old woman was consulted from the Internal Department with complaints of numerous pustules on erythematous background on both breasts, back of neck, armpits, and thighs after 2 days of ATD (rifampicin, isoniazid, pyrazinamide, ethambutol) consumption. Laboratory examination showed leukocytosis and neutrophilia. Histopathological examination demonstrated subcorneal and intraepidermal pustules, spongiosis, neutrophil exocytosis, dermal papillae edema, and invasion of inflammatory cells of lymphocytes, neutrophils, and eosinophils. A diagnosis of AGEP secondary to ATD was retained on the basis of compatible clinical presentation, laboratory and histopathological examination. ATD was discontinued. The patient was also given oral antihistamine, topical steroid and vaseline. Four days later, pustules completely disappeared and only hyperpigmentation and superficial desquamation was seen. Oral provocation test was done and it was confirmed that isoniazid was the culprit drug. Cutaneous adverse reactions (CADR) are one of the most commonly observed major adverse effects of first line ATD being reported in 5.7% of patient on ATD therapy. An increasing number of reports have shown that ATD could induced AGEP. ATD is described as an uncommon cause of AGEP. The incidence of first-line ATD allergic reaction is 2.38% in pyrazinamide; 1.45% in streptomycin; 1.44% in ethambutol; 1.23% in rifampicin; and 0.98% in isoniazid. Discontinuation of the causative agent is the mainstay of treatment.

PP066

Association of Serum Protein Induced Vitamin-K Absence-II (PIVKA-II) Level and Clinicopathological Characteristics among Hepatocellular Carcinoma Patients at Hospital Universiti Sains Malaysia (USM)

Mohamad Noor, Rabiatal Adawiyah¹; Kassim, Nur Karyatee^{1,3,4}; Omar, Julia^{1,4}; Mohammed Jelani, Aniza^{1,4}; Lee, Yong Yeh^{2,4}; Wan Ahmad, Wan Muhammad Amir^{3,4}

¹Department of Chemical Pathology, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kota Bharu Kelantan, Malaysia

²Department of Medicine, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kota Bharu Kelantan, Malaysia

³School of Dental Sciences, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kota Bharu Kelantan, Malaysia

⁴Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia

Majority of hepatocellular carcinoma (HCC) patients had advanced disease due to late detection which contributed to the disease's poor prognosis. Currently, the emerging biomarker Protein Induced by Vitamin-K Absence-II (PIVKA-II) is being used to complement alpha-fetoprotein and liver radiological imaging in the diagnosis and prognosis of HCC. PIVKA- II has significant relationship with clinicopathological characteristics features of HCC (size of tumors, number of tumors nodule and portal vein thrombosis). However, studies are still limited, and the outcomes vary depending on demographic, geographic and etiological factors. To determine the association between PIVKA-II levels and clinicopathological characteristics among HCC patients at Hospital USM. A one-year cross section study was conducted in January to December 2021 at Hospital USM, Kelantan. In this study 41 HCC patients were recruited. The demographic data of the subjects were documented, and a venous blood sample was obtained. The clinicopathological characteristics of HCC were retrieved from reports of liver multiphasic Computed Tomography Scan. Serum PIVKA-II was analyzed by the chemiluminescent microparticle immunoassay method using ARCHITECT Plus analyzer. The correlation between serum PIVKA-II levels and its clinicopathological characteristic was analyzed using multiple linear regression analysis. The mean (SD) age of the 36 males and 5 females HCC patients are 63.73 (7.73) years. The median (IQR) concentration of serum PIVKA-II in HCC patients is 270.7(47.4) mAU/ml. Concerning of clinicopathological characteristics of HCC, tumor size more than 5 cm has a strong predictive value for an increment of PIVKA-II levels ($\beta=76742.676$, $R^2=0.761$, $p<0.001$). Meanwhile, the number of tumor nodule and portal vein thrombosis are not statistically significant predictors of PIVKA-II level in HCC. The PIVKA-II level is associated with clinicopathological characteristics that reflect severity of tumor therefore, may guide treatment plan and assessment of tumor prognosis in HCC.

PP067

Solitary Plasmacytoma: The Rare Nasal Tumour

Kamaruzaman, Ameerah Ashyila¹; Tawil, Zahrah¹; Liman, Abdul Ruhi-Ul-Azim²

¹ Department of Pathology, Hospital Selayang, Selangor, Malaysia

² Department of Otorhinolaryngology, Hospital Selayang, Selangor, Malaysia

Extraosseous plasmacytoma is a rare case of plasma cell neoplasms with a median age of 55 at diagnosis, it affects men more frequently and usually involves the upper respiratory tract mucous membrane. A middle aged man with a history of repetitive episodes of unprovoked right nasal epistaxis for 7 months associated with right nasal blockage and right tinnitus. Nasal endoscopy showed friable pink with smooth surface mass at the right nasal vestibule. CT Paranasal Sinuses showed right nasal vestibule enhancing lesion without definite local infiltration. Tissue section showed fragments of fibrous tissue covered with stratified squamous epithelium with sheets of rounded to plasmacytoid-like tumour cells seen within the fibrous tissue. They exhibit rounded nuclei with indistinct nucleoli and ample cytoplasm. The cells are positive for CD138, MUM1, Vimentin, BCL2 and weak focally to SMA, CD31, and CD56. Kappa and lambda stains show monoclonality. Solitary plasmacytoma is a single localized neoplastic monoclonal plasma cell tumour that occurred in bone or soft tissue (extraosseous). Generally, it has no clinical features of plasma cell myeloma and no physical or radiographic evidence of additional plasma cell tumours. Symptoms of extraosseous plasmacytoma are related to tumour mass. Approximately 20% of patients have a small M protein which is commonly IgA. Morphologically, extraosseous plasmacytoma is similar to solitary plasmacytoma of bone. However, it is challenging to distinguish between lymphomas that show severe plasma cell differentiation. Furthermore, it is morphologically impossible to distinguish plasmacytoma from extraosseous infiltrates of plasma cell myeloma. This tumour is positive for plasma cell markers and cytoplasmic immunoglobulin light chains. CD56 marker is less common with weak positivity while cyclin D1 is usually lacking. Extraosseous plasmacytoma is mostly eradicated with local radiotherapy and approximately 70% of the patients are disease free at 10 years.

PP068

Scoping review of multisystem inflammatory syndrome in children (MIS-C) in COVID-19 case

Siti Hajar, Mohd Termizi¹; Mohd Hairulhisyam, Ngatiman¹

¹Department of Medical Science 1, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan

Children are generally at low risk of COVID-19 infection and their clinical manifestations are usually milder than adults. However, some of them can be severely affected and presented with hyperinflammatory syndrome. This syndrome was termed as multisystem inflammatory syndrome in children (MIS-C). The most common presenting symptoms for MIS-C were fever and gastrointestinal symptoms followed by cardior/espriatory symptoms. To review published papers on gastrointestinal manifestations of MIS-C infected with COVID-19 based on WHO definition. Using a scoping review as exploratory approach, keywords were searched through 4 databases; PubMed, EbsCOHOST, Scopus and Proquest. There were 1746 studies published between year 2018 until 2022. This review include children aged 19 years and younger from worldwide that fulfil WHO criteria of MIS-C. 89 papers were selected for full-text review and 19 met all the inclusion criteria comprised of 12 case reports, 2 case series and 5 longitudinal studies. 288 patients that fulfil WHO criteria for MIS-C diagnosis were identified. From the 19 studies, the most common gastrointestinal symptoms presented was abdominal pain (n=204), followed by vomiting (n=180), diarrhea (n=150) and the least common were nausea (n=5), abdominal distension (n=5) and constipation (n=1). There are 2 studies reported on the prevalence of gastrointestinal symptoms in MIS-C patients which are 80.9% from India and 90% from Chile. There are also 7 studies reported on acute appendicitis as the initial presentation in MIS-C patient infected with COVID19. The most common presentation for MIS-C is acute abdominal pain that mimicked presentation of other conditions thus become dilemma among clinicians to reach the diagnosis. To avoid misdiagnosis or overlook of MIS-C, a high index suspicion is important for its early detection through detailed and thorough investigations.

PP069

The Role and Efficacy of Nutrition in the Enhancement of Stem Cells Regenerative Capacity: A Protocol for Scoping Review Study

Mohd Manzor, Nur Fariha¹; Samsudin, Nurul Farihah¹; Tengku Amatullah Madeehah, Tengku Mohd²; Noraziah, Nordin¹; Muhammad, Marlini¹; Gowri, Pathmanathan³; Abdul Rahman, Hayati³

¹ Department of Medical Sciences I, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

² Department of Primary Healthcare, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

³ Department of Medical Sciences I, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

Stem cells are promising candidates for tissue regeneration and treatment of many diseases. It exhibited remarkable potential to self-renew and differentiate into various mature cells. Accumulated evidence supports the regenerative role of nutrition, which contributes to the therapeutic healing of certain diseases or improves an individual's general health condition. This regenerative role of nutrients could be due to changes caused to the metabolic state or the stem cell behaviour. Various types of food have been studied and many of them have shown to enhance tissue regeneration via numerous mechanisms. In this paper, we developed a scoping review protocol to systematically evaluate the role and efficacy of nutrition in promoting cell or tissue regeneration via manipulation of stem cells behaviour. This protocol will be guided by the methodological framework suggested by Arksey and O'Malley. The guidelines will conform to the Preferred Reporting Items for Systematic review and Meta-Analysis (PRISMA). Research questions and search strategies will be developed using selected keywords. Various electronic databases namely OVID/MEDLINE/PubMed, Embase, Scopus, Proquest and Google scholar will be systematically searched. Relevant reference list will be searched from 2012 until 2022. Two reviewers or more will independently screen the eligibility of study based on predetermined inclusion and exclusion criteria. Any conflicts will be resolved by consensus-oriented discussion. Results and data extraction will be displayed using descriptive statistics. A table which summarised important data such as type of food/nutrient, type of bioactive compound in food, type of study, effects on stem cells and proposed/proven mechanism of action will be included. This review will provide crucial new information on ongoing research, outcomes, challenges and produce key aspects for future research. The findings will be submitted as part of the doctoral thesis requirement, used for conference purposes, and published in a peer-reviewed journal.

PP070

The Effectiveness of Administering N-acetylcysteine as Adjuvant Therapy on the Improvement of Clinical Depression Symptoms

Padad, Tenri¹; Syamsuddin Saidah²

¹ *Department of Psychiatry, Faculty of Medicine, University of Muhammadiyah, Makassar*

² *Department of Psychiatry, Faculty of Medicine, University of Hasanuddin, Makassar*

Since depression is the fourth most prevalent disease worldwide, it is a severe public health concern. It has the highest morbidity and mortality rates of all psychiatric disorders. Based on the neuronal vulnerability to free radical destruction, exposure to oxidative stress and neuroinflammation is thought to be one of the etiological factors of depression. The main endogenous antioxidant is glutathione (GSH), and NAC is a precursor to glutathione. This study was designed to assess clinical improvement in depressive patients treated with NAC as an adjuvant therapy. Twenty adult outpatients who fulfilled the PPDGJ criteria for depression participated in this randomized-controlled trial. The patients were divided into two groups at random: an experimental group that received NAC 600 mg for eight weeks, and a control group that did not. At the fourth and eighth weeks, patients were assessed using the 24-item Hamilton Depression Rating Scale (HDRS). At the end of the eighth week, the mean HDRS score in the experimental group was significantly lower than in the control group, according to the unpaired t-test ($p=0.03$). In terms of clinical improvement based on a decline in HDRS score, fluoxetine coupled with NAC outperformed fluoxetine alone in the treatment of depression.

PP071

Instrument Development Model with Expert Judgment Using Integration Theory, Technology Acceptance and Use Theory (UTAUT), Protection Motivation Theory (PMT), and DeLone & McLean

Sulistyaningrum, Indriyati Hadi¹; Pribadi, Prasajo²; Sari, Seftika³

¹ Pharmacy Department, Medical Faculty, Islam Sultan Agung University, Semarang, Indonesia.

² Department of Pharmacy, Faculty of Health Sciences, Universitas Muhammadiyah Magelang, Indonesia

³ Sekolah Tinggi Ilmu Farmasi Riau, Pekanbaru, Indonesia

Telepharmacy (a distance pharmacy service) is an online application for pharmaceutical service that could become an alternative and a broad opportunity for pharmacists and pharmacy services in a new normal era. However, the biggest challenge is the adoption of telepharmacy application and website to obtain telepharmacy services. To develop a valid and reliable questionnaire on public behaviour towards the adoption of telepharmacy service application by integrating three well-known theories, the unified theory of acceptance and use of technology (UTAUT), the protection motivation theory (PMT) and DeLone & McLean information success model. This is an observational study. The content validity test was conducted through expert judgment involving 5 academics with quantitative approach, by calculating the items content validity index (I-CVI). Face validity test was conducted to measure readability and language comprehension which was tested on 30 respondents. Item with I-CVI > 1 is estimated high validity. The model is on four scales from irrelevant (1) to highly relevant (4). The face validity of these variables was assessed by calculating the average score for each item and the item level content validity index. This interpretation is carried out using criteria less than 0.4 it is said to low validity, between 0.4-0.8 as moderate validity (mediocre), and more than 0.8 as high. The results of expert judgment research involving 5 academics had 100% response rate, showed that this formula produced values from +1 to -1, positive value pointed that half of the panelists assessed the item as important/essential. The larger CVR from 0, the more “important” and higher the validity of its content. The questionnaire adoption of telefarmasi service with the unified theory of acceptance and use of technology (UTAUT), the protection motivation theory (PMT), and DeLone & McLean information success model approach is valid.

PP072

Adult Versus Young-Onset Colorectal Cancer in Hospital Universiti Sains Malaysia

Isah, Rilwanu Tsamiya¹; Mohd, Siti Norasikin Nafi¹; Che Jalil, Nur Asyilla^{1, 2}; Mat Zin, Anani Aila^{1, 2}

¹ Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia

² Hospital Universiti Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia

Colorectal cancer is the leading cause of death worldwide. Although there is evidence that young-onset CRC (YOCRC) has different clinicopathological features from the adult-onset (AOCRC), the differentiating characteristics are not well established. The study aimed to compare the clinicopathological features of AOCRC and YOCRC in HUSM. This was a cross-sectional study of CRC cases seen in the Department of Pathology at HUSM from January 2013 to December 2021. The Laboratory Information System and clinical data of AOCRC (≥ 50 years) and YOCRC (< 50 years) were used to trace the patients' selected information. The data was analyzed and a p-value of ≤ 0.05 was taken as statistically significant. 321 CRC cases were detected with 256 patients (79.8%) as AOCRC while 65 (20.2%) are YOCRC. Increased CRC occurrence was seen in both types of CRC, although YOCRC increase was relatively stable compared to AOCRC's abrupt increasing pattern. Family history of CRC was higher in young patients (23.1%, $p < 0.05$) in contrast to comorbidities of diabetes (24.6%) and hypertension (27%), which are common in adult patients ($p < 0.05$). The CRC was mainly located on the left side of the colon ($> 80\%$), with moderately differentiated adenocarcinoma as the most prevalent histological form in both groups ($p < 0.05$). However, mucinous and signet ring carcinomas are more common in YOCRC than in AOCRC. The cancer was diagnosed more at an advanced stage of III and IV in both groups with significant variation in tumour infiltrating lymphocytes ($p < 0.05$). CRC in HUSM is rising in trend, with most cases being left-sided. The AOCRC differed from YOCRC with regards to family history of CRC, comorbidities, histological type, and TILs variations. However, further studies are needed to subclassify the AOCRC and YOCRC, including molecular evaluation to further differentiate between these two groups of CRC to improve treatment strategies.

PP073

Prevalence and Awareness of Patellofemoral Pain Syndrome Among Recreational Runners in Malaysia

Goh Weng Yee¹; Maruthey,Nithiyah¹; Subramaniam, Ambusam²; Purushothaman, Vinosh Kumar¹;

¹Faculty of Health & Life Sciences, Inti International University,Putra Nilai, 71800 Negeri Sembilan, Malaysia

² Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman Sungai Long City Campus, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor, Malaysia

Patellofemoral pain syndrome (PFPS) is an overload injury of the patellofemoral joint that causes discomfort in the anterior portion of the knee that is exacerbated by activity. However, little is known regarding the prevalence and awareness of PFPS in Malaysian recreational runners. This study aims to determine the prevalence and awareness of patellofemoral pain syndrome among recreational runners in Malaysia. An online cross-sectional survey was conducted among recreational runners aged 18-40 years in Malaysia. The 32-item Survey instrument for Natural History, Etiology, and Prevalence of Patellofemoral Pain Studies (SNAPPS) questionnaire and a self-structured questionnaire about awareness of the PFPS were used as outcome measure in the current study. A total of 386 participants were enrolled in the study. The number of recreational runners who had PFPS was calculated to be 46 (11.9%). This included both men (24 of 178, 13.5%) and women (22 of 208, 10.6%). Only 14.1% of participants were aware of PFPS, whereas 85.9% of participants were not aware of PFPS. Despite a low prevalence of PFPS, recreational runners in Malaysia have low awareness and knowledge concerning PFPS. Early detection and management of PFPS is important for preventing and avoiding recurrent injury, as well as improving recreational runners' sports performance and quality of life.

PP074

Clinical Characteristics, Inflammatory Markers and Cycle Threshold Values Among COVID-19 HCTM Patients

Aluwi, Farah Hanan¹; Nasuruddin, Dian Nasriana¹; Wan Shuaib, Wan Muhammad Azfar¹; Kori, Najma²; Periyasami, Petrick²; Othman, Siti Norlia³; Ramli, Mohd Iszuan⁴; Ramli, Ridzuan⁴; Md Mansor, Munirah^{1, 4}.

¹Department of Pathology (Chemical Pathology), National University of Malaysia, Kuala Lumpur, Malaysia

² Infectious Disease Unit, Hospital Canselor Tuanku Muhriz, National University of Malaysia, Kuala Lumpur, Malaysia

³ Department of Microbiology and Immunology, National University of Malaysia, Kuala Lumpur, Malaysia

⁴ Department of Diagnostics Laboratory Services, Hospital Canselor Tuanku Muhriz, National University of Malaysia, Kuala Lumpur, Malaysia

Inflammatory markers are crucial in the diagnosis, follow-up, assessment of the efficacy of treatment, and risk stratification of COVID-19 patients. We aim to review the demographic and clinical features; to determine the correlation between the levels of inflammatory markers (CRP, PCT, LDH, ferritin, prealbumin, IL-6) and Ct value with disease severity and to determine the predictive role of the biomarkers with the overall survival rate of COVID-19 patients. Data of all confirmed COVID-19 patients diagnosed by RT-PCR presented to HCTM were retrieved. Epidemiological history, comorbidities, clinical features, complications, and laboratory results were traced. Ferritin, prealbumin and IL-6 were assayed on leftover serum samples sent to the laboratory. Descriptive statistics, logistic regression and Kaplan- Meier analyses were carried out. This study recruited 437 cases in total. About 276 (63.2%) cases were male, whilst median age was 51 years (IQR:32.5-68). The majority of cases were in the 51-70 age group comprising about 140 (32%) cases and presented with mild diseases (269,61.6%). The commonest comorbidity was hypertension (181,41.4%) whilst symptom was cough (249, 57%). The mortality rate was 14% and 48 (11%) cases required ICU admission. Severe disease was associated with higher baseline inflammatory biomarkers, decreased prealbumin and Ct values. Older age group more than 71-year-old (OR 138.03; 95% CI 4.94 - 3858.25), cough (OR 75.95; 95% CI 3.01 - 1919.01), dyspnea (OR 13.61; 95% CI 2.67 - 69.49) and CRP more than 0.5mg/L (OR 0.14; 95% CI 0.03 - 0.80) were identified as risk factors for severe disease following clinical progression in ward. There was a statistically significant difference in survival between abnormal and normal levels of biomarkers. In our study, older age group, cough, dyspnea, and high CRP level were identified as risk factors for severe disease. Abnormal and normal levels of biomarkers possess different risks in survival analysis.

PP075

Feeding Problem as the Risk Factors for Stunting among Under Five Children in Kuantan - A Case Control Study

Musa, Noraini¹, Kamaruzaman, Nor Azam¹, Pasi, Hafizah², Osman, Iskandar Firzada³

¹Department of Family Medicine, Kulliyah of Medicine, IIUM Kuantan, Pahang

²Department of Community Medicine, IIUM Kuantan, Pahang

³ Klinik Kesihatan Jaya Gading, Kuantan, Pahang

Feeding problem in under five children may lead to negative sequelae particularly stunting which is the most prevalent form of malnutrition in this age group. To explore feeding problems as the risk factors for stunting among infants and young children in district of Kuantan, Pahang. This case-control study was conducted at seven purposely selected government health clinics in Kuantan, Pahang from August to October 2021. A total of 40 children aged 6 to 59 months diagnosed with stunting and 120 children with normal height- for-age were included in the study with a ratio of 1 case: 3 control. Data were collected using an interviewer-guided questionnaire and a validated ATUCU5 (Approach to Unwell Children Under 5) feeding assessment checklist. In general, children with any feeding problem have more than four-time significantly higher risk of becoming stunted (OR: 4.2 [95% CI 1.4-12.8], p-value: 0.011) as compared to children with no feeding problem. Children with inadequacy in feeding components specifically frequency, variety and amount of meal each have significantly three-time higher risk (OR: 2.8 [95% CI 1.1-6.9], p-value: 0.029), four-time higher risk (OR: 4.2 [95% CI 1.4-12.3], p-value: 0.010) and six-time higher risk (OR: 6.2 [95% CI 2.7-14.5], p-value < 0.0001) of becoming stunted as compared to children with adequate feeding. Additionally, lower birth weight, delivery week, and maternal height were also found as the independent risk factor for childhood stunting among this population. Providing optimal nutritional education and guidance to caregivers of under five children especially in the first 1000 days of life of a child is fundamental and crucial to prevent childhood stunting.

PP076

Antibiotic Susceptibility Profile and Resistance Genotyping O *Stenotrophomonas maltophilia* in Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia

Ramzah, Fatin Farahani¹; Ramli, Ramliza¹; Mohd Nizam, Tzar¹

¹Department of Medical Microbiology & Immunology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Trimethoprim-sulfamethoxazole (SXT) is regarded as the antibiotic of choice for *Stenotrophomonas maltophilia* infections. However, allergic or adverse reactions to SXT limit its clinical use. A surveillance for the presence of SXT-resistance genes and its antibiogram are essential to guide for the selection of primary and alternative antibiotics when *S. maltophilia* infection is suspected. This study aimed to determine the antibiogram of *S. maltophilia* in Hospital Canselor Tuanku Muhriz (HCTM) and to detect the presence of sul1, sul2 and class 1 integrons among the isolates. A total of 51 *S. maltophilia* were isolated from various clinical samples between February 2021 and June 2022. Each isolate was tested for its susceptibility against SXT, minocycline, levofloxacin and ceftazidime. The presence of sul1, sul2 and class 1 integrons was detected by conventional polymerase chain reaction and sequencing. Descriptive and inferential statistics were used for data analysis. The highest susceptibility is seen with SXT 49/51(96.1%), followed by minocycline 48/51(94.1%), levofloxacin 43/51(84.3%) and ceftazidime 22/51(43.1%). One third (17/51, 33.3%) of the isolates were pan susceptible. Two out of 51 isolates (3.9%) were resistant to SXT. Three isolates harboured sul1 and class 1 integrons including both of the SXT-resistant isolates. Sul2 was not detected in all isolates. *S. maltophilia* showed highest susceptibility with SXT, although the rate of SXT-resistant *S. maltophilia* is more than double, as compared to a study in Malaysia in 2008 (1.6%). Minocycline and levofloxacin are the alternative antibiotics for SXT-resistance or SXT- intolerance cases. The emergence of sul1 and class 1 integrons among *S. maltophilia* isolates calls for a continuous surveillance in HCTM.

PP077

A Case Report of Salmonella Meningitis Complicated with Subdural Haemorrhage in A Child

Lim, WillSern¹; Zainal, Marina¹

¹Department of Pathology, Unit Microbiology, Hospital Sibul, Sibul Sarawak, Malaysia

Non-typhoidal Salmonella (NTS) can cause severe invasive infection including bacteremia and meningitis with high mortality and morbidity rates. Salmonella meningitis is uncommon but important cause of childhood meningitis in developing country. We describe a case of Salmonella Ohio meningitis in a 19-month old boy. He presented with three days of fever, loose stool and reduced oral intake. Subsequently developed three episodes of seizure in ward. The seizure were blank stare with upper limb jerky movements lasted about one minute each episode. There was significant past history of birth asphyxia without neonatal seizure. CSF was xanthochromic with high cell count (285/mm³) predominantly polymorphonuclear cell, high protein and low glucose. CSF culture yielded no growth. Blood investigation showed leukocytosis (white cell count 20.4×10^3 /mm), anemia (haemoglobin 7.3 g/dL), thrombocytosis (platelet 332×10^3 /mm) and elevated C-reactive protein (270.3 mg/L). Contrast enhanced computed tomography of brain revealed multiloculated rim enhancing intra-axial collections (collectively measuring approximately 6.6 x 3.4 x 4.9 cm) with possible haemorrhagic components as well as associated perilesional oedema (possibly brain abscess) and leptomeningeal enhancement. A right mini craniotomy was performed and noted small blood clot at the right parietal subdural and intraparenchymal region. Subdural swab and the blood clot culture grew Salmonella Ohio which was only susceptible to ceftriaxone. His blood culture was negative. He was treated with intravenous ceftriaxone twice-daily for six weeks. Neurological sequelae was observed in this child and has been scheduled for neurodevelopment assessment. *Salmonella Enteritidis* is the commonest NTS causing childhood invasive infection and Salmonella Ohio is rarely reported for meningitis. Salmonella meningitis can lead to further neurological complications especially in children with risk of development delay. Early detection and prompt evacuation of subdural collection with antibiotic therapy is essential as well as thorough neurodevelopment assessment.

PP078

SARS-CoV-2 Spike Protein Antibody Titre in Frontliner Healthcare Workers Before Vaccination and After Second Dose of COVID-19 Vaccination

Nordin, Nabihah¹; Sulong, Anita^{2,3}; Salleh, Sharifah Azura^{2,3,4}; Jarmin, Razman⁵; Gafor, Abdul Halim⁶; Hassan, Mohd Rohaizat⁷; Othman, Hanita^{1,3}

¹Department of Pathology, Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

²Department of Microbiology, Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

³Department of Diagnostic Laboratory Services, National University of Malaysia, Kuala Lumpur, Malaysia

⁴Infection Control Unit, Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

⁵Department of Surgery, Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

⁶Department of Medicine, Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

⁷Department of Community Health Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia

Healthcare workers (HCW) are at risk of developing SARS-CoV-2 infection and spreading it to others. Vaccines are used to reduce infection, mortality, and morbidity. We aim to determine the response of SARS-CoV-2 Spike Protein antibody titre (anti-S1) in frontliner HCW before and after second dose of COVID-19 vaccination. This is a prospective study involving HCW at Hospital Canselor Tuanku Muhriz (HCTM) who received Pfizer vaccination. The respondents had their blood taken three times; before vaccination, 3 weeks after the first vaccination and 2 - 3 weeks after the second vaccination. All respondents were followed-up for adverse reactions as well as COVID-19 infection. Descriptive statistics, Mann-Whitney U Test and general linear model (GLM) analyses were carried out. A total of 243 respondents were enrolled, in which 4 (1.6%) of them were infected with COVID-19 prior to vaccination; and 4 (1.6%) developed a breakthrough infection. In the GLM, the anti-S1 increased significantly from the baseline (mean 1.97 ± 15.39 U/mL), to post first dose (mean 152.12 ± 315.47 U/mL) to post second dose (mean 2036.34 ± 647.91 U/mL) ($p < 0.001$). The mean anti-S1 levels were higher in those with prior SARS-CoV-2 infection than those without, where the baseline was (95.53 vs. 0.4 U/mL), post-first dose (2244.25 vs. 117.11 U/mL), and post-second dose (2500.00 vs. 2028.57 U/mL). Most respondents had local adverse reactions after receiving the first dose of vaccination and systemic reactions after the second dose. The Pfizer vaccine is effective at eliciting a high titre of anti-S1 after second dose of vaccination and able to reduce the severity of infection in those with breakthrough infection. The vaccine's safety profile is tolerable, and no serious adverse reactions have been reported.

PP079

Clinical Characteristics and Biochemical Markers in Hospitalized COVID-19 Patients in A Private Hospital in Malaysia: Comparison During Admission and Discharge

Chia, Ericson¹; Arip, Masita^{2,3}; Abu Bakar Sajak, Azliana^{4,5}; Meor Rodzali, Siti Yasmin Aisyah⁴; Tay, Wan Ying⁶; Chow, Yock Ping⁶; Omar, Mohd Azahadi⁷; Tan, Lian Huat¹; Ismail, Rosmadi¹.

¹Department of Internal Medicine, Sunway Medical Centre, Petaling Jaya, Malaysia

²Department of Laboratory, Sunway Medical Centre, Petaling Jaya, Malaysia

³Allergy and Immunology Research Centre, Institute for Medical Research, National Institutes of Health, Shah Alam, Malaysia

⁴Department of Clinical Research Centre, Division Clinical Research and Medical Education, Petaling Jaya, Malaysia

⁵ Department of Nutrition, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Malaysia

⁶Sunway Medical Centre, Petaling Jaya, Malaysia

⁷Sector for Biostatistics & Data Repository, National Institutes of Health, Shah Alam, Malaysia

Different individuals have different susceptibilities to SARS-CoV-2 infection, especially in terms of symptoms and clinical manifestations. Even though there are many clinical characteristics and symptoms that have been published for COVID-19, there is still limited information in regards to comparing clinical characteristics and symptoms during the admission and discharge of COVID-19 patients. The aim of this study is to describe and compare the clinical characteristics and symptoms in hospitalized COVID-19 patients who presented to a private hospital during their admission and discharge. The present study was based on prospective data, restricted to patients with laboratory-confirmed SARS-CoV-2 using Polymerase chain reaction (PCR) that were admitted to Sunway Medical Hospital between August 2021 and June 2022. Comparison of clinical characteristics and symptoms (during admission and discharge) were identified by Wilcoxon sign-rank test (continuous data) or McNemar test (categorical data). Data of patients during hospital admission (n=31) and discharge (n=30) were analysed. Out of 31 patients, 15 of them had comorbidities (48%). In terms of biochemical markers, there was an increase in absolute lymphocyte count, platelet count and potassium levels whereas there was a decrease in serum creatinine, lactate dehydrogenase (LDH) and C- reactive Protein (CRP) ($p<0.05$). Significant differences of decreasing values ($p<0.05$) were also found in symptoms such as headache and runny nose. Our results showed that several biochemical and clinical characteristics were statistically different ($p<0.05$) between admission and discharge. These results can contribute to further utilization of biomarkers and clinical characteristics as monitoring and patient progress parameters during admission and discharge.

PP080

The Role of Protein Pili 95 KDa *Shigella dysenteriae* as Protein Adhesin in Balb/c Mice Enterocytes

Enny Suswati¹; Reza Kurniawan²; Yohanes Sudarmanto³; D. C. Mufida¹

¹Lab. Microbiology, Faculty of Medicine, University of Jember, Jember, Indonesia

²H. Koesnadi General Hospital, Bondowoso, Indonesia

³Lab. Public Health, Faculty of Medicine, University of Jember, Jember, Indonesia

Shigella dysenteriae is an obligate pathogen that usually found in clinical specimen from shigelosis patients and causes gastrointestinal tract infections with high morbidity and mortality. The pathogenic mechanism of the bacteria is not fully elucidated especially its potential activity of the pili as hemagglutinin and adhesion molecule. The aim of this study is to predict the molecule weight of pili and OMP from *S. dysenteriae*. The research stages included identification of *S. dysenteriae* isolation of OMP *S. dysenteriae*, sodium dodecyl sulphate-polyacrylamide gel electrophoresis (SDS-PAGE), hemagglutination test, isolation of enterocyte of BALB/c mice and and adhesion test. The study showed that the molecule weight protein of *S. dysenteriae* were 155 kDa, 124 kDa, 95 kDa, 78 kDa, and 32 kDa. The protein pili *S. dysenteriae* with a molecular weight of 95 kDa functions as an adhesin. Changes in pili protein concentration of 95 kDa molecular weight *S. dysenteriae* coated on the enterocyte of mice Balb/c strain, had a significant effect on the adhesion index. The protein pili *S. dysenteriae* with a molecular weight of 95 kDa functions as an adhesin.

PP081

Total Hip Arthroplasty Following a Dislocated Bipolar Hemiarthroplasty of Hip Due Excessive Anteversion

Mohamad Hilmi, Mohamad Nazarallah¹; Rizal, Abdul Rani²; Nor Hamdan, Mohamad Yahaya²

¹ Surgical Based Department, Fakulti Perubatan Dan Sains Kesihatan, Universiti Sains Islam Malaysia , Persiaran Ilmu, Nilai 71800, Negeri Sembilan.

² Department of Orthopaedic and Traumatology, Pusat Perubatan Universiti Kebangsaan Malaysia, Jalan Yaakob Latiff, 56000 Bandar Tun Razak, Kuala Lumpur

Bipolar hemiarthroplasty is one of the most common surgeries for hip. One of its advantages is lesser risk of dislocation compared to Total Hip Arthroplasty (THA) and lesser acetabular wear compared to Unipolar designs. However, the procedure remains a challenging surgery and should be performed by an experienced surgeon. We present an uncommon case of an anteriorly dislocated bipolar hemiarthroplasty of hip due to excessive anteversion. A 70-year-old lady sustained a left neck of femur fracture following a trivial fall. She underwent a bipolar hip hemiarthroplasty surgery. At 3 weeks post-surgery she had a sudden severe pain over left hip with increasing difficulty to weight bear and walk. Clinically the left lower limb was shortened and externally rotated. Radiograph revealed a dislocated bipolar hemiarthroplasty. She was planned for a revision surgery with Total Hip Arthroplasty. Intraoperatively the bipolar head was dislocated anteriorly and the cemented stem was fixed at 45 degrees of anteversion. The bipolar implant was removed. Acetabular cup was inserted via press-fit technique supplemented with screws. A new stem was fixed with 15 degrees of anteversion which mimics native hip anteversion. The new fixation stability was tested before closure. Post-surgery patient was able to weight bear and walk at day 3 and her ambulation continued to improve during follow-up. Arthroplasty of hip remains a challenging surgery and is usually performed by senior orthopaedician. Although uncommon, incorrect neck version is a known to cause an unstable hip arthroplasty fixation. Anteversion of 10-20 degrees is recommended to mimic native neck version. Correct neck version will allow concentric head reduction and contributes to increased stability for hip arthroplasty fixation.

PP082

Impact of COVID on Family-Centred Care in NICU

W. Ab Rahim, Adilah¹; Mohammad Khuzaini, Aliyyah¹; Abdul Halim, Halimah¹

¹Paediatric Unit, Universiti Sains Islam Malaysia, Nilai, Malaysia

Family-centred care (FCC) has been an integral part of the Neonatal Intensive Care Unit (NICU) practice. The principles of FCC include dignity and respect, information sharing, patient and families' participation and collaboration with healthcare professionals. With the advent of COVID-19, many hospitals changed their policies to protect staff, patients and family members, leading to the loss of family involvement. This review aims to determine the impact of the COVID-19 pandemic on Family-Centred Care in NICU. A scoping review was carried out by using keywords "Covid-19", "Family centred care", "Impact", "NICU", "Neonate" and similar words in Google Scholar, PubMed, ScienceDirect, and WHO Covid-19 Database. The inclusion criteria were studies exploring the topic in English Language, published between December 2019 until June 2022. Title and abstract screening were performed and full papers were retrieved for further screening. A total of 36 articles were retrieved from the databases and 15 studies were included in the review. Five studies reviewed the general impact of the pandemic on FCC, showing effects on visitation policies, developmental care, and communication practices. Visitation policies were more stringent with reduction in the number of family members allowed to visit. Strategies like kangaroo care and sucking stimulation were discontinued in many centres. Parents were no longer allowed to participate in physical ward rounds. Two studies explored the stress experienced by parents due to restricted visitation policies during the pandemic. Three studies examined the impact of virtual family-centred rounds, to include families in decision making and allowing effective communication. Clearly, the pandemic has affected family-centred care in NICU. It is imperative to explore innovative strategies such as virtual family-centred rounds, video conferencing and structured communication checklists to improve patient and caregiver outcomes

PP083

Imaging Features of Adolescent Abdominal Tuberculosis; A Case Series

Mohd Zulkimi Roslly¹; Siti Soraya Abd Rahman¹; Assyifaa Nik Mazian¹; Ahmad Farid Zulkifle¹

¹Radiology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam, Malaysia (USIM)

Abdominal tuberculosis is difficult to diagnose clinically and radiologically due to its non-specific manifestations. We reported imaging findings in three cases of abdominal tuberculosis in immunocompetent adolescent. To identify the common imaging features of adolescent abdominal tuberculosis and to ascertain the red flag in imaging findings of abdominal tuberculosis. 18-, 11- and 12-year-old patients presented with loss of appetite, weight and non-specific abdominal pain for few months. Initial ultrasound of the abdomen in these patients showed common features; small bowel wall thickening, clumping of small bowel and mild-moderate ascites. Two of these patients showed nodular thickening of peritoneum and momentum. CECT of the abdomen confirms the sonographic findings and noticed the presence of abdominal lymphadenopathy and hepatomegaly. Diagnosis uncertainty leads to exploratory laparotomy in two of these patients, showed consistent findings with radiological input, where biopsy of the peritoneal nodules showed positivity towards necrotizing granulomatous infection. Unfortunately, one of these patients succumbed to death after a week of admission due to overwhelming sepsis. Another two patients were doing well after commencement of tuberculous treatment. Abdominal tuberculosis is ranked 6th in the extrapulmonary tuberculous infection, which may affect lymph node, solid organ, intestinal tract and peritoneum. Imaging tools has become the determining non-invasive diagnostic tools in view of its non-specific clinical and biochemical manifestations. Consistent with previous literature, thickened and clumping small bowel, abdominal lymphadenopathy, hepatomegaly and ascites are the common imaging findings in our patients. The diagnosis of intraabdominal tuberculosis in children and adolescent is challenging due to scarcity of a sensitive and specific diagnostic tools, thus warrant radiologist to recognize the imaging pattern and provide a prompt diagnosis especially in a young patient with non-specific abdominal pain. Delayed diagnosis in this age group may delay treatment initiation with a cost of patient's life.

PP084

Application Of Traditional and Geometric Morphometric Methods For Sex Estimation Based on Size of the Three- Dimensional Scapula In Malaysian Population

Omar, Normaliza^{1, 2}; Mohd Ali, Siti Hanum^{1, 2}; Shafie, Mohamed Swarhib²; Hadi, Helmi³, Khalid, Kamil⁴; Nik Ismail, Nik Azuan²; Md Nor, Faridah²

¹ Department of Basic Medical Science I, Faculty of Medicine and Health Sciences, Univeristi Sains Islam Malaysia, Nilai, Malaysia,

² Pathology Department, Faculty of Medicine, Universiti Kebangsaan Malaysia, Cheras, Malaysia,

³ School of Health Sciences, Universiti Sains Malaysia, Kubang Kerian, Malaysia,

⁴ Faculty of Applied Science and Technology, Universiti Tun Hussein Onn, Pagoh, Malaysia.

Sex estimation of unknown skeletal remains is one of the most important elements in forensic investigation that may reduce the potential matches by half. The accuracy and reliability of the identification process is population-specific, which leads to the need for development of the databases using the Malaysian population. Scapula is one of the bones that has potential in sex estimation but there is lack of Malaysian population-specific data on this bone. The aim of the study was to investigate the sexual dimorphism and classification accuracy of the scapula size using traditional and geometric morphometric methods. A total of 400 scapula models (185 males, 215 females) were used in traditional method with 4 measurements which include morphological breadth, longitudinal maximum length, glenoid cavity length and glenoid cavity breadth. While in geometric morphometrics, 12 landmarks were digitized and extracted on 470 samples of scapula models (248 females, 222 males). The landmarks data were analyzed using generalized Procrustes analysis before generating the centroid size. Then, the measurements and centroid sizes data were analyzed independently using independent T-test and discriminant function analysis (DFA) to fulfill the objectives. All four measurements and the centroid size of the scapula showed significant difference between males and females. Multivariate DFA of the measurements showed 93.0% cross- validated classification accuracy, while DFA of the centroid size showed 90.6% in cross-validated groups. In conclusion, scapula models in both traditional and geometric morphometric methods are equally useful and highly accurate for sex estimation based on its size.

PP085

***Klebsiella pneumoniae* Infective Endocarditis; A Rare Entity**

Nordin, Fatimah Zanirah¹

¹Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Malaysia

Infective endocarditis (IE) remains a disease with highly fickle clinical presentation. The rarity of gram-negative endocarditis especially *Klebsiella* species limits its recognition and awareness of its often-malignant course. We report a case of 66-year-old female who presented with lethargy and loss of appetite for 10 days prior to admission. On examination, she appeared lethargic and physical examination revealed a pansystolic murmur over mitral area with bibasal crepitations. Laboratory examination revealed predominant neutrophils and acute kidney injury. Urgent echocardiogram revealed moderate eccentric mitral regurgitation and prolapsed anterior mitral valve leaflet with vegetation measuring (0.7 x 1.0) cm. Blood culture yielded *Klebsiella pneumoniae* sensitive to amoxicillin and clavulanic acid (Augmentin). Computed tomography of thorax abdomen and pelvis identified no lungs, splenic, or liver abscess. Eyes examination also revealed no *Klebsiella* endophthalmitis. She completed 4 weeks of intravenous Augmentin with resolution of vegetation on repeat echocardiogram. She was discharged well with oral Augmentin for another 2 weeks. IE caused by gram-negative bacteria is uncommon and *Klebsiella* species are an especially rare entity that occurs only around 5% in all cases of endocarditis. A review of the literature of 50 cases of *Klebsiella pneumoniae* endocarditis indicated that the aortic valve is the most commonly involved valve, followed by the mitral valve whilst urinary tract infection and pacemaker infection were the most common source of bacteraemia. The morbidity and mortality rate remained as high as 30% despite showing a recent decline in trend. Antibacterial that works best in vitro against them often involve combination of 3rd generation cephalosporin and aminoglycosides. The optimal duration of therapy is usually between 4 to 6 weeks with consideration for surgical intervention if required. *Klebsiella* species endocarditis despite a rare and threatening cause of bacterial endocarditis is treatable if recognized and treated early.

PP086

Os Coxae Shape Variations Among Malaysians Using Three-Dimensional Geometric Morphometric Analysis

Mohd Ali, Siti Hanum¹; Omar, Normaliza¹; Shafie, Mohamed Swarhib²; Nik Ismail, Nik Azuan²; Hadi, Helmi³; Mohd Nor, Faridah²

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia

² Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

³ Universiti Sains Malaysia, Kubang Kerian, Malaysia

The pelvis is formed by the right and left os coxae, together with the sacrum. In forensic science, the os coxae is mainly used to identify the sex of unknown human skeletal remains particularly for medicolegal purposes. This study aimed to identify shape variations of the os coxae among Malaysians using three-dimensional Procrustes-based geometric morphometric analysis. A total of 402 os coxae models were created from multislice computed tomographic scans retrieved from Universiti Kebangsaan Malaysia Medical Centre. Twenty-five anatomical landmarks were applied on the os coxae models to capture their shape. Principal component analysis (PCA) was performed on the landmark data with Procrustes-based geometric morphometric analysis. Shape variations were visualized by morphing the os coxae models in Landmark Editor. The PCA resulted in 68 principal components (PC) indicating different shapes of os coxae in the study sample. The first 29 PCs accounted for 90% of os coxae shape variations. Only the first five PCs explained at least 5% of the total variation in the os coxae shape, thus biologically significant. Wireframe graphs and morphed os coxae models for PC1 to PC5 were constructed to illustrate os coxae shape variations. Morphological changes among the five PCs were mainly observed at the greater sciatic notch, ischial spine, ischial tuberosity, ischiopubic ramus, pubic symphysis, superior pubic ramus, obturator foramen, anterior superior iliac spine, anterior inferior iliac spine, iliac crest and iliac fossa. Principal component 1 (PC1) exhibited the most morphological changes (17.9%), followed by PC2 (12.6%), and PC5 with the least changes (5%). Observation of the main os coxae variations among Malaysians using Procrustes-based geometric morphometric analysis may provide useful database for forensic identification. Further analysis to compare os coxae shape variations may be able to estimate sex and ancestry of unknown skeletal remains in Malaysia.

PP087

A Rare Case of Salmonella Neck Abscess in A Diabetic Patient

Wan Rosli, Saarah¹; Salleh, Sharifah^{2,3}

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

² Infection Control Unit, Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia

³ Department of Medical Microbiology and Immunology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Salmonella infection (salmonellosis) can be localized to the gastro-intestinal tract or spread through the blood or lymphatic system. Based on various reports, head and neck infection by Salmonella is considered rare. A 42-year-old Malay gentleman with underlying uncontrolled diabetes mellitus, presented with a right neck swelling for two weeks associated with fever. On examination, he was tachycardic and febrile. The right neck swelling extended up to the angle of right mandible, firm and tender on palpation. CT scan showed large right neck abscess with the involvement of the ipsilateral sternocleidomastoid muscle. Swab and tissue culture grew non-lactose fermenter colonies after 24 hours with acid-gas/alkaline reaction on triple sugar iron AG/K with H₂S. Motility, methyl red and citrate test, polyvalent O and H were positive while Vi was negative. The culture yielded a sensitive strain of Salmonella spp. The patient underwent incision and drainage of the abscess and completed a two week course of antibiotics. Non-typhoid salmonellosis (NTS) commonly cause bloodstream infections. Extra- intestinal focal infections may develop in approximately 5 to 10% of individuals with Salmonella bacteremia, however involvement of the soft tissue or muscle causing abscess and pyomyositis such as neck muscle is rare. Moreover, bacterial pyomyositis commonly caused by Staphylococcus aureus and mostly affects the extremities. Diabetes could be a risk factor for salmonellosis in this case due to reduced gastric acidity and prolonged gastric transit time. For any patient presenting with neck abscess and poorly controlled blood sugar level, Salmonella sp. should be one of the differential causative agents. Salmonella infection confers a higher risk for mortality. Thus, appropriate management which includes prompt incision and drainage in addition to antibiotics should be made.

PP088

Association Between Smoking And COVID-19: A Literature Review

Mohmad Sanip, Aina Nabilah¹; Mohd Ali, Siti Hanum¹

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS- CoV-2 virus which spreads through airborne. This disease has been spreading across the globe since 2020 and remains to be the topic of discussion nowadays. Smoking is a known risk factor for various diseases, mainly involving the respiratory system. This literature review aimed to understand the pathophysiology and association between smoking with COVID-19 severity. Besides, this review explains the potential role of nicotine as therapeutic option for COVID-19. This study is a literature review of articles and research. PUBMED, Scopus and Google Scholar were used to select papers using keywords related to “smoking”, “nicotine” and “COVID-19”. Sixty papers were selected and included in this review. Smoking enhances the susceptibility to COVID-19 infection by increasing angiotensin converting enzyme 2 (ACE2), the key receptor used by the SARS-CoV-2 virus to enter the host mucosa. Smoking contributes to a severe disease state and increases vulnerability to SARS-CoV-2 infection via activation of peripheral nicotinic acetylcholine receptors (nAChRs), which is expressed in many organ systems including lungs. Epidemiological studies proved the significant association between smoking and severity of COVID-19 infection. In contrast, other studies reported negative association between smoking and COVID-19, hence leads them to propose nicotine as a therapeutic option of COVID-19 in view of its anti-inflammatory properties. As cytokine storm is a key feature in severe COVID-19 cases, it is thought that nicotine administration promotes cholinergic anti-inflammatory pathway, hence balance the body’s immune response against SARS-CoV-2. Nicotine is one of the contents in cigarettes. Even though studies reported plausible hypothesis of nicotine as treatment for COVID-19 infection, the act of smoking still pose higher risk to develop other comorbidities. Further studies are needed as clinical evidence to prove the use of nicotine in treating COVID-19.

PP089

Cervicofacial Subcutaneous Emphysema Associated with External Auditory Canal Wall Defect

Zulkifle, Ahmad Farid¹; Roslly, Mohd Zulkimi¹; Nik Mazian, Assyifaa¹; Abd Rahman, Siti Soraya¹

¹ Radiology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Malaysia

There are many causes that can lead to cervicofacial emphysema including infection, trauma, neck surgery and improper chest tube insertion. In this study, we report a rare cause of spontaneous cervicofacial emphysema due to dehiscence of the anterior wall of external auditory canal (EAC). This clinical report describes a case of spontaneous cervicofacial subcutaneous emphysema. A middle-aged man presented with right facial swelling and pain. He had a history of otitis externa two weeks ago. There was crepitus on palpation at the right facial and anterior neck area. Otoscopic examination showed prolapse of the temporomandibular joint (TMJ) tissue into the right external auditory canal during mouth opening and closing. Minimal inflammatory changes were also noted. Head and neck computed tomography (CT) scan revealed extensive emphysema from temporal down to subcutaneous spaces of the neck. A defect in the anterior wall of the right EAC was detected, which appeared to be in communication with the adjacent TMJ. There was air tracking from the EAC defect into the TMJ, extending to the subcutaneous tissue of right cervicofacial area. No infective features noted on CT. The patient was advised to reduce chewing and jaw movement. The emphysema resolved completely after two weeks of frequent follow up. He was planned for transcanal ear wall repair with cartilage graft. Any bony defect at the anterior wall of EAC will creates a fistulous communication with the adjacent TMJ. The anterior movement of the condyle during mouth opening creates negative pressure within the joint space that allows air slip through the bony defect into the joint spaces. On mouth closing, the condyle will push the air within the joint into surrounding subcutaneous tissue. By understand the mechanism of this pathology, an attempt to block air flow as an initial treatment will be considered.

PP090

The Effects of COVID-19 pandemic on Cognitive Learning in Children

Abdul Halim, Halimah^{1, 2}; W. Ab Rahim, Adilah¹; Mohammad Khuzaini, Aliyyah^{1, 2}

¹ Paediatric Unit, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

² Paediatric Department, Ampang Hospital, Selangor, Malaysia

The effect of the COVID-19 pandemic is far-reaching, beyond the repercussions of the infection. The strict lockdowns, school closures, loss of financial income and disrupted family dynamics have affected children in many ways. This review aims to determine the impact of the COVID-19 pandemic on children's cognitive skills. A scoping review was carried out by using keywords "Covid-19", "child", "impact", "Cognitive", "learning" and similar words in Google Scholar, PubMed, Science Direct, SciELO, and WHO Covid-19 Database. The inclusion criteria were studies exploring the topic in English Language, published between December 2019 until June 2022. Title and abstract screening was performed and full papers were retrieved for further screening. A total of 37 articles were retrieved from the databases and 20 studies were included in the review. Different areas of cognition were affected, namely arithmetic skills, social literacy and linguistics. School closures affected children significantly due to ineffective online learning, reduction in peer interaction, and varying parental capacity to support virtual learning. Several studies showed that children in primary school experience significant learning loss up to three years, affecting mainly girls and children from the lower socioeconomic classes. This is contributed by the financial impacts of the pandemic on poorer families, resulting in parental absences, child labour and early marriages. Infants born just before the pandemic appear to have developmental delay. Public health interventions such as facial mask usage and social distancing impaired social and language acquisition. Lack of parental supervision on the usage of internet raises issue for internet safety such as sexual exploitation and abuse during the pandemic. COVID pandemic has a negative impact on children's cognitive skills and learning globally. Formal assessments of learning loss should be promptly assessed by trained teachers in order for remedial actions to be carried out post pandemic.

PP091

Parosmia: Long COVID Syndrome

Siti Asmat MA¹, Nor Azirah S¹, Nor Eyzawiah H¹

¹ Otorhinolaryngology Head And Neck Surgery, Surgical-Based Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

“Long-COVID syndrome,” “post-COVID syndrome,” or “COVID long haul syndrome” is the persistent symptoms or development of complications three to four weeks after the viruses have no longer been detected. Parosmia, or distorted of smell, is one of the unpleasant long-COVID syndromes which can disturb a patient’s daily life. This review aims to identify the prevalence of parosmia cases, their pathophysiology, duration, effects on patients’ lives, and the choice of treatments available. A literature search was done through PubMed, Medline, and Google Scholar using the keywords parosmia, distorted smell, post-COVID syndrome, and long-COVID syndrome. Original articles, case reports, and paper reviews were obtained and analyzed. The related information was retrieved and concluded in this article. About 18.5% of patients developed parosmia after recovery from anosmia or hyposmia during active infection. The theory for the pathophysiology of parosmia is that due to the regeneration of damaged olfactory neurons, they sprout and reconnect to the brain with a trial and error process. Patients can develop parosmia from one to three months post- recovery from other COVID symptoms. The symptoms can persist for up to three months. Parosmia can cause depression, anxiety, disruption of daily routine and problems with enjoyment of food. One of the treatments for parosmia is by olfactory retraining therapy and supplementation with Palmitoylethanolamide (PEA) and luteolin. Parosmia can be one of the unpleasant long-COVID syndromes that can disturb a patient’s daily activities. Olfactory retraining or rehabilitation plus supplementation with Palmitoylethanolamide (PEA) and Luteolin are able to improve parosmia.

PP092

Peculiar Cause of Bilateral Vocal Cord Palsy in An Adult

Siti Asmat MA², Nazirah B¹, Azreen Zaira AB¹, Nor Azirah S², Nor Eyzawiah H²

¹ Department of ORL, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

² Otorhinolaryngology Head and Neck Surgery, Surgical-Based Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

The aetiology of bilateral vocal cord palsy in adult are commonly due to acquired cause, congenital causes are rare. One of the rare causes in adult is Chiari Malformation. We report a case of an adult with Chiari malformation who presented with progressive hoarseness. To emphasise and discuss the rare cause of bilateral vocal cord palsy in adult secondary to Chiari Malformation. A 26-year-old Malay lady presented with hoarseness for 1 month, associated with prolonged cough and dysphagia. She also had progressive weakness of the right upper limb 2 months prior to the presentation. She denied any history of contact with Tuberculosis (TB) patient, neck swelling, blood-stained saliva, nasal or ear symptoms. The examination noted the patient had hoarseness without stridor or respiratory distress. Neurological examination showed a reduction in motor power (4/5) with clawing of the hand over the right upper limb. Flexible nasopharyngolaryngoscopy revealed bilateral vocal cord palsy in a cadaveric position with signs of aspiration. Urgent Computed Tomography (CT) scan of the brain, neck and thorax reported the presence of communicating hydrocephalus, while MRI brain revealed Chiari Malformation Type 1 associated with craniovertebral junction osseous anomalies, extensive syringohydromyelia of the spinal cord from the level of C1/C2 till L1/L2 and communicating hydrocephalus. She was put on nasogastric tube feeding while waiting for CT craniocervical junction and surgical intervention later by neurosurgical team. Chiari Malformation Type 1 is one of the rare causes of bilateral vocal cord palsy in adult. Awareness and early diagnosis of these condition will permit early intervention hence improved prognosis particularly in young adult.

PP093

A Review on the Association of Brucea javanica Medicinal Properties to COVID-19 Pathogenesis: Prospect for the Treatment of SARS-CoV-2 Infection

Nur Fariha MM¹, Nordaimah MM², Mohd Sabri MA¹, Nuruliza R¹

¹ *Department of Medical Sciences I, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia*

² *Sekolah Menengah Kebangsaan Ayer Keroh, Melaka, Malaysia*

Brucea javanica (L.) Merr (or commonly known as Melada pahit) is an evergreen plant shrub from the Simaroubaceae family found across Southern China and Southeast Asia. It has become one of the most studied plants due to its various pharmacological properties. Primary search on *Brucea javanica* revealed some potential properties of this plant that matched the therapeutic aims of COVID-19. This study aimed to review published literature on the potential properties of *Brucea javanica* that are possibly associated with the pathogenesis of COVID-19. In addition, to evaluate how far this plant was incorporated into the therapeutic application, we performed a patent search using the keywords *Brucea* AND *javanica*. Electronic searches were performed on OVID/Medline/PubMed and Google Scholar. The search keywords that were used both alone and in combination are: *Brucea javanica*, antiviral, anti-inflammatory, antipyretic, anti-thrombotic, COVID-19, and pathogenesis. Patent search was conducted via Lens, a global public database for patents and scholarly knowledge with more than 132 million patent records. From the search, we identified many relevant studies on the properties of *Brucea javanica* that are potentially associated with the pathogenesis of COVID-19. The properties include antiviral, anti-inflammatory, anti-thrombotic and antipyretic. Patent search revealed various claimed applications of *Brucea javanica*, including applications related to its antiviral and microbicidal properties. *Brucea javanica* is a unique plant with numerous amounts of quassinoids that exhibits promising healing potential for viral infection. This preliminary review supports further evaluation on *Brucea javanica* as a potential therapeutic candidate for SARS-CoV-2 infection.

PP094

Effect of Pharmacist Counseling on Drug Adherence in Hypertensive Patients

Farroh Bintang Sabiti¹, Chilmia Nurul Fatiha¹

¹Pharmacy Study Program, Sultan Agung Islamic University, Semarang, Indonesia

Hypertension is a disease that is prevalent in Indonesia. Hypertension can be controlled by obediently taking medication and by maintaining a healthy lifestyle. One of the efforts that can be done to improve compliance is counseling. Pharmacist counseling is expected to provide education and understanding of patients on hypertension therapy while ensuring that patients have taken medication properly to improve compliance and control blood pressure. The purpose of this study was to determine the effect of pharmacist counseling on drug adherence and blood pressure values in hypertensive patients in the city of Semarang. This research is cross-sectional observation study of hypertensive patients receiving medication from the pharmacist. Before collecting the medication, patients were counseled by the pharmacist. Data was collected before and after counseling for a pre- and posttest analysis using the Wilcoxon test with a significant p value of <0.05 . Seventy patients were recruited. For drug adherence using the calculation of the remaining drug (Pill count), 51 patients adhered to, and 19 patients did not comply. There was a significant difference in the patients' attitude before and after counseling by the pharmacist. This study shows that pharmacist counseling can affect drug adherence in hypertensive patients in the city of Semarang.

PP095

Acute Encephalitis as a Clinical Manifestation of Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19: A Case Report

Siti Soraya AR¹, Assyifaa NM¹, Ahmad Farid Z¹, Mohd Zulkimi R¹, Jamil Aiman MB²

¹ Radiology Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

² Paediatric Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

MIS-C associated with COVID-19 is a novel entity, and is characterised as “fever, multisystem organ involvement, laboratory evidence of inflammation, and laboratory or epidemiological evidence of SARS-CoV-2 infection, in individuals aged 0-19 years with no alternative diagnosis”. We present a case of a 6-year-old boy who came to the Emergency Department (ED) after a fitting episode at home, preceded by fever, vomiting and loose stool. He developed another seizure at the ED, which aborted with Valium. He was hypoglycaemic with glucose level of 1.1 mmol/L. Despite correction of his glucose level, he remained drowsy with poor Glasgow Coma Scale (GCS) of 11/15 (E3V2M3) with unequal pupils. He was intubated after a further drop in GCS. Venous blood gas showed metabolic acidosis, he had deranged electrolyte levels and developed multiple episodes of hypoglycaemia. Initial Computed Tomography (CT) of brain performed at admission was normal, but a repeat CT 3 days later showed features suggestive of encephalitis, with cerebral oedema and mass effect. A COVID antibody test was reported as positive. He was treated with intravenous antibiotics, methylprednisolone and 4 types of inotropic support. Unfortunately, his condition did not improve, and he succumbed to his illness 10 days later. Cases of acute encephalitis with MIS-C may present with rapid onset of focal neurological signs or seizures and is suggested to be due to an immune-mediated pathophysiological process triggered by previous COVID infection. Neuroimaging may demonstrate splenial lesions or acute disseminated encephalomyelitis (ADEM) like changes. Paediatric stroke is an uncommon complication of SARS-CoV-2 infection. Acute encephalitis can be a clinical manifestation of MIS-C associated with COVID-19. Neurological involvement in COVID-19 can be severe, as in this case, or mild. A thorough neurological assessment to pick up salient signs will ensure that this condition is not missed.

PP096

Psychological Impact of COVID-19 Pandemic on Healthcare Workers: A Scoping Review

Mohamed Fakhri Abu B¹, Nurhafizah S¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

Frontline healthcare workers (HCWs) are among the most vulnerable populations at risk of mental health problems as the world battles the COVID-19 pandemic. Unchecked mental health problems can affect the HCW's work qualities and may jeopardize the healthcare services. The study aimed to identify the psychological impact of COVID -19 pandemic on the frontline HCWs. A scoping review using 'Arksey and O'Malley' framework was used to investigate the psychological impact on HCWs facing the COVID-19 pandemic. Four electronic databases (PubMed, ScienceDirect, ResearchGate and Google Scholars), dating between March to December 2020 were used to identify relevant articles. The search strategy included terms such as 'impact' OR 'effect' OR 'influence' AND 'healthcare workers' OR 'frontliner' AND 'psychology' OR 'mental health' OR 'emotional'. Only articles in English language were included. Initial search identified 1150 articles, and 5 articles of cross-sectional studies were included after applying the inclusion and exclusion criteria. Findings suggest that the psychological impacts of COVID-19 on HCWs varies with several studies demonstrating an increased risk of acquiring stress, anxiety, depression, post- traumatic stress, and inadequate sleeping with different prevalence. Being a nurse, being female, and of younger age appeared to confer greater risk. Fear of the unknown, becoming infected or infecting others, poor family support, and overwhelmed with COVID-19 related news posed as mental health risk faced by the HCWs. This review demonstrates that the pandemic has a significant psychological impact on the frontline HCWs. The issues on mental health amongst the HCWs need to be addressed by the policymakers and relevant stakeholders, in which variety of supports must be offered to the HCWs who play a crucial role during the pandemic.

PP097

The Impact of COVID-19 Pandemic on Medical Students' Teaching and Learning in Health Clinics in Malaysia

Sharifah Najwa SM¹, Fathima Begum SM¹, Mohd Radzniwan AR¹, Nur Faraheen AR¹, Muhammad Tauffik MN¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

The COVID-19 pandemic affected medical students teaching universally. Medical students' clinical teaching is very important to produce a safe, competent future doctor. This study was done on medical students' studying Family Medicine at a local university in Malaysia. Family Medicine clinical training is done at community health clinics of the Ministry of Health Malaysia. In this university, students are trained at three different clinics that are located in different vicinity. This study explored medical students' experiences, affected by the COVID-19 pandemic on teaching and learning experiences while studying Family Medicine at a local university in Malaysia. A qualitative study using focused group discussion (FGD), was conducted among undergraduate students during the lockdown period. A semi-structured interview guide was used to interview 20 students, in their fifth undergraduate year, undertaking their fourth to the fifth week of a total six weeks course. They were selected using the purposive snowball sampling method. There were four focus group discussions (FGD) with five students in a group. All interviews were audio-taped, transcribed verbatim and the contents were analyzed using the standard content analysis framework. Subsequently, a thematic content analysis was conducted, and three major themes were produced. The three major themes were identified. Firstly, is the support from the lecturers and clinic staffs in facilitating the teaching and learning process. Secondly, the barriers to learning were the concern of virus transmission when in the health clinics and patient refusal to participate. Finally, the improvement for clinical teaching such as having localized pre- recorded clinical teachings were identified. The COVID-19 pandemic had a significant impact on the teaching of Family Medicine, in community health clinics among medical students. Therefore, a more inspired and effective clinical teaching method should be established and evaluated for future possible outbreaks as producing quality future doctors are the main aim of any medical schools.

PP098

Effects of Virtual Reality on Mental Health: A Scoping Review

Huzaimi Z¹, Siti Soraya AR¹

¹Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

Virtual Reality (VR) applications create an immersive three-dimensional, computer-generated world in which a person may move and interact with the virtual environment. There is gaining use of VR to elicit exposure or intervention in patients suffering with mental illness as well as in the healthy population. Ensuring quality mental health is crucial as it affects our daily life and in interaction with others. This review aims to identify the use of the VR in mental health, specifically its therapeutic role in mental wellness and psychiatric disorders. A scoping review search was performed based on the Joanna Briggs Institute framework. Using a combination of selected keywords in four electronic databases, a snowball hand-searching method was carried out to identify relevant literature. Duplicates, irrelevant articles and non-English articles were excluded. A total of 163 papers were identified for full text review; 27 papers met all inclusion criteria consisting of 11 case studies, 3 Randomized Controlled Trials, 8 systematic review and meta-analysis and 5 literature reviews. VR technology have been utilised in the therapy of various psychiatric disorders such as schizophrenia, anxiety disorder, depression, posttraumatic stress disorder and eating disorders. Many studies have concluded that VR helps patients in facing traumas, reducing urge to commit suicide or self-harm, drug abuse, focusing on therapies and tolerating discomfort. Regarding mental wellness in healthy people, VR has been shown to help reduce stress levels, increase calmness and reduce tiredness from daily life. Rapid advancement in VR technology has significant positive and promising impact to the treatment, intervention and promotion of mental health among patients with mental illness and in the healthy population. Furthermore, VR environments can be adapted to individual and disease conditions, making it a valuable complementary tool in mental health therapy.

PP099

Challenges in Managing Cerebral Palsy Patient with Brief Psychotic Disorder: A Case Report

Izzat T², Ishwinderjee K¹, Nur Syazwani R¹, Siti Maisara S¹, Firdaus AG¹, Sharifah Najwa SM²

¹ *Jabatan Psikiatri, Hospital Sultan Haji Ahmad Shah, Temerloh.*

² *Fakulti Perubatan dan Sains Kesihatan, Universiti Sains Islam Malaysia*

Cerebral palsy (CP) is a group of permanent disorders of gross motor development of movement due to non-progressive disturbances that occurred in the developing foetal brain. CP is commonly accompanied by cognitive and behavioural disorders. The objective of this case report is to highlight that CP patients may also develop psychosis as they have an increased risk of developing psychotic disorders. Ms. H, a 32-year-old with a history of global developmental delay, cerebral palsy and spastic hemiplegia. She had a delusion that she was Ms. A, a 20-year-old single female from another state and was working in a shop in town. She was unable to sleep for five days prior to admission as she had been hearing voices instructing her to bite her forearm. She attributed these symptoms due to being controlled by an external power. She was eventually diagnosed with a Brief Psychotic Disorder and subsequently commenced on a second- generation antipsychotic, Olanzapine 5mg twice daily. The Olanzapine was however changed to Risperidone 1mg twice daily after she developed postural hypotension dizziness. The patient subsequently recovered from her psychotic episode after 2 weeks of treatment and is not currently on any antipsychotic. Commencing antipsychotics for CP patients is a challenge. They are also more vulnerable to develop side effects from antipsychotics. Antipsychotics are classified into typical (first generation) and atypical antipsychotics (second generation). Most common side effects of antipsychotics are histamine and adrenergic receptor blockades, extrapyramidal side effects (EPSE) and raised prolactin. Atypical antipsychotics have the propensity of causing more EPSE (dystonia, akathisia, tardive dyskinesia and parkinsonism) compared to atypical (increased metabolic syndrome risk). The selection of which type of antipsychotic is highly crucial. With the right medication, they can recover from the illness and regain their premorbid baseline.

PP100

Establishment of Virtual Integrated Services to Strengthen Children's Health Promotion Services in The Agricultural Area of Jember Regency

Ancah Caesarina Novi M¹, Dwita Aryadina R¹, Irawan Fajar K¹

¹ Department of Public Health, Faculty of Medicine, University of Jember, Jember, Indonesia

Based on our previous study obtained from questionnaires in 2019, in Jember, Indonesia, health promotion service efforts cannot be done optimally and are exacerbated by the COVID-19 pandemic, where the posyandu programs as a mass gathering media for health promotion must be temporarily suspended. The objective of this study is to search for health promotion methods and to develop virtual integrated services. The frequency of training and education methods for posyandu cadres for malnutrition and stunting alleviation programs from the Jember Health Office to cadres and from cadres to the community in the agricultural community obtained from previous research were analyzed to identify weaknesses. After identifying health promotion problems through a need assessment and holding a focused group discussion, the main points that need to be developed are compiled. It seems that cadres have never accessed applications related to nutrition in health promotions. There is an influence on the quality of the network and the economy of the community, so an application that can be used offline is needed. Application features related to the nutritional status program need to be adjusted to the contents of the health promotion handbook and recommendations regarding the nutritional status are needed. Regarding education in health promotions, on average, they prefer audio-visual (video) rather than written material, using easy-to-understand terms. If in the application there are sales services from the local area, the average opinion strongly agrees because it can lift the economy and increase the creativity of cadres and the community. Health promotion to improve children's nutrition in the agricultural area will be able to run effectively despite the constraints of the pandemic, with the virtual integrated services. This application needs to be developed according to user suggestions to be more effective and on target.

PP101

The Impact of Excessive Screen Time on Children in The COVID-19 Era

Noor Eza Shazwana E¹, Muhammad Najmi K²

¹ *Faculty of Medicine and Health Science, Universiti Sains Islam Malaysia*

² *Ophthalmology Unit, Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia*

Lockdown and school closure due to the COVID-19 pandemic have a major impact on education systems worldwide, which necessitate the use of online teaching and learning. While the advantages of online learning are apparent, concerns were raised regarding the potential adverse effects of excessive screen time on children owing to substantially increased screen-based media usage at home. The aim of this study is to highlight the factors and impacts of excessive screen time on children in the COVID-19 era, as well as solutions for countering its detrimental effects. Published articles from September 2019 until March 2022 were searched through PubMed, Scopus and Google Scholar databases using terms such as “impact” AND “screen time” AND “children” AND “COVID-19”. Out of 69 articles identified, a total of 18 articles were selected to be of relevant. There were several factors that led to prolonged screen time among children including lack of access to outdoor activities, implementation of online classes, parental perceptions and attitudes towards screen media use and influence from siblings. Consequently, children had inadequate quality of sleep, eye discomfort with greater risk of acquiring myopia, lack of motor skills and poor academic performance. The interventions centred on raising parental awareness through a health education programme to encourage children's healthy behaviours and physical activity. More importantly, government and education authorities played a vital role in developing a thorough and innovative curriculum for children in the COVID-19 era. A collaborative effort between agencies is essential in order to address the negative effects of children's prolonged screen use and increase public awareness. This will allow interventions to be made to promote healthy screen time habits and preserve children's health.

PP102

Circuit Un-simulated Physical Examination Teaching (CUPET): A Pedagogical Option for Clinical Teaching in Times of Limited Access to Hospitals During a Pandemic

Razrim R¹, Arief H¹, Ruhi J¹, Nadia J¹, Farhan Y¹, Salleh AA¹, Faiz A¹, Mahmud MN¹.

¹ *Surgery Unit, Surgical-based Department, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.*

The Covid-19 pandemic required medical schools to modify and adopt new teaching methods for clinical teaching. Some hospitals had to limit or prohibit medical students from entering hospital premises due to health reasons. Faced with this challenge, we introduced a teaching method: Circuit Un-simulated Physical Examination Teaching (CUPET). To describe CUPET as a pedagogical method for clinical teaching and to evaluate lecturer's perception of CUPET. The CUPET sessions were conducted on our faculty premises. We conducted two CUPET sessions during the pandemic. Forty-one students, 5 lecturers, 5 un-simulated patients and 5 tutorial rooms were involved during each session. The students were divided into 5 groups (8 per group). One patient and 1 lecturer were assigned to each room. The student groups took turns receiving instructions on physical examination techniques by rotating between the rooms/station. The time allocated for each station was 45 minutes. After a 4-hour session (including a 15-minute break), all students received instructions on 5 different physical examination techniques on 5 different patients. A focused small group discussion among the lecturers was conducted after the CUPET sessions to identify common advantages and disadvantages of utilizing CUPET. The advantages of CUPET were compliance to COVID-19 protocols, ability to combine 5 teaching sessions in a day, similar pedagogical experience as traditional bedside teaching, and ease of organization. The disadvantages include extra cost to transport patients and for food, utilization of only stable patients for teaching, and long duration of teaching session. Overall satisfactory rate was high among the lecturers. CUPET is a pedagogical option to teach medical students during times of limited access to hospitals. There was a high satisfactory rate among the lecturers after CUPET. Student's evaluation of CUPET will be reported after due process

PP103

Involvement of Gut Microbiota in Liver Regeneration: Immune Related Genes and Signalling Pathways After Partial Hepatectomy in Mice

Marlini M^{1,2}, Aqilah RNF¹, Hairulhisyam MN^{1,2}, Nurul Fariha MM¹, Fergus Shanahan³, Antony M. Wheatley²,

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Malaysia.

² Department of Physiology, University of Galway, Ireland.

³ Alimentary Pharmabiotic Centre, UCC, Cork, Ireland.

Liver regeneration is a complex process orchestrated by redundancy of multiple signalling pathways particularly immune related signalling pathways. Despite many studies, real mechanism of liver regeneration is not fully understood. This study investigated the involvement of gut microbiota in liver regeneration focusing on immune related genes and signalling pathways, specifically toll-like receptor (TLR), nuclear factor-kappa B (NF κ B) and tumour necrosis factor (TNF) signalling pathways in the early phase of liver regeneration in mice. Male, 8-10 weeks old, wild-type (WT, C57BL/6), germ-free (GF) and germ-free mice recolonised with gut microbiota (XGF) mice underwent a 70% partial hepatectomy (PHx). Liver tissue harvested at 3 hrs after PHx was used for mRNA sequencing. Significantly differentially expressed genes (DEGs) were compared between different mouse groups and were subjected to KEGG pathway enrichment analysis using DAVID. An adjusted p-value < 0.05 was considered significant. At 3 hrs after PHx, totals of 3338, 1200 and 3647 genes showed significantly different expression in WT vs. GF, WT vs. XGF and GF vs. XGF, respectively. From these DEGs, 36, 13 and 70 pathways were enriched in KEGG pathways in WT vs. GF, WT vs. XGF and GF vs. XGF, respectively. TLR, NF κ B and TNF signalling pathways were enriched in WT vs. GF and GF vs. XGF but not in WT vs. XGF mice. *Tab2*, *Ikbkg*, *Traf3*, *Ripk1*, *Nfkbia* were significantly expressed in these three pathways. Regulation of TLR, NF κ B and TNF signalling pathways during liver regeneration may be dependent on the presence of gut microbiota. Reintroduction of gut microbiota may have activated these immune related signalling pathways, resulting in the improved restoration of liver mass in the XGF mice. These findings denote that early activation of immune related - signalling pathways and genes by the gut microbiota may be pivotal in liver regeneration.

PP104

Development of Diagnostic Degradable Vomit Bag and Concept Evaluation Review

Nur Zaireena Z¹, Siti Asmat MA¹

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Body fluid excretion or vomitus are usually disposed in common standard polyvinyl chloride(PVC) coloured bag or paper bag by public and healthcare setting. Although there is various vomit bag available in the market that offer good seal, none provide diagnostic value for content inspection to help in making the diagnosis which are important for medical inspection nor provide safety features in reducing risk of spillage and disease contamination. To evaluates the new concept of vomit bag designed with extended safety properties which include anti-spillage to reduce risk of disease contamination, offers diagnostic value for medical purposes and green to environment. Respondence recruited based on convenience sampling, in health care setting. Product demonstration with its extended features explained. A Likert scale evaluation on its function practicality, extended property and marketability were assessed. Data were descriptively analysed using IBM SPSS version 26. Pilot evaluation review with product demonstration received positive feedback from public and health care providers. Respondent were majority females 53%(n=43) and had handled or experience vomiting 86% (n=43). The most common issues with the conservative PVC or marketed paper bag includes content spillage 58.1%(n=43), leakage 55.8% and unable to inspect the content when asked by health provider 44.1%. Upon concept review by the respondent a great review of 94% (n=43) agreed regarding its practicality. Excellent response for its extended property 97.5%(n=43) and promising marketing potential 98%(n=43). Disposable vomit bag with diagnostic and biodegradable features, providing sustainability towards environment with broad marketing values should be replacing the common biohazard plastic bag in healthcare setting.

PP105

Early Expression of VEGFR2 During Liver Regeneration of Sterile Mice

Amin AR¹, Hairulhisyam MN^{1,2}, Nur Fatin Aqilah R¹, Nur Fariha MMⁱ, Fergus Shanaha³, Antony M. Wheatley², Marlina M^{1,2}

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia.

² Department of Physiology, School of Medicine, National University of Ireland Galway, Galway, Ireland

³ Alimentary Pharmabiotic Centre, University College Cork, Ireland. f.shanahan@ucc.ie

Recent studies have demonstrated the dynamic role of VEGFR2 in liver regeneration. During the priming phase of liver regeneration VEGFR2 expression is suppressed to allow hepatocyte proliferation. During remodeling phase, increased VEGFR2 expression promotes proliferation of sinusoidal endothelial cells and restoration of hepatic sinusoidal structure. Absence of gut microbiota is associated with delayed liver regeneration following partial hepatectomy (PHx). The aim of this study was to investigate the impact of sterile gut on VEGFR2 expression during PHx-induced liver regeneration. Male, 8-10 weeks-old, germ-free mice (GFM) and wild-type mice (WTM) as controls were used. Mice underwent 70% PHx and sacrificed at 3-hr and 72-hr post PHx and remnant liver were removed. Liver mass restoration were assessed by weight-body weight ratio (LW/BW). Vegfr2, Tnfrsf1a, Il6ra, and Hgf expressions were assessed using mRNA sequencing and confirmed by qPCR. VEGFR2, TNFR1, IL6R, and HGF protein concentrations were assessed by LUMINEX assay. Delayed liver regeneration in GFM was confirmed by lower LW/BW than WTM (p=0.0294) at 3-hr. Vegfr2 expression in WTM was concurrent to literature, demonstrating reduced expression at priming phase (3-hr) (p=0.0012), followed by increased expression at remodeling phase (72-hr) (p=0.015). Conversely, GFM demonstrated increased Vegfr2 expression at 3-hr (p=0.0103) and reduced expression at 72-hr (p=0.0041). At 3-hr, WTM demonstrated increased expression of Tnfrsf1a (p=0.0006) and Il6ra (p=0.0012). Tnfrsf1a and Il6ra was not upregulated in GFM. At 3-hr, mRNA levels of Tnfrsf1a, Il6ra and Hgf was significantly lower in GFM compared to WTM. As VEGF is a known auxiliary mitogen capable of inducing hepatocyte proliferation, early expression of VEGFR2 in GFM may be a response to diminished immune response caused by lack of microbiota-derived endotoxin. VEGF and VEGFR2 may play a role as a compensatory mechanism to induce hepatocyte proliferation in diminished immune response during liver regeneration.

PP106

The Heterogenecity of *TMPRSS6* Gene Mutations in Patients with Iron-Refractory Iron Deficiency Anaemia: A Systematic Review

Nurul Husna ZA¹, Asral Wirda AA¹

¹ Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan Malaysia

Iron refractory iron deficiency anemia (IRIDA) is a hereditary disease of iron deficiency anemia due to mutation at *TMPRSS6* gene. It is characterized by congenital hypochromic mycrocytic anemia, very low mean corpuscular volume, low transferrin saturation, low serum iron, low serum ferritin, normal to very high serum hepcidin and nonresponsive towards oral iron but partially corrected with parenteral iron therapy. The aim of this review was to summarize and evaluate the evidence from published literature to determine the clinicopathological features and genetic mutations of reported cases of IRIDA worldwide. The Pubmed, Scopus and Ovid-MEDLINE databases were used to search 'IRIDA', 'clinical', 'molecular' and 'outcome' in Medical Subject Heading (MeSH) term. We included all case reports or case series published in the English language for an unspecific date. A total of 18 articles consist of 60 patients worldwide had been reviewed. All patients were diagnosed with iron deficiency anemia during childhood and had been given oral iron therapy and intravenous iron to correct the anemia but to no avail. Most patients were asymptomatics and laboratory findings was consistent with IRIDA characteristics. Mutation analysis done showed missense mutation, nonsense mutation and frameshift mutation of *TMPRSS6* gene located on chromosome 22. There is currently no cure for anaemia, however combination therapy of oral iron with ascorbic acid and liposomal iron supplement has shown to be effective in raising haemoglobin levels.

PP107

Tophaceous Gout in the Bone Marrow: A Rare Presentation

Siew-Lian C^{1,2}, Kar-Ying Y¹, Ngee-Siang L¹, Kah-Wai N², Asral Wirda AA^{1,3}

¹ *Department of Haematology, Hospital Ampang, Ampang Jaya, Selangor, Malaysia*

² *Department of Pathology, Hospital Serdang, Kajang, Selangor, Malaysia*

³ *Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia*

Gout is a complex arthritis evident by recurring intra-articular deposition of monosodium urate crystals in patients with hyperuricaemia. The disease elements of gout range from being totally asymptomatic to patients developing crippling joint deformity. Other than that, uric acid crystals would also precipitate in renal tubules and collecting ducts. Precipitation of urate crystals in the bone marrow space is extremely rare. This case report highlights the unusual finding of tophaceous gout in a bone marrow biopsy. We report a 52-year-old gentleman who presented with chronic bone pain and persistent hypercalcemia for the past 1 year. He has a background history of type 2 diabetes mellitus, hypertension, chronic gouty arthritis and end stage renal disease. Extensive workup for malignancy was negative. A tophaceous gout was detected incidentally in marrow tissue during work up for possible plasma cell neoplasm. Bone marrow trephine biopsy is not routinely performed but remains an important examination in establishing a definite diagnosis. Tophaceous gout in bone marrow is rarely seen in the daily practice of a haematologist. A bone marrow biopsy is an invasive procedure that is not routine other than for monitoring haematological diseases. A bone marrow trephine biopsy is not mandatory when monitoring gouty disease or hypercalcemia, however in this instance became invaluable in establishing the diagnosis when all other modalities were not helpful.

PP108

Clinical Medical Examination Techniques for the Undergraduates During COVID-19 Pandemic : A Scoping Review

Ruhi Fadzlyana J^{1,2}, Mohamad Farhan MY², Mohamad Hilmi MN³, Assyifaa NM⁴.

¹ Medical Education Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia

² Surgical Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia

³ Orthopaedic Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia

⁴ Radiology Unit, Faculty of Medicine & Health Sciences, Universiti Sains Islam Malaysia

The COVID-19 pandemic has caused a remarkable restriction especially in clinical medical examination worldwide due to limited access to clinical facilities. Hence, clinical examination needed to be make shifted as to ensure the students graduated on time. We aimed to identify the options of clinical examination techniques and it's inadequacy for clinical examination during COVID-19 pandemic. A scoping review was carried out by using the keywords "clinical examination", COVID-19, medical students and similar words in PubMed. The inclusion criteria were clinical examination methods that was used in undergraduate examination during COVID-19. Title and abstract screening were made, and full papers were extracted for further screening. The search was carried out on the 8th April 2022. A total of 63 articles were retrieved from the database. However only three articles meet the inclusion criteria and the studies comprised of descriptive study. Two studies were from United Kingdom and one from the United Arab Emirates. The results from 3 studies showed that the techniques were VOSCE using the online platform either Microsoft Teams or Zoom. Simulated patients were utilized in all the studies. The areas tested were communication skills and history taking. The clinical skills examined were limited to students demonstrating to patient. Recommendation for improvement include the usage of work based assessment for procedures assessment. Despite the pandemic, undergraduate examination needed to be improvised. With creativity and revolution, a valid assessment tool is feasible to be done with some limitation.