

ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS SEXUAL AND REPRODUCTIVE HEALTH INCLUDING COMPREHENSIVE SEXUALITY EDUCATION AMONG FIRST YEAR STUDENTS OF UNIVERSITY MALAYSIA SABAH (UMS), MALAYSIA

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ABSTRACT

This study aims to assess knowledge, attitude and behavior in sexual and reproductive health (SRH) including comprehensive sexuality education (CSE) among 439 first year students; 213 sciences and 226 arts students from 5 Faculties of University Malaysia Sabah (2016-2017). Exposure of Malaysian students to sexual education is limited to science subjects which are only being taught at upper elementary and secondary high school levels. Arts students are less exposed to sexual education across Malaysia as it is delivered in Basic Science subject only. It was a university-based, cross-sectional, descriptive study. Pretested self-administered questionnaire was anonymously completed by all participants and was conducted from November 2016 to January 2017. Students' demographic characteristics from Science and Arts streams were same except females, Sabah ethnics and Malays were more in Arts. Awareness of HIV/AIDS, Condom, Wet dream, COC pills and abortion services were more in Science students and statistically significant. 34.3 % and 81.2% of Science students agreed that CSE should be introduced in primary and secondary school but not statistically significant. 22 out of 439 students were sexually active. Science students had more knowledge about SRH and favourable attitude towards sexuality education but less favourable behaviour of watching and reading pornographic materials. It was concluded that there were gaps in knowledge, attitude and behaviour of SRH and need to remedy these by giving appropriate CSE classes to first-year university students in an elective module according to their culture and religious beliefs in accord with International Technical Guidance on Sexuality Education (ITGSE).

Keywords: Knowledge, Attitude, Behaviour, Sexual and Reproductive Health (SRH), Comprehensive sexuality Education (CSE), first year university students.

INTRODUCTION

Comprehensive Sexuality Education (CSE) includes age-appropriate, medically accurate information on a broad set of topics related to sexuality including human development, relationships, decision making, abstinence, and contraception and disease prevention. They provide students with opportunities for developing skills as well as learning. However, exposure of Malaysian students to sexual education is limited to science subjects which are only being taught at upper elementary and secondary school levels.⁽¹⁾ UNESCO's International Technical Guidance on Sexuality Education (ITGSE)⁽²⁾ identifies that effective CSE programmes can reduce misinformation, increase correct knowledge, clarify and strengthen positive values and attitudes, increase skills to make informed decisions and act upon them, improve perceptions about peer groups and social norms

and increase communication with parents or other trusted adults. A commentary paper suggests that programmes implemented according to UNESCO's standards increase awareness and change attitudes on gender equality and power structures⁽³⁾. Although there is plenty of evidence for changing sexual behaviors, there is no focus as yet on other outcomes, such as gender equality, critical thinking, empowerment, or confidence⁽⁴⁾. Haberland and Rogow mentioned that an approach to CSE which emphasizes gender, power and rights has a greater likelihood of reducing rates of sexually transmitted infections and unintended pregnancy.⁽⁵⁾

In Malaysia, a study on risk and protective factors affecting adolescents 'sexual and reproductive health' in Peninsular Malaysia performed by National Population and Family Planning Board stated that knowledge of Sexual and reproductive health is one of the protective factors and measures such as sex education and awareness

programs are needed among youths. ⁽⁶⁾ According to a study conducted among secondary school students in Pulau Pinang, Malaysia in 2010, knowledge about sexual health and sexually transmitted illnesses (STI) was insufficient although many of the respondents participated in high risk sexual behaviors. ⁽⁷⁾ The authors recommended further analysis on the knowledge, attitude and behavior of Malaysian students towards CSE is warranted to curb the increasing rates of unplanned pregnancies, teenage marriages and STI. Another study conducted in Universiti Kebangsaan Malaysia (UKM) in 2012 among 380 university students after 13 hours of sex education program based on the sexuality education curriculum by UNESCO (2009) also strongly recommended that sex education should be implemented in Malaysian schools with meticulous planning by starting with students in form 3 and being taught in separate classes for boys and girls respectively while relating it to the perspective of Islam. Moreover, arts students are less exposed to sexual education than science students in classrooms across Malaysia as it is most delivered through the Basic Science subjects in secondary schools. ⁽⁸⁾

As yet there is not enough research conducted to make a definitive statement on Knowledge, Attitude and Behavior regarding SRH of CSE on large scale between Science and Arts students in Malaysia Universities.

Our objective is to detect differences in knowledge, attitude and behavior of SRH regarding CSE among first year students from Faculties of Science and Faculties of Arts of UMS.

METHODS

A University-based, cross sectional, quantitative, descriptive and comparative study was conducted among First year students (2016-2017) from three science and two arts faculties of University Malaysia Sabah (UMS) during November 2016 to January 2017. UMS have 10 faculties with 6 sciences and 4 arts faculties. There were 4, 482 students in 2015-2016 academic year with 1,632 in sciences and 2,850 in arts respectively. With 3% error and 10% non-respondents, the sample size was 439 first year students from five faculties involved according to the prevalence of premarital sex among Malaysian students which was 2.6% in male and 0.062% in female population. ⁽⁹⁾

$$N = \frac{Z^2 \cdot 1 - \alpha / 2 \cdot X \cdot p \cdot (1 - p)}{d^2}$$

Inclusion criteria were First year students from chosen Science and Arts Faculties. Exclusion criteria were First year students from chosen faculties who were not willing to participate after they read the provided subject information and pre- tested questionnaire of the research. Faculty of Medicine and Health Sciences, one science and one arts faculty which were chosen to pretest the questionnaire and 2 faculties outside Kota

Kinabalu Campus of UMS were also excluded from the study. Written informed consent was taken after the subject information of the research in both Bahasa Melayu and English languages were distributed. After getting their informed consent, pretested questionnaires were completed by the participants anonymously.

Questionnaire

We used the questionnaire adapted from a study on risk and protective factors affecting adolescents' sexual and reproductive health in Peninsular Malaysia performed by National Population and Family Planning Board. ⁽⁶⁾ The questionnaire includes 23 items regarding awareness and knowledge of SRH, 9 items regarding attitude on sexual education and SRH and 7 items regarding previous practices pertaining to sexual and reproductive health. The ethical approval was taken from Ethical committee of University Malaysia Sabah, Malaysia. Deans of all chosen 5 faculties were requested for permission to conduct the study through their head of academic unit.

Statistical analysis

Data were analysed using Statistical Package for Social Sciences (SPSS) for Windows version 22.0. Comparisons among groups were made using appropriate inferential tests such as student t - test, Fisher's exact test and Chi square test. Statistical significance level used was 0.05.

RESULTS

A total of 439 First year students participated in the study and Arts students were more than Sciences students (51.5% Vs 48.5%). Female students were more than male students (62.0% Vs 38.0%) in Science and (73.5% Vs 26.5%) in arts stream which was statistically significant and shown in Table(1). SRH awareness was more in Science students regarding HIV/AIDS, Condom, Wet dream, COC pills and abortion services which all were statistically significant and shown in Table (2). Overall review on 15 SRH knowledge assessment questions, Science students had more correct answers than art students in 8 questions and was statistically significant and shown in Table (3 a and b). The distribution of level of agreement was shown in Table (4 a and b) as follows; Science students who indicated that sexual education should be introduced in primary school were 34.3 percent and 81.2 percent in secondary school respectively. They strongly agreed and agreed that sexual education to adolescents would increase social problems accounted for 32.4 percent. 62.0 percent of

Science students who strongly agreed and agreed that all forms of pornography should be banned. Regarding Arts students, 27.9 percent of them strongly agreed and agreed that sexuality education should be introduced in primary school and 71.7 percent in secondary school. 33.2 percent of arts students who strongly agreed and agreed that sexual education to adolescents would increase social problems. 67.3 percent of them also strongly agreed and agreed that all forms of pornography should be banned. Abortion can be carried out for pregnancy resulted from premarital sex was strongly agreed by science students (10.3%) and by arts students (4.4%) and it was statistically significant ($p=0.033$). Sciences students scored more on SRH knowledge than arts students 9.76 ± 2.49 Vs 8.75 ± 2.78 which was

statistically significant ($P < 0.001$). Three statements were analysed to assess students' attitude score towards sexual education and it was 29.94 ± 3.76 Vs 29.79 ± 3.92 but not statistically significant. ($P = 0.689$). Students' previous experiences in sexual activities were presented in Table (5). About 41.5 percent of Science students and 27.4 percent of Art students reported that they watched pornographic materials and was statistically significant ($p < 0.002$). Mean age at first sex was 17.5 ($SD \pm 1.286$) year for Science students and 17.6 ($SD \pm 1.549$) year for arts students which is not statistically significant. ($p = 0.852$). One science student admitted that first sex was at 15-year-old.

Table 1: Socio-demographic characteristics of the respondents

Characteristics	Sciences N (%)	ArtsN(%)	P value
Total first year students	213(48.5%)	226(51.5%)	
Age (Mean \pm SD)	19.9 ± 1.183	20.12 ± 1.177	0.054 ^a
Sex			
Male	81 (38.0%)	60 (26.5%)	0.010 ^{*c}
Female	132 (62.0%)	166 (73.5%)	
Ethnicity			
Malay	66 (31.0%)	84 (37.2%)	0.031 ^{*c}
Sabah ethnics	52 (24.4%)	63 (27.9%)	
Other Bumiputera	31(14.6%)	18 (7.9%)	
Chinese	36 (16.9%)	23 (10.2%)	
Others	28 (13.1%)	38 (16.8%)	
Religion			
Islam	123 (57.7%)	151(66.8%)	0.127 ^c
Buddhist	27 (12.7%)	15 (6.6%)	
Christian	52 (24.4%)	52 (23.0%)	
Hindu	7 (3.3%)	5 (2.2%)	
Others	4 (1.8%)	3 (1.3%)	
Marital Status			
Single	211(99.1%)	224(99.1%)	1.000 ^b
Married	2(0.9%)	2 (0.9%)	

^aSignificant at 0.05 level, ^a = student t test

^b=Fisher's exact test, ^c = Chi square test

Table 2: Awareness on sexual and reproductive health (SRH)

Awareness on SRH	Sciences (N=213)		Arts (N=226)		P value
	Yes	No	Yes	No	
Menstruation	202 (94.8%)	11 (5.2%)	207 (91.6%)	19(8.4%)	0.178
HIV/AIDS	193 (90.6%)	38 (9.4%)	188 (83.2%)	38(16.8%)	0.022*
Condom	187 (87.8%)	26 (2.2%)	178 (78.8%)	48(21.2%)	0.012*
Wet dream	166 (77.9%)	47(22.1%)	155 (68.6%)	71(31.4%)	0.027*
COC pills	154 (72.3%)	59(27.2%)	142 (62.8%)	84(37.2%)	0.034*
Abortion services	118 (55.4%)	95(44.6%)	82 (36.3%)	144(63.7%)	<0.001*
Someone who had an abortion	63 (30.1%)	150(69.9%)	53 (24.2%)	173(75.8%)	0.167
Emergency contraceptive pill	54 (25.4%)	159(74.6%)	61 (27.0%)	165(73.0%)	0.696

*Significant at 0.05 level

Table 3a: Students' knowledge on SRH

Knowledge on SRH	Sciences N=213		Arts N=226		P value
	Correctly answered N (%)	Incorrectly answered N (%)	Correctly answered N (%)	Incorrectly answered N (%)	
Pregnancy can be prevented by using Condom	147 (69.0%)	66(31.0%)	133 (58.8%)	93(41.2%)	0.002*
Pregnancy can be prevented by using birth control pills	148 (69.5%)	65(30.5%)	132 (58.4%)	94(41.6%)	0.011*
Pregnancy can be prevented by avoiding Intercourse	152 (71.4%)	61(28.6%)	147 (65.0%)	79(35.0%)	0.011*
A woman cannot get pregnant if she had sex only once	140 (65.7%)	73(34.3%)	120 (53.1%)	106(46.9%)	0.026*
Exchanging sex partner to disclose sexually transmitted disease (STD)	195 (91.5%)	18(8.5%)	201 (88.9%)	25(11.1%)	0.611
People with sexually transmitted diseases may look like a normal healthy person	125 (58.7%)	88(41.3%)	85 (37.6%)	141(62.4%)	<0.001*
Abortion cannot be done for any reason under applicable laws in Malaysia	40 (18.8%)	173(81.2%)	37 (16.4%)	189(83.6%)	0.627
HIV and AIDS can be transmitted through sexual contact	198 (93.0%)	15(7.0%)	209 (92.5%)	17(7.5%)	0.371

Table 3 b : Students' knowledge on SRH

Knowledge on SRH	Sciences N=213		Arts N=226		P value
	Correctly answered N (%)	Incorrectly answered N (%)	Correctly answered N (%)	Incorrectly answered N (%)	
Having sexual intercourse with a woman who is having her period would not lead to pregnancy	100 (46.9%)	113(53.1%)	78 (34.5%)	148(65.5%)	0.030*
A women can get pregnant if she had sexual contact	196 (92.0%)	17(8.0%)	201 (88.9%)	25(11.1%)	0.523
Sex between men and women who have never been to menstruation cannot lead to pregnancy	28 (13.1%)	185(86.9%)	42 (18.6%)	184(81.4%)	0.015*
Underage pregnancy remains risky	145 (68.1%)	68(31.9%)	141 (62.4%)	85(37.6%)	0.313
Having sexual intercourse with a girl aged below 16 years is a rape crime in Malaysia despite consensual sex	167 (78.4%)	46(21.6%)	179 (79.2%)	47(20.8%)	0.978
A women can get pregnancy if kissing a man	202 (94.8%)	11(5.2%)	204 (90.3%)	22(9.7%)	0.193
A woman cannot get pregnant if she had sexual intercourse two weeks prior to her next period	95 (44.6%)	118(55.4%)	68 (30.1%)	158(69.9%)	<0.001*

*Significant at 0.05 level

Table 4 a: Students' attitude on sexual education and SRH

Attitude	Sciences (N=213) N(%)	Art(N=226) N(%)	P value
Sexuality education should be introduced in primary school			
Strongly disagree/ disagree	87 (40.8%)	105 (46.5%)	0.322
Neutral	53 (24.9%)	58 (25.7%)	
Strongly agree/ agree	73 (34.3%)	63 (27.9%)	
Sexuality education should be introduced in secondary school			
Strongly disagree/ disagree	14 (6.6%)	19 (8.4%)	0.054
Neutral	26 (12.2%)	45 (19.9%)	
Strongly agree/ agree	173 (81.2%)	162 (71.7%)	
Sexuality education for adolescents and young people would increase social problems			
Strongly disagree/ disagree	88 (41.3%)	83 (36.7%)	0.556
Neutral	56 (26.3%)	68 (30.1%)	
Strongly agree/ agree	69 (32.4%)	75 (33.2%)	

Table 4 b: Students' attitude on sexual education and SRH

Attitude	Sciences (N=213) N(%)	Art(N=226) N(%)	P value
Sex among unmarried young people is a serious social problem			
Strongly disagree/ disagree	14 (6.6%)	10 (4.4%)	0.612
Neutral	16 (7.5%)	17 (7.5%)	
Strongly agree/ agree	183 (85.9%)	199 (88.1%)	
A woman will lose self-esteem and dignity if she has sex before			
Strongly disagree/ disagree	17 (8.0%)	16 (7.1%)	0.325
Neutral	30 (14.1%)	22 (9.7%)	
Strongly agree/ agree	166 (77.9%)	188 (83.2%)	
A man will lose self-esteem and dignity if he has sex before marriage			
Strongly disagree/ disagree	37 (17.4%)	32 (14.2%)	0.496
Neutral	58 (27.2%)	57 (25.2%)	
Strongly agree/ agree	118 (55.4%)	137 (60.6%)	
Hugging kissing is acceptable as long as it does not lead to sexual intercourse			
Strongly disagree/ disagree	139 (65.3%)	153 (67.7%)	0.657
Neutral	33 (15.5%)	37 (16.4%)	
Strongly agree/ agree	41 (19.2%)	36 (15.9%)	
Abortion can be carried out on pregnancy resulted from premarital sex			
Strongly disagree/ disagree	169 (79.3%)	198 (87.6%)	0.033*
Neutral	22 (10.3%)	18 (8.0%)	
Strongly agree/ agree	22 (10.3%)	10 (4.4%)	
All forms of pornography should be banned			
Strongly disagree/ disagree	42 (19.7%)	36 (15.9%)	0.473
Neutral	39 (18.3%)	38 (16.8%)	
Strongly agree/ agree	132 (62.0%)	152 (67.3%)	

*Significant at 0.05 level

Table 5: Practice of previous experienced sexual activities

Practice of previous experienced sexual activities	Sciences (N=213) N(%)	Art (N=226) N(%)	P value
I read pornographic materials	63 (29.6%)	53 (23.5%)	0.146
I watch pornographic materials	89 (41.5%)	62 (27.4%)	0.002*
I have had sexual intercourse before	11 (5.2%)	11 (4.9%)	0.887
I have had sexual intercourse with prostitute before	3 (1.4%)	0 (0.0%)	0.113 ^a
I have had sex for rewards before	2 (0.9%)	2 (0.9%)	1.000 ^a
I have been pregnant before	1 (0.5%)	1 (0.5%)	1.000 ^a
I have caused someone pregnant before	0 (0.0%)	0 (0.0%)	NA

*Significant at 0.05 level

^a Fisher's exact test

DISCUSSION

Out of 10 faculties in UMS, we managed to recruit students from 5 faculties and it represented UMS students from both sciences and arts Streams. Arts students were more than Science students, female students were more than male students in this study as the enrolment of students to UMS was more female than male according to the 2015 statistics. This was in accord with other higher education centres as 60% of UKM students were female. ⁽⁸⁾

The socio demographic characteristics of Science and Arts students were more or less the same; age, states of origin in Malaysia, ethnicity, religion, marital status. However, female gender, Malay race and Sabah ethnics were more in arts stream which were statistically significant. Malays were more than other races, Islam was more than other religions in this study was similar to other studies conducted in Malaysia. ⁽⁹⁾

When awareness about SRH was analysed, Sciences students were much more aware of SRH than arts students. The arts students were more aware of emergency contraceptive pills and this knowledge was important to prevent unwanted pregnancies and its consequences like induced abortion and baby dumping. ⁽¹⁰⁾ The rationale that Science students were more aware of SRH compared to arts students because they learned the compulsory science education under Science and Biology subjects from Form 1 to Form 5 while Arts students did not have a chance to learn this module in arts stream. ⁽¹⁾ However, it was good to discover that some SRH topics were well known by arts students regarding sex between men and women who have never been to menstruation can lead to pregnancy and the meaning of rape as these knowledge might be acquired from out of school resources.

Regarding attitudes towards sexuality education, more science students agreed than arts students that it should be introduced in primary school by 34.3% and in secondary school by 81.2%. This was in accord with one study regarding sexual education in Malaysia, whereby 74.3% agrees to introduce it to upper secondary school students, followed by 48.7% agrees to expose this module to lower secondary school students and finally 18.4% of participants agree to start sexual education as early as in primary school. ⁽¹¹⁾

Regarding behavior, science students read and watch more pornographic materials than arts students and it was strongly believed that this behaviour will influence their sexual activities. ⁽⁸⁾ Very few science students had sexual intercourse with prostitutes but none in arts students. 2 students each in Sciences and Arts faculties admitted that they had sex for rewards. Students who had sexual experience before were probed

further on their age at first sex. The age of first sex was 15-year in one Science student. This was also in accord with other study where 75% of school students aged between 15 to 20 years had their sexual debut at 15- 19 years. ⁽⁷⁾

This study showed that the science and arts students' knowledge, attitude and practice of SRH in CSE were different.

STRENGTH AND LIMITATION

The strength of the study was two researchers supervised data collection, entry and cleaning process in 5 chosen faculties in UMS. There were limitations in this study as some important information which was related to student's self-reported history of sexual and reproductive health could lead to recall bias. It was performed in one university and the results could be reflected to the study population.

CONCLUSION

There were gaps in knowledge, attitude and behaviour of Sexual and Reproductive Health (SRH) including CSE among Sciences and Arts students in UMS. Science students more aware and knowledgeable about SRH and had positive attitude towards sexuality education but had a negative behaviour than arts students. Because of these differences in knowledge, attitude and behaviour of SRH in CSE among Arts and Sciences students of UMS, we need to remedy these differences by giving appropriate comprehensive sexuality education (CSE) to first year students as an elective module according to their culture and religious beliefs in accord with ITGSE 2018.

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CONFLICT OF INTEREST

None and it was a self-funded study.

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