

## ORIGINAL ARTICLE

## PUBLIC'S PREFERENCES IN MANAGING MINOR ILLNESSES: A CROSS SECTIONAL SURVEY IN MALAYSIA

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## ABSTRACT

*It was reported that 15% of emergency department visits and 20% of general practitioner visits are estimated to be minor illness. While it was reported that Malaysians' preferred to visit a doctor to receive consultation for health problems, studies also showed high prevalence on the use of over-the-counter medications to self-treat minor illness. This study aims to explore public's preferences in managing minor illnesses. A cross-sectional study was carried out via distribution of self-administered questionnaires among Malaysian public at three states: Selangor, Kuala Lumpur and Putrajaya from September to October 2019. 384 participants were conveniently sampled at the public places. Choice of visiting a doctor was the most common in eye infections (72.1%) and piles (67.9%). Choice of using medicines at home was the most common in minor cuts or burns (52.2%), pain conditions (36.6%) and respiratory conditions (25.1%). Participants with good knowledge on minor illness management were more likely to choose to self-treat or get advice from pharmacist for respiratory conditions ( $p = 0.017$ ), gastrointestinal conditions ( $p = 0.016$ ), pain conditions ( $p < 0.001$ ), and fever ( $p = 0.001$ ). 73.8% of the participants had practiced self-treating minor illnesses within the last 6 months. Participants with tertiary education level and income of MYR5000 (USD1189.91) and above were more likely to self-treat minor illness. Malaysians with higher self-reported knowledge level towards minor illness are more prone to practice self-treat or seek advice from pharmacists, while those with tertiary education and monthly income > MYR5000 (USD1189.91) are more prone to practice self-treat for minor illness.*

**KEYWORDS:** *Minor Illness; Self Care; Self Treatment*

## INTRODUCTION

Minor illness can be defined as common or uncomplicated conditions that are able to resolve on their own and self-manage reasonably without the involvement of doctors<sup>1</sup>. The common minor illnesses which are reported in previous literature include pain conditions, common colds, cough, gastrointestinal disorders, and skin infections<sup>2</sup>.

Over the years, public's attitude towards management of minor illness had mostly shifted away from general practitioners (GP) consultations<sup>3</sup>. However, it was reported that 15% of emergency department (ED) visits and 20% of general practitioner (GP) visits are estimated to be minor illness<sup>4</sup>. Hence, primary care services are still experiencing heavy workload due to increasing demand of public<sup>5</sup>. Poor confidence level in self-care due to young age and lacking knowledge about minor illness reduces interest in self-care among individuals<sup>6</sup>.

Local studies among urban population in Malaysia showed high prevalence (> 75%) on the use of over-the-counter (OTC) medications to self-treat minor illnesses such as fever, cough, cold and pain due to convenience<sup>7-8</sup>. However, the National Survey of Use

of Medicines (NSUM) showed that Malaysians preferred to consult doctor at the first instance when facing any health problems<sup>9</sup>. Other than self-medication, approximately 25% of Malaysians were using vitamins, minerals & supplements, whereas 13% were consuming traditional medicines in the form of processed and non-processed herbs as well as herbal beverages<sup>10</sup>.

In Malaysia, there are still lack of research studying on management of minor illness, and most of the studies focused only on self-medication practice. Therefore, this study aimed to explore public's practice when afflicted with minor illnesses with the objectives to determine the preference on first choice of management and self-reported knowledge score for different minor illness, to identify the prevalence of self-treat practice for minor illness, and to identify the common sources of information among consumers in self-treating minor illness.

## METHODOLOGY

**Study Design and Setting**

A cross-sectional study was carried out among the general public during September to October 2019 at Selangor, Putrajaya and Kuala Lumpur. A total of 384 participants were conveniently selected at

public places such as shopping malls, transport hubs, and public parks to participate in a self-administered survey. The sample size of 377 was recommended after calculated using Raosoft Online Sample Size Calculator upon an achievement in 95% of confidence level and 5% of margin error. Participation was eligible to adults who were Malaysians aged 18 years and above and able to understand English.

### Data Collection

Data collection was implemented via the distribution of paper-and-pencil self-administered questionnaires. The purpose of this survey was explained in advance whereas the informed consent form was signed by public whom voluntarily agreed to participate. The questions were adapted from previous studies through literature review<sup>10-11</sup>. Content validity of the questionnaire had been established by experts in primary care practice.

In the first section of the questionnaire, socio-demographic data of participants were recorded. As for the second section, respondents' first choice of management and self-reported knowledge level for 10 common minor illnesses were asked, including respiratory conditions such as common cold and cough; gastrointestinal conditions such as stomach cramps, bloating, indigestion, and heartburn; pain conditions, eye infections, fever, piles, minor cuts or burns, acne, sprains and Athlete's foot. The rating of self-reported knowledge score were presented in a range from 1 (having no knowledge about the illness) to 4 (knowing a great knowledge about the illness).

The third section evaluated the prevalence of self-treating minor illnesses; and the common sources of self-treat information such as pharmacist, family or friends, experience from previous treatment, internet or books, leaflets from clinics and pharmacies, TV or radio, information on product packaging, and doctor.

The questionnaire was piloted in 40 subjects. The questionnaire was designed for completion within 10 minutes. Identity of participants was kept anonymous to ensure the data recorded was private and confidential according to the Personal Data Protection Act 2010 (Section 5 to 12).

### Statistical Analysis

The collected data was coded and analysed using IBM SPSS (version 22.0). Descriptive analysis was applied to socio-demographic data of participants, self-reported knowledge score, first choice and preferences to manage minor illnesses, preferred information sources and public attitude towards

role of community pharmacist. Chi square test was computed to find the association between participants' demographic data and self-reported knowledge level with practice of self-treating minor illnesses. The correlation which obtained P-value <0.05 was stated as statistically significant.

## RESULTS

### Characteristics of the Study Population

A total of 384 questionnaires were completed. Table I presents the socio-demographic data of all participants. The largest age group was 18 to 40 years (74.7%) and there were slightly more female participants (53.1%) as compared to male participants (46.9%). Based on the race, most of them were Malay (69.5%), followed by 24% and 4.7% of Chinese and Indian participants respectively. The highest education level of all participants showed a distribution from tertiary education (69.3%), secondary education (23.2%), primary education (5.7%) and no formal education (1.8%). Most of the participants were having monthly income of MYR3000 (USD713.95) and below (32.8%) and more than half among all participants (55.2%) were working in non-healthcare related field.

### First choice of management and self-reported knowledge score of different minor illnesses

The first choice of management for 10 types of common minor illnesses are showed in Figure 1. Choice of visiting a doctor was the most common in eye infections (72.1%), piles (67.9%), sprains (47.3%), gastrointestinal conditions (44.6%), Athlete's foot (36.6%) and fever (37.6%). On the other hand, choice of using medicines at home was the most common in minor cuts or burns (52.2%), pain conditions (36.6%) and respiratory conditions (25.1%). Watchful waiting or resting was the most common management for acne (23.5%).

On average, 33.4% of the participants selected to visit a doctor, 21.2% preferred to use medicine at home, 13.6% selected watchful waiting or resting, 7.1% preferred to get advice and recommendation from pharmacist, 6.7% used home remedies, 6.5% chose to purchase OTC products without professional advice, 4.3% took herbal medicine and health supplements and 3.6% of the participants chose to visit emergency department at hospital as their first choice of management.

The ranking of 10 common minor illnesses based on participants' self-reported knowledge scores are shown in Table II. The self-reported knowledge score was rated within the scale of 1 to 4 points, with 1 point representing "no knowledge" towards 4 points representing "great knowledge". On

average, participants rated highest (score of 3.14) for fever whereby lowest (score of 1.94) for piles. Table 3a and 3b show the association between self-reported knowledge score and first choice of management. First choice of management was grouped into three main categories, which including

self-treat, visit a doctor and get advice from pharmacist. In terms of self-reported knowledge score, score 1 and 2 were grouped into poor knowledge level whereby score 3 and 4 were grouped into good knowledge level.

Table I Socio-demographic data of the participants

Variables		N (%)
Age group (years)	18-40	287 (74.7)
	41-65	77 (20.1)
	>65	20 (5.2)
Gender	Male	180 (46.9)
	Female	204 (53.1)
Race	Malay	267 (69.5)
	Chinese	92 (24.0)
	Indian	18 (4.7)
	Others	7 (1.8)
Highest educational level	No formal education	7 (1.8)
	Primary school education	22 (5.7)
	Secondary school education	89 (23.2)
	Tertiary school education	266 (69.3)
Monthly income	Below RM3000	126 (32.8)
	RM3000 to RM5000	84 (21.9)
	RM5000 and above	66 (17.2)
	No income	108 (28.1)
Occupation	Healthcare related	45 (11.7)
	Non-healthcare related	212 (55.2)
	Unemployed or Student	89 (23.2)
	Housewife	17 (4.4)
	Retired	21 (5.5)

Fig.1 Public’s first choice of management towards different minor illnesses

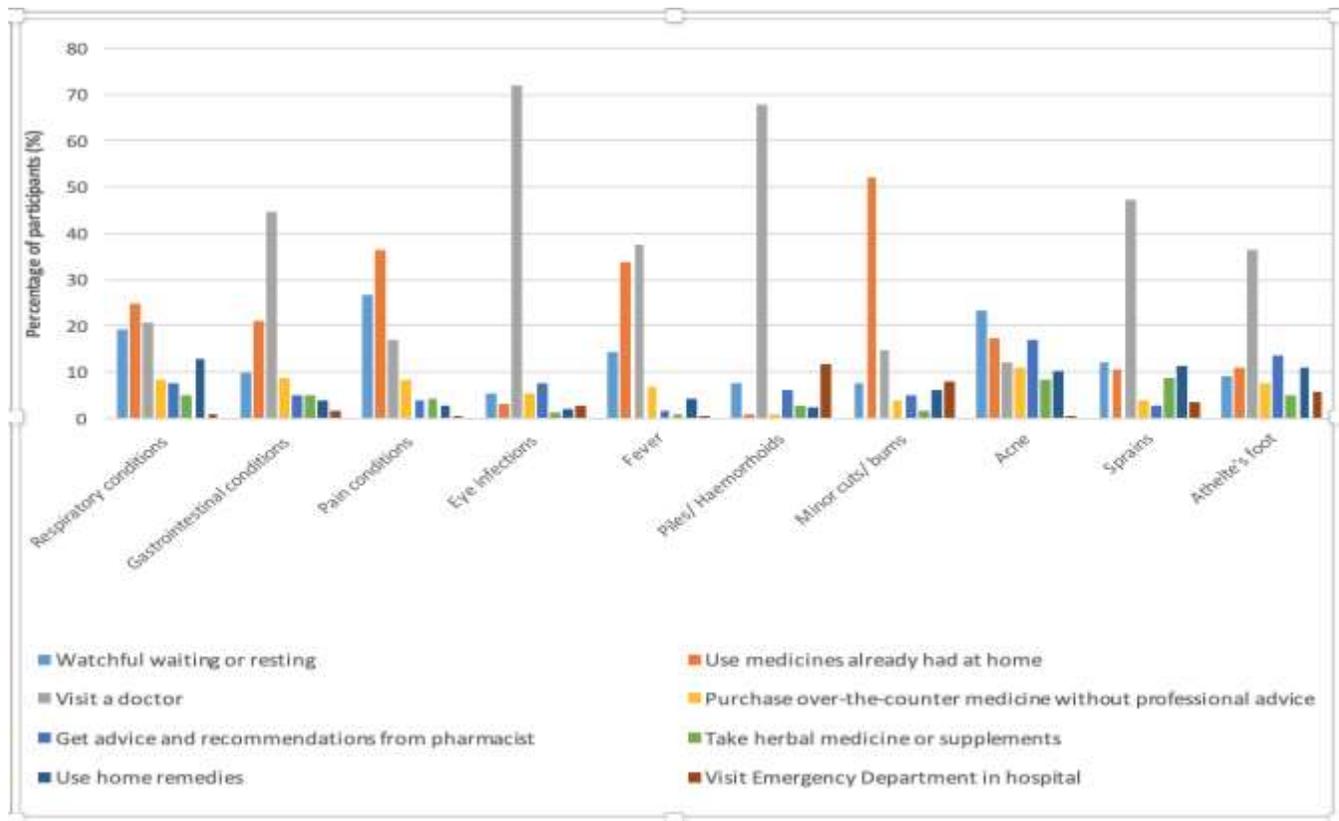
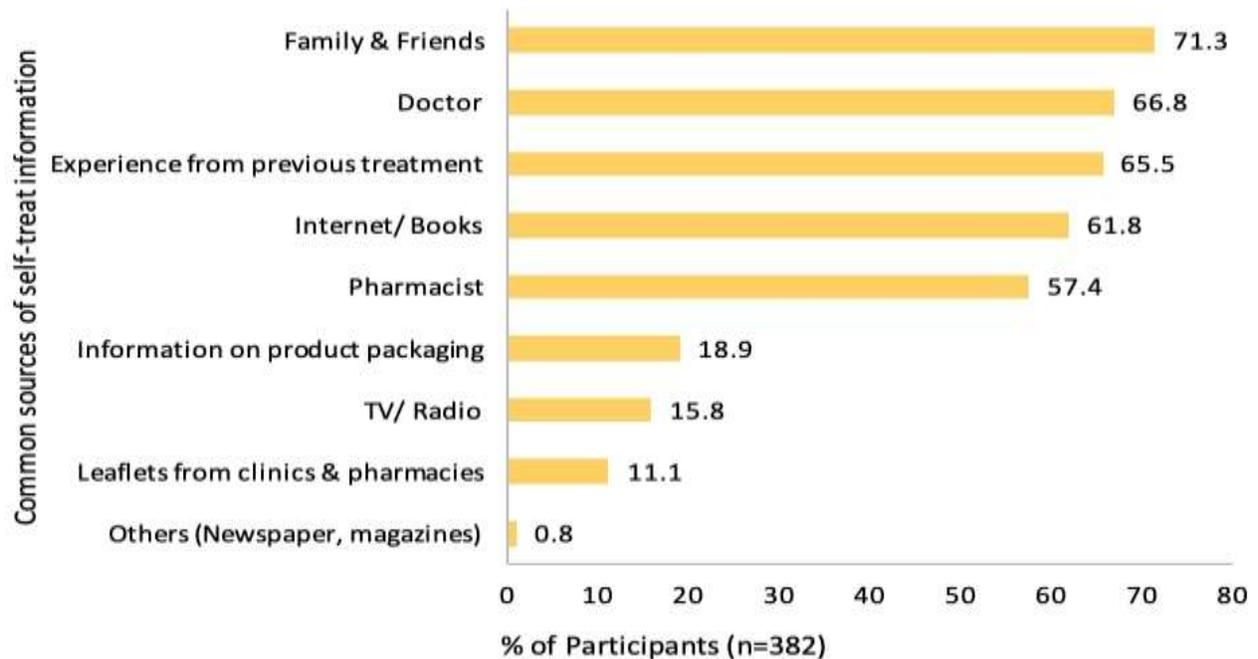


Fig.2 Ranking of common sources of self-treat information



**Table 2** Ranking of common minor illnesses based on self-reported knowledge score

Rank	Type of Minor Illnesses	Average Knowledge Score
1	Fever	3.14
2	Respiratory conditions	2.94
3	Pain conditions	2.86
4	Gastrointestinal conditions	2.75
5	Minor burns or cuts	2.74
6	Acne	2.62
7	Sprains	2.45
8	Eye infections	2.42
9	Athlete's Foot	2.16
10	Piles	1.94

**Table 3a** Association between self-reported knowledge level of minor illness and first choice of management

Variables	Knowledge level	Self-treat n (%)	Visit a doctor n (%)	Get advice from pharmacist n (%)	Total (N=383)	$\chi^2$ statistics (df value) <sup>a</sup>	P-value <sup>a</sup>
Respiratory conditions	Poor	51 (65.4)	25 (32.0)	2 (2.6)	78	8.18 (2)	0.017
	Knowledge	219 (71.8)	59 (19.3)	27 (8.9)	305		
Gastro-intestinal conditions	Poor	61 (43.6)	76 (54.3)	3 (2.1)	140	8.25 (2)	0.016
	Knowledge	125 (51.4)	101 (41.6)	17 (7.0)	243		
Pain conditions	Poor	77 (69.4)	32 (28.8)	2 (1.8)	111	15.76 (2)	0.000
	Knowledge	225 (82.7)	34 (12.5)	13 (4.8)	272		

<sup>a</sup> Chi-square test for independence

**Table 3b** Association between self-reported knowledge level of minor illness and first choice of management

<b>Eye infections</b>	Poor Knowledge	29 (14.3)	158 (77.8)	16 (7.9)	203	3.08 (2)	0.214
	Good Knowledge	38 (21.1)	129 (71.7)	13 (7.2)	180		
<b>Fever</b>	Poor Knowledge	22 (39.3)	34 (60.7)	0 (0.0)	56	14.62 (2)	0.001
	Good Knowledge	209 (63.9)	112 (34.3)	6 (1.8)	327		
<b>Piles</b>	Poor Knowledge	36 (12.5)	237 (82.3)	15 (5.2)	288	5.06 (2)	0.080
	Good Knowledge	19 (20.0)	68 (71.6)	8 (8.4)	95		
<b>Minor burns/cuts</b>	Poor Knowledge	79 (56.8)	50 (36.0)	10 (7.2)	139	24.47 (2)	0.000
	Good Knowledge	196 (80.3)	38 (15.6)	10 (4.1)	244		
<b>Acne</b>	Poor Knowledge	104 (67.6)	23 (14.9)	27 (17.5)	154	1.56 (2)	0.460
	Good Knowledge	166 (72.5)	25 (10.9)	38 (16.6)	229		
<b>Sprains</b>	Poor Knowledge	82 (40.8)	114 (56.7)	5 (2.5)	201	6.29 (2)	0.043
	Good Knowledge	97 (53.3)	80 (44.0)	5 (2.7)	182		
<b>Athlete's foot</b>	Poor Knowledge	107 (42.6)	107 (42.6)	37 (14.8)	251	0.70 (2)	0.704
	Good Knowledge	61 (46.2)	55 (41.7)	16 (12.1)	132		

<sup>a</sup> Chi-square test for independence

Participants' self-reported knowledge scores on the different minor ailments was shown to affect their first choice in managing these minor ailments. Participants with good knowledge were significantly more likely to choose to self-treat and get advice from pharmacist for respiratory conditions (p =

0.017), gastrointestinal conditions (p = 0.016), pain conditions (p <0.001), as well as fever (p = 0.001).

For the management of minor cuts or burns, choice of visiting a doctor and get advice from pharmacist were more likely among participants with poor knowledge level (p <0.001). For sprain, participants

with good knowledge are more likely to self-treat (p = 0.043)

### Practice of Self-Treating Minor Illnesses

73.8% of the participants had practiced self-treat of minor illnesses in the past 6 months. In this context, self-treat includes watchful waiting or resting, use medicines at home, purchase over-the-counter medicine without professional advice, take herbal

medicines or supplements and use home remedies. The demographic data of participants are cross-tabulated with the practice of self-treat in the past 6 months in Table IV. According to the p-value obtained, participants' educational level and monthly income were significant factors affecting practice of self-treating minor illnesses. Participants with tertiary education level and income of MYR5000 (USD 1189.91) and above were more likely to self-treat minor illnesses.

**Table 4:** Association between self-treat practice and demographic information

Variables	N= 381	Yes (%)	No (%)	$\chi^2$ statistics (df) <sup>a</sup>	P-value <sup>a</sup>	
Age group (years)						
	18-40	286	209 (73.1)	77 (26.9)	0.503 (2)	0.778
	41-65	75	56 (74.7)	19 (25.3)		
	>65	20	16 (80.0)	4 (20.0)		
Gender						
	Male	177	136 (76.8)	41 (23.2)	1.623 (1)	0.203
	Female	204	145 (71.1)	59 (28.9)		
Race						
	Malay	266	191 (71.8)	75 (28.2)	3.466 (2)	0.177
	Chinese	90	73 (81.1)	17 (18.9)		
	Indian & Others	25	17 (73.8)	6 (26.2)		
Highest educational level						
	No formal education	7	5 (71.4)	2 (28.6)	9.893 (3)	0.019
	Primary school education	21	13 (61.9)	8 (38.1)		
	Secondary school education	89	56 (62.9)	33 (37.1)		
	Tertiary school education	264	207 (78.4)	57 (21.6)		
Monthly income						
	Below RM3000	126	85 (67.5)	41 (32.5)	9.819 (3)	0.020
	RM3000 to RM5000	81	61 (75.3)	20 (24.7)		
	RM5000 and above	66	58 (87.9)	8 (12.1)		
	No income	108	77 (71.3)	31 (28.7)		
Occupation						
	Healthcare related	44	32 (72.7)	12 (27.3)	0.443 (4)	0.979
	Non-healthcare related	210	157 (74.8)	53 (25.2)		
	Unemployed or Student	89	64 (71.9)	25 (28.1)		
	Housewife	17	12 (70.6)	5 (29.4)		
	Retired	21	16 (76.2)	5 (23.8)		

<sup>a</sup> Chi-square test for independence

### Common Sources of Self-Treat Information

The common sources which participants used to obtain information about self-treatment are showed in Figure 2. Family and friends ranked first (71.3%) followed by doctor (66.8%) and experience

from previous treatment (65.5%) as the common sources of information.

### DISCUSSION

#### Management of Different Minor Illnesses

In this study, we found that the preferences on first choice of management vary among different types of minor illnesses. The public preferred to consult a doctor for minor illnesses such as eye infection, piles, sprains, gastrointestinal problems, Athlete's foot and fever. This trend is similar to several studies which reported that most people favoured doctor's consultations as their first approach to health problems due to dependency to doctor and lacking confidence<sup>12-13</sup>. In the National Survey on the Use of Medicines (NSUM) by Malaysian Consumers, it was reported that a total of 82.5% would consult government or private doctors for health problems, while 12.1% would self-medicate respectively (NSUM 2015)<sup>10</sup>.

On the other hand, our findings showed that public preferred to self-treat minor illnesses such as minor cuts or burns, pain conditions and mild respiratory conditions (cough, sore throat, common cold etc). According to a European study on self-care for common colds, 99% of the patients used various practices of self-care such as honey, orange juice, water, paracetamol, and resting, as common colds are self-limiting and often recover without treatment<sup>14</sup>. Another German study found that symptoms most commonly treated by oneself are common cold and headaches. Factors explaining this behavior include mild severity of common cold which does not require consulting a doctor, long waiting times at the clinic, and good experiences with self-medication<sup>15</sup>. Additionally, a study showed that patients are able to categorise different types of symptoms into minor, self-limiting or potentially severe symptoms. Minor symptoms are preferred to be managed by self-care or by visiting a pharmacy<sup>16</sup>.

The choice of first seeking pharmacist for advice in managing minor illnesses is 7.1%, which is comparably low compared to 33.4% who prefer to consult a doctor for minor illnesses, and this trend echoed the result in NSUM 2015 whereby only 5% of respondents will first consult pharmacists for health problems<sup>10</sup>. It was reported that majority of the patients that made 'unnecessary' visits to general practitioner clinic perceived that visiting a pharmacist was not appropriate for their health problem<sup>5</sup>. A study conducted in Sabah, Malaysia found that more than half of the participants thought that the pharmacists' role was only to supply medications and to follow doctors' directions<sup>17</sup>. The healthcare system in Malaysia is comprised of government-subsidised government-run public healthcare institutions and private healthcare facilities which rely on the public's out-of-pocket expenditure. Public has the option to obtain consultation and medications from government hospitals and clinics at a minimal fee of MYR1 (USD0.24). On the other hand, private doctor consultations are increasingly funded through

private health insurance schemes and employee healthcare funding offered by corporations<sup>18</sup>. This may contribute to public's preference to consult doctors for minor illnesses.

### **Self-Reported Knowledge Score for Different Minor Illnesses**

In this study, self-reported knowledge score was higher for common minor illnesses such as fever, respiratory conditions and pain conditions. This might be greatly influenced by patients' previous experiences in managing the minor illnesses, whereby people had developed good understanding in symptoms relieve and indications of severity<sup>6</sup>. Participants with good knowledge on the minor illness are more likely to self-treat and seek pharmacist's advice in managing minor illnesses. Hence, it can be predicted that knowledge level relates to confidence level which also encourage willingness in self-treating the particular minor illness<sup>12</sup>.

### **Practice of Self-Treating Minor Illnesses**

This study shows 73.8% of the participants had practiced self-treat of minor illnesses in the past 6 months. People who lived in urban area such as Klang Valley are able to easily access to medicines supply from mushrooming retail pharmacies, hence maximising the convenience of self-medication<sup>19</sup>. Moreover, the option of self-medication is favoured among students and working people with packed schedule<sup>7</sup>. On the other hand, traditional, complementary and alternative medicine (TCAM) has played a great role in promoting initiatives to self-treat health issues. In Malaysia, TCAM such as herb-based therapies, acupuncture, massage and yoga is widely practiced among different ethnicities. The urban population perceives that TCAM causes less harm to the body<sup>20</sup>. In a German study, 80% of the patients utilised home remedies, such as hot lemon drink, steam-inhalation, honey, chicken soup and chamomile tea, before considering pharmaceutical options to manage common health problems<sup>21</sup>.

Our findings also showed that education and income level significantly affect the choice of people to practice self-care. Previous studies revealed that people with low monthly income were more likely to consult doctors and obtain medicines in government healthcare services as the initial approach due to economic factors, while people who has higher income are more likely to choose self-medication<sup>10, 13, 22</sup>. NSUM 2015 also reported that people with college or university education were more prone to choose community pharmacy to get their medicine, whereas hospital was preferred

as a source of medicines by those having primary education<sup>10</sup>. Educational attainment can affect treatment preferences<sup>23</sup>. People with higher education level has higher health literacy which enables them to understand the health information better, and in this instance are more confident to practice self-care for minor illnesses<sup>24</sup>.

### Common Sources of Self-Treat Information

The findings from this study were similar in several studies, where family and friends, doctors, previous experience, internet and pharmacist are the main sources of information for self-treatment<sup>14, 22</sup>. People tends to seek advice and recommendation from family members and friends whom had past experiences about similar symptoms as oneself.

The preference to obtain information from doctors is much higher than pharmacists which echoed the findings in NSUM 2015<sup>10</sup>. Doctors were often viewed to be superior in knowledge and training compared to pharmacists<sup>25</sup>. In contrast to this finding, a previous study held in Klang Valley showed most people sought for pharmacist advice as compared to doctors<sup>8</sup>. Another study found similar results as more than 60% of patients seek advice from pharmacists rather than doctors if they think that their health problems were not serious enough<sup>26</sup>. The differences in the findings might be due to different research focus, as these studies obtain information about non-prescription medicines instead of self-treat interventions. As most of the non-prescription medicines were obtained from community pharmacies, hence it is more convenient for the public to ask the pharmacists about these medications without needing to pay for consultation fees.

Additionally, previous experience was also highly ranked as the source of information for self-treatment. People's behavior is repetitive and very likely to reflect the previous experience, whereby if they consult doctor previously, they are more likely to continue the same intervention for the subsequent events<sup>12</sup>. On the other hand, as the Internet technology becomes more important in people's daily lives globally, people has relied on Internet for health information<sup>27</sup>. In 2012, 72 percent of Americans reported that they have searched health information online in the past year<sup>28</sup>. The urban population are greatly exposed to information technology and social media, which enable people to access to medicine-related information freely and readily.

### Study Limitations

The study may not represent the care practice of minor illnesses for people from suburban or rural

areas. People who are illiterate in English were excluded from this survey. Furthermore, convenience sampling and self-reported information may warrant selection bias as well as the possibility of obtaining socially desirable responses. Some of the participants have difficulty in recalling previous experiences which increase the tendency of inaccurate information. Minor illnesses presented in the questionnaire did not include description about the severity, pain score and duration of the symptom persists, which might be a significant factor affecting their choice of management.

### CONCLUSION

In summary, Malaysians prefer to consult doctors at the first instance for majority of the minor illnesses. Those with higher self-reported knowledge level towards minor illnesses are more prone to practice self-treat or seek advice from pharmacists, while those with tertiary education and monthly income > RM5000 (USD1189.91) are also found to be more inclined to practice self-treat. The information regarding minor illnesses care are most commonly obtained from family and friends, doctors and based on experiences from their previous treatment.

Future studies can be carried out to explore the reasonings behind different choices of minor illness management. The preferences of people residing in rural areas where there is a lack of medical facilities can be investigated too.

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### CONFLICT OF INTEREST

The authors declare no potential conflicts of interest with respect to research, authorship and/or publication of this article.

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