ORIGINAL ARTICLE

Knowledge, Attitude and Practice of Self-Medication among Undergraduate Pharmacy Students in University Royal College of Medicine Perak.

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Abstract

Background: Pharmacy students who practise self-medication are equally exposed to its hazards like the general population. It should be opted for only in the appropriate situations and not inadvertently. Proper education regarding the safe practice of self-medication should be provided to all pharmacy students. This study aims to investigate knowledge, attitude, and practice (KAP) of self-medication among undergraduate pharmacy students in Universiti Kuala Lumpur Royal College of Medicine Perak (UniKL RCMP).
Methods: A cross- sectional study involving 109 students was conducted by distributing voluntary self-administrated online questionnaire. The data obtained were expressed as frequency (n), percentage (%) and mean to determine the level of respondents' KAP on self-medication. Chi-square test was also used to identify the association between respondents' demographic characteristics with the level of knowledge and practice on self-medication. P-value <0.05 was considered statistically significant.
Results: Findings from this study showed that most of the respondents had a good level of knowledge (62.40%) and neutral attitude (69.70%) towards self-medication practice. It was also reported that most of the respondents (99.10%) practised self-medication and 90.83% of them self-medicate because of minor illnesses. Analgesics (77.98%) was the major type of drug class involved in self-medication followed by antihistamine (71.56%) and vitamins or supplements without prescription (62.39%).
Conclusion: Knowledge of pharmacy students on self-medication practice increases with each passing year and semester of study. This study can provide valuable insight on the level of awareness of pharmacy students towards self-medication while helping the university to prepare them to provide reliable consultation in real-life practice.

Keywords: *Self-medication, pharmacy students, medication.*

Introduction

World Health Organisation (WHO) define self-medication as the use of drugs to treat self-diagnosed disorders or symptoms or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms.[1] Self-medication is a practice recommended by WHO to treat self-recognised symptoms[2] and it is practiced throughout the world including Malaysia. Self-medication practice is simple as it involves consuming the medication from over the counter (OTC) medicine or herbal and traditional products.[3] OTC medicines such as paracetamol and cetirizine to reduce fever and flu can easily be purchased from retail pharmacies without the need of doctor's prescription.

Although self-medication is a common practice among the public, some people can still practice it incorrectly. Consumption of leftover medicine from previously prescribed medications at home rather than visit the local physician to get prescription based on patient's current condition is one of the major contributors to incorrect practice of self-medication. There were also cases of consumption of medicines based on patient's relative or friends' suggestion. Meanwhile, some may put their trust on findings without clarifying whether the information is authentic or not.[3] Inappropriate practice of self-medication can increase resistance to certain types of medication, decrease efficacy of treatments and lead to severe medication side effects and drugs interactions.[2]

Several reasons play a part to high preference of some people in self-medicating themselves. For instance, people may self-medicate due to expensive medical consultation costs, lengthy waiting times in hospitals and clinics, time restraints, a lack of social or family support, prior experience and substance management for similar conditions and unavailability of healthcare professionals.[4] Besides, many people prefer self-treatment over costly consultation.[5] In addition, the ease with which pharmaceutical products are accessible, the quality of healthcare, the possibility to manage disease through self-care, and economic, cultural and political factors may all contribute to the prevalence of self-medication globally.[6]

Self-medication has its own pros and cons. Some of the advantages of self-medication include management of chronic condition by patient which can lead to greater efficiency and patient well-being. Apart from that, self-medication can help reduce cost and save healthcare professionals' time. However, self-medication comes with its own disadvantages. One of them is that patients may have a high tendency of mistreatment since they are self-diagnosing themselves. Apart from that, they may unintentionally overuse medications for various types of diseases.[7] For example, some people can be too dependent on painkillers in which they often take it whenever they have simple headache or pain to the point of overusing the medication when it is not actually needed. Patient can eventually develop peptic ulcer over time if it is used extensively without indication.

The habits of self-medication vary between different types of population, and it is affected by multiple characteristics of populations such as age, gender, revenue, self-care, orientation, level of education, medical expertise, experience, and disease severity.[8] Besides, self-medication practice happens among various class of socio-economic levels such as people with no background knowledge of medicine and health and those with the knowledge.[9] A study by Khamis, Sheqer and Arsoy in 2019[3] found that those who often performed self-medication were individuals with knowledge about their disease or medications such as nurses, pharmacists, physicians and medical students.

In contrast to the general population, pharmacy students are required to equip themselves with knowledge regarding reasonable use of medications. The pharmacy course syllabus teaches the students rational use of medications and the results of their irrational use. Students in pharmacy field will become potential pharmacists and need to be involved in counselling patients on the safety and efficacy use of various class of

drugs.[5] Besides, retail pharmacists will need to attend to patients' questions regarding the symptoms they experienced and recommend appropriate over the counter (OTC) medicines using their diagnostic skills and knowledge on diseases and treatments. Pharmacists' role is diverse and not only limited to the identification of safety and efficacy profile of medicines.[7] Pharmacists play a vital part in counselling patients on how and when to consume their medications as well as informing possible side effects of certain medications. They also need to clearly explain to patients on the steps needed to take if patients experience any side effects as well as what to do when they miss their dose. Thus, pharmacy students play an early role in patient care as they will need to be fully involved in it in the future as healthcare providers.

In future, pharmacy students will become a pharmacist and they will be counselling patients on the correct method to use medicine. Thus, this study is conducted to identify pharmacy students' knowledge, attitude, and practice of self-medication to give an insight as to whether they are ready to face the real world as pharmacists and able to provide the correct information related to medicines to the public in future.

Materials and methods

This cross-sectional study was conducted among 109 undergraduate pharmacy students in UniKL RCMP's students from both Bachelor and Diploma programmes. The sample size for this study was calculated by using Raosoft calculator. Confidence interval was set at 95% with a margin error of 0.05 and response distribution of 50%. Convenience non-probability sampling technique was used to collect the sample for this study. Participants of this study were selected based on who met all the inclusion criteria; UniKL RCMP students from pharmacy programme and students who were willing to participate in this study.

The validated questionnaire was adapted with slight modification from previous studies[11][12]. The questionnaires comprised of four different sections. Section A consists of the respondent socio-demographic profiles such as age, gender, programme, year, semester of programme and whether they self-medicate themselves when they sick or not.

Section B was modified from the study done by Mohamed Elkalmi et al. (2018)[11] to evaluate respondents' perceived knowledge about self-medication. In this section, there were 12 questions which weres divided into three different domains consisting of general knowledge about self-medication, knowledge about the administration of drugs for self-medication and knowledge about common side effects of drugs for self-medication. This section consists of 14 questions with "true", "false", or "unsure" options. A score of 1 was given for each "true" answer and 0 for each "false" or "unsure" answer. In this section, respondents' knowledge of self-medication was identified using Bloom's cut-off point as "good" if the score was between 80 – 100% (11-14 points), "moderate" if the score was between 50 – 79%% (8-10 points), and "poor" if the score was less than 50% (4-7 points).[11]

Questions from Section C were adapted and modified from the study conducted by Seam et al. in 2018.[12] to identify respondent's attitude toward self-medication. The type of questions in this section were in the form of Likert-scale questions and the answer level was given as 1 for "strongly disagree" until 5 for "strongly agree". The overall level of attitude was categorised using original Bloom's cut-off point, as positive if the score was 80 – 100% (40-50 points), neutral if the score was 60 – 79% (25-39 points) and negative if the score was less than 60% (< 24 points).[11]

Questions from Section D were also adapted and modified from the study done by Seam et al. (2018).[12] This section identified the practice of self-medication among pharmacy students with multiple choice response level. Question 1 from Section D was used to identify whether respondents practice self-medication or not and further continued with a series of questions on the frequency of self-medication per year, indications, and reasons for using self-medication, types of

drug classes used for self-medication, source of information for self-medication and what influence respondents to self-medicate and what did they do when they fall sick. In this section, participants were able to choose more than one option on how they practiced self-medication. Thus, no specific scoring method was used in this section. However, all the results were analysed using Excel and the results were represented in a bar chart to see the percentage of students who practiced self-medication in a correct way.

The data obtained was expressed as frequency (*n*), percentage (%) and mean to determine the level of respondents' knowledge, attitude, and practice (KAP) on self-medication among UniKL RCMP pharmacy students. Chi-square test was performed to identify the association between respondent's demographic characteristics with the level of knowledge and practice on self-medication. The *p*-value less than 0.05 was considered statistically significant.

Results

Out of 109 respondents, 78 (71.60%) respondents were female and 31 (28.40%) were male. Based on the findings of this study, 52 (47.70%) of the respondents were aged between 21 to 23 years old followed by 31 (28.40%) of 24 to 25 years old respondents. 16 (14.7%) respondents were aged 18 to20 years old and the least respondents 10 (9.20%) were aged 25 and above. Out of the total respondents,85 (78.0%) were from Bachelor of Pharmacy programme and the rest 24 (22.0%) were from Diploma of Pharmacy programme. Meanwhile, majority 51 (46.8%) of the respondents were from Year 3, Semester 2, followed by Year 2, Semester 2 which contribute 21 (19.30%) of the respondents. Next, 14 (12.80%) were from Year 4, Semester 2 students and 12 (11.00%) were from Year 3, Semester 1 and only 1 (0.90%) was from Year 2, Semester 2. On the other hand, out of 109 respondents, majority 103 (94.50%) practice self-medication, while only 6 (5.50%) claimed that they did not practice self-medication.

Respondents' Level of Knowledge and Attitude About Self-Medication

Majority of the respondents (62.4%) possessed a good level of knowledge whereas 1.8% had a poor level of knowledge regarding self-medication practice (Table 1). It was seen that majority of the respondents (69.7%) revealed a neutral level of attitude, whereas 8.30% had a negative level of attitude regarding self-medication practice (Table 2).

Respondents' Practice Toward Self-Medication

The practice of self-medication among pharmacy students was measured by a series of open-ended questions. In this section, respondents can choose more than one answers on how they practice self-medication. Respondents were first asked whether they practice self-medication or not. If they answer "Yes", respondent will need to proceed with the next questions and if the answer is "No", respondent will not proceed with the next questions. Majority of the respondents (99.10%) practiced self-medication. Additionally, it was discovered that 79.80% of the respondents advised their family and friends about self-medication. 20.20% of them, however, claimed they did not advise their family and friends about self-medicate practice.

The most common drug classes used by pharmacy students to self-medicate was analgesics (*n*=85, 77.98%) followed by antihistamine (*n*=78, 71.56%), vitamins or supplements (without prescription) (*n*=68, 62.39%) and lastly anti-pyretic (*n*=62, 56.88%). Most of the respondents practice self-medication due to fever (*n*=95, 87.16%) followed by headache (*n*=94, 86.24%) and cough, cold or flu (*n*=91, 83.49%). On top of that, (*n*=64, 58.72%) of the respondents practice it when they experience stomach ache, menstrual pain (*n*=59, 54.13%), diarrhoea (*n*=53, 48.62%), pain (*n*=40, 36.70%), tooth ache (*n*=35, 32.11%), rash or allergies (*n*=29, 26.60%) and skin problems (*n*=27, 24.77%).

The biggest source of information regarding self-medication was from academic knowledge (*n*=95, 86.16%) followed by pharmacists (*n*=83, 76.15%) and drugs' labels (*n*=78, 71.56%).

Based on the findings, the majority (*n*=94, 86.23%) of the respondents were influenced by their own experience to practice self-medication. Meanwhile, 59 of the respondents (54.13%) were influenced by recommendations from community pharmacists.

Association Between Demographic Profiles with Level of Knowledge and Attitude on Self-Medication Among Pharmacy Students in UniKL RCMP.

We have found that there was a significant association between the respondent's age (p=0.043) with the level of knowledge. Besides, there was also a significant association between respondent's programme (p=0.024) with the level of knowledge. Other than that, it was also found that there was a significant association between the respondent's year and semester (p=0.003) with the level of knowledge. However, there was no significant association between the respondent's gender and practice of self-medication with the level of knowledge.

Discussion

Findings from this study showed that there was a high prevalence of self-medication practice among pharmacy students (99.10%) in UniKL RCMP. In this study, it was suggested that the prevalence were significantly higher as compared to data reported in Bangladesh where the prevalence of self-medication among pharmacy students there was 88.00%.[12] However, there was no significant difference reported between both genders in the practice of self-medication as they were allowed to choose several types of medicines used during self-medication in this study.

The level of knowledge on self-medication greatly affects the safety and effectiveness of its practice. In this study, it was found that majority (62.40%) of pharmacy students in UniKL RCMP possessed a good level of knowledge followed by 35.8% with a moderate level of knowledge and the remaining 1.8% with the poor level of knowledge on self-medication. Similar results were found in a study conducted among medical students in Western Nepal, where it was reported that they have a good level of knowledge of self-medication. [10] Our study also showed that students from higher year of studies possessed a good level of knowledge while 1.8% of students with a poor level of knowledge on self-medication was from the early year of studies.

Positive attitude towards self-medication would encourage respondents to practice it safely and, in this study, it was found that only 22% of pharmacy students in UniKL RCMP had a positive level of attitude towards self-medication. However, the majority (69.70%) of them have a neutral attitudes level toward self-medication. On the other hand, there was 8.3% of pharmacy students have a negative level of attitudes in self-medication. This is because they were still in the early years of studies. However, 4 out of 9 who had negative attitude in self-medication was from the third year of studies and this may be because they were not confident to apply their knowledge on medicines and diseases in self-medication practice.

In this study, the majority (99.10%) of respondents practiced self-medication. This is maybe because pharmacy students in UniKL RCMP were aware of the pros and cons of self-medication since they are pharmacy students. They knew that self-medication could relieve minor illnesses such as headache and fever. Furthermore, everyone has their own reasons why they practice self-medication. Based on the findings, 90.83% of the respondents self-medicate because of minor illnesses. A previous study was conducted in Malaysia reported that the majority of pharmacy students self-medicate when they were having sore throat (68.40%), headache (64.90%), fever (64.60%) and cold (60.90%).[11] However, in this study, the majority

(87.16%) of pharmacy students practiced self-medication when experiencing fever (87.16%), headache or cough (86.24%), and cold or flu (83.49%). Besides, it was found that majority (86.23%) of the respondents self-medicate themselves based on their own previous experience which was in contrast with a study done in North Cyprus[3] whereby it was found that majority (30.70%) of the respondents practiced self-medication because they were not having serious illnesses.[3] More than half of the respondents (86.16%) used their academic knowledge as their source of information to self-medicate in this study which was almost similar to the results from a study conducted in Iran where most students (47.4%) used their previous prescriptions and 39.3% used their own academic knowledge.[13] Additionally, various type of drug classes was involved in self-medication practice and in this study, the majority of respondents chose analgesics (77.89%), anti-histamine (71.56%), and vitamins or supplements without prescription (62.39%) which was in contrast with findings reported from Elkalmi et al. (2018)[11], stated that vitamin supplements were the most common drug classes used in self-medication.

Conclusion

In conclusion, the knowledge of pharmacy students on self-medication practice increases as they pass through their year and semester of studies. Furthermore, the difference in gender does not influence the knowledge on the practice of self-medication. Additionally, the majority of pharmacy students in UniKL RCMP agreed that self-medication is a good practice and analgesics is the most common type of drug class used in self-medication among them. A good level of knowledge among pharmacy students is important to ensure that they practice self-medication in an appropriate way. However, future study should compare the level of knowledge, attitude, and practice of self-medication among pharmacy students as well as other health sciences and non-health sciences students to provide more wide-ranging overview of self-medication practice.

Conflicts of interest: The authors declare no conflict of interest.

Table 1. Level of knowledge about self-medication

No.	Level of Knowledge	Frequency, n	Percent (%)
1.	Poor	2	1.80
2.	Moderate	39	35.80
3.	Good	68	62.40

Table 2. Level of attitude towards self-medication.

No.	Level of Attitude	Frequency, n	Percent (%)
1.	Negative	9	8.30
2.	Neutral	76	69.70
3.	Positive	24	22.00

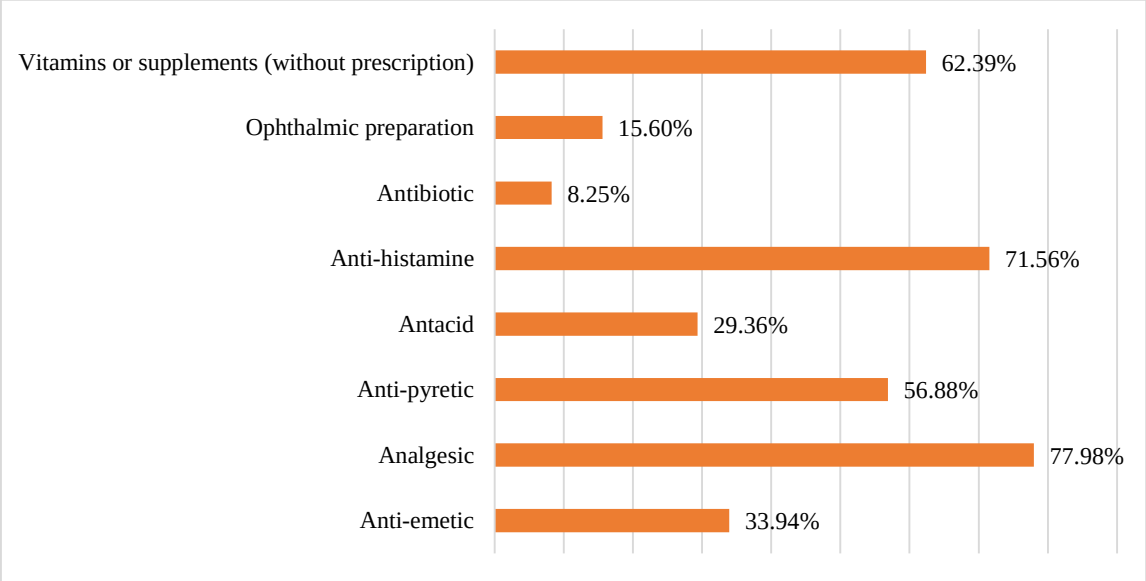

Figure 1. Type of drug classes involved in self-medication.

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