Acta Scientific Dental Sciences (ISSN: 2581-4893)

Volume 7 Issue 9 September 2023

Research Article

Self-Medication: Its Perception and Practice Among Health Science Students in a Malaysian University College

Renu Sarah Samson[1], Melwin Mathew[2], Muhammad Afiq bin Mohd Nazi[3], Nur Alia binti Ahmad[4], Amirah Haziyah Binti Mohamad Rosni[5] and Silpa Madhuri Chikkala[6]*

[1]*Associate Professor, Department of Orthodontics, Manipal University College Malaysia, Melaka, Malaysia*

[2]*Associate Professor, Department of Periodontology and Implantology, Manipal University College Malaysia, Melaka, Malaysia*

[3]*Dental Officer UG41, Klinik Pergigian Bandar Mas, Johor, Malaysia*

[4]*Dental Officer UG 41, Klinik Pergigian Batu Gajah, Perak, Malaysia*

[5]*Dental Officer UG41, Klinik Pergigian Kelana Jaya, Petaling Jaya, Malaysia*

[6]*Assistant Professor, Department of Prosthodontics, Manipal University College Malaysia, Melaka, Malaysia*

***Corresponding Author:** Silpa Madhuri Chikkala, Assistant Professor, Department of Prosthodontics, Manipal University College Malaysia, Melaka, Malaysia.

Received: July 25, 2023

Published: August 12, 2023

Abstract

A descriptive cross-sectional questionnaire study was conducted in a university college in Malaysia to determine the prevalence of self-medication among dental and medical students and its association with various factors such as course of study, year of study, gender, and ethnicity. Out of 401 respondents, 57.11% practiced self-medication. The most common symptom for adopting self-medication was fever and source of medicine was pharmacy. Health professionals must educate one another as well as the patients regarding self-medication. Improved knowledge and understanding about self-medication may result in rational use and thus limit emerging microbial resistance issues and drug abuse.

Keywords: Self-Medication; Prevalence; Knowledge; Medical Students; Dental Students

Introduction

According to World Health Organization, self-medication is defined as the selection and use of medicines by individuals to treat self-recognised illnesses or symptoms [1]. Self-medication or usage of any kind of drugs or traditional herbs without physicians' consultation has been a way of self-care for a long time, where in people get into healthcare aid in a much faster and convenient way. Most people practice self-medication to treat fever and flu which affects their daily routine [2]. Therefore, they seek symptomatic relief in order to carry out their normal activity. The fastest way of getting well is by self-medication because it could save the time of meeting a physician and cuts the cost of consultation. Such practice may be attributed to socioeconomic status, lifestyle, ready access to and greater availability of drugs, tendency to manage certain trivial illnesses through self-care, public health/environmental factors and demographic/epidemiological factors [1].

Practice of self-medication has been observed among students of medical and allied health science courses due to their knowledge in pharmacology [3]. Numerous issues have been arising because of this practice by individuals with insufficient knowledge in pharmacology but for those with some knowledge in pharmacology, even though practising self-medication may not cause harm all the time, there are potential risks that the drugs could lead to rare but severe adverse effects. The greatest concern about self-medication is the risk of dependence and abuse which could be harmful and even fatal [4]. This could be controlled and managed if the medication is prescribed by a certified physician. Different countries will have different kinds of over the counter (OTC) drugs that can be used without prescription. Therefore, one's action to self-medication also needs to be controlled by the rules and regulations of the respective country.

Assessing the practices of self-medication can be useful to governments, drug regulatory agencies, hospitals, physicians, pharmacists and consumers so that they can implement policies, patient communication and medication awareness. This information can find insight to understand the practices and motives behind self-medication. Numerous researches have been done on assessment of self-medication practices among the public as well as students in medical and allied health sciences all over the world, including Malaysia [3,6-8]. However, there is a dearth of literature on the practice of self-medication among dental students.

Materials and Methods

A descriptive cross-sectional study using purposive sampling technique was conducted to determine the prevalence of self-medication among dental and medical students of a renowned university college in Melaka, Malaysia. Ethical approval was obtained from human and ethics committee of the institution. A validated questionnaire was distributed to all participants after explaining the purpose of the study and obtaining informed consent [8].

The questionnaire had three sections: first part assessed the sociodemographic information such as gender, ethnicity, course and year of study, the second explored information about self-medication practices such as frequency of drug use, source of drug purchase, reasons for self-care and common medications advised for someone else and the third assessed the awareness of students regarding the potential risks of self-medication. For some of the questions, multiple responses could be marked. The questionnaires were assessed for their completeness and only the completed questionnaires were considered for data analysis. The collected data was analysed using Epi Info version 7 and results obtained were expressed in frequency and percentage. Chi-square tests were used to find the association of course, gender, year of study and ethnicity to self-medication practice with the *P*-value threshold set at 0.005.

Results

A total of 440 questionnaires were distributed, out of which 39 questionnaires were incomplete and hence, only 401 questionnaires of 168 dental and 233 medical students were considered for data analysis. The demographic characteristics of the participants are depicted in table 1.

Variables		n (%)
Course	MBBS	233 (58.10)
	BDS	168 (41.90)
Year of study	3	100 (24.94)
	4	121 (30.17)
	5	180 (44.89)
Gender	Male	145 (36.16)
	Female	256 (63.84)
Ethnicity	Malay	91 (22.69)
	Chinese	181 (45.14)
	Indian	107 (26.68)
	Others	22 (5.49)

Table 1: Sociodemographic characteristics of the participants.

The prevalence of self-medication was found to be 57.1% and was more among females (Table 2). The most common reasons for practicing self-medication were previous experience of similar problem, urgency of the problem or the problem was too trivial to put in effort to meet the physician. The most common sources of obtaining the medicine was the pharmacy (50.9%) or stocks kept at home (37.4%). Students mostly self-medicated to relieve symptoms of fever (47.3%), headache (42.9%) and flu/cough/cold (38.4%) as given in figure 1. Anti-pyretics (28.09%) were the most frequently used medicine followed by painkillers (25.07%) and vitamins (17%).

Variables		Self-medication n (%)	Prescribe for others. n (%)
Practice	Prevalence	229 (57.11)	155 (38.65)
Frequency	Once	8 (2.00)	5 (1.25)
	Seldom	114 (28.43)	89 (22.19)
	Sometimes	84 (20.95)	45 (11.22)
	Often	15 (3.74)	11 (2.74)
	Always	8 (2.24)	5 (1.25)
Reasons	Urgency of the problem	124 (30.92)	44 (10.97)
	Cost of consultation	51 (12.72)	14 (3.49)
	Availability of transport	51 (12.72)	Not applicable
	Convenience of available facilities	58 (14.46)	Not applicable
	Lack of time	49 (12.22)	Not applicable
	Previous experience of similar problem	159 (39.65)	108 (26.93)
	Problem was too trivial	105 (26.18)	45 (11.22)
	Advice from friend	29 (7.23)	Not applicable
	Knowledge of illness	Not applicable	30 (7.48)
	Internet/TV	Not applicable	23 (5.74)
	Others	8 (2.00)	13 (3.24)
Drugs	Painkiller	174 (43.39)	118 (29.43)
	Antipyretic	195 (48.63)	109 (27.18)
	Anti-allergy	76 (18.95)	39 (9.73)
	Antibiotics	32 (7.98)	22 (5.49)
	Birth control pills	7 (1.75)	3 (0.75)
	Sleeping pills	5 (1.25)	5 (1.25)
	Tonics	12 (2.99)	3 (0.75)
	Vitamins	118 (29.43)	35 (8.73)
	Pills for indigestion	44 (10.97)	15 (3.74)
	Herbal/homeopathy	29 (7.23)	7 (1.75)
	Street drugs	0	Not applicable
	Others	2 (0.50)	3 (0.75)

Table 2: Self–medication practice and prescribing medication for others who self-medicate.

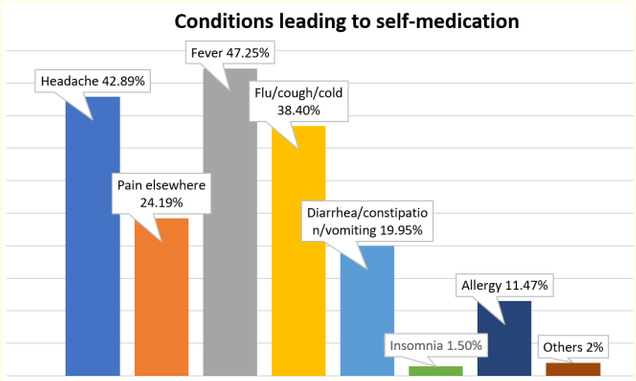

Figure 1

Table 2 shows that more than one-quarter of the participants (38.7%) prescribes medication for others mostly because they themselves had previous experience of similar problem (27%). Analgesics (29.43%) and antipyretics (27.2%) were most frequently prescribed to others whereas tonics (0.75%) and sleeping pills (0.75%) were rarely prescribed. Table 3 depicts the fact that considerably large number of students (84.5%) acknowledged that taking any medicine without consultation could be harmful. In the absence of a certified doctor, almost three fourth of the students agreed that they cannot treat a patient with medication and 61.9% agreed they cannot even diagnose medical illness.

Variables		Frequency n (%)
Necessity to consult a doctor before taking drugs	Yes	324 (80.80)
	No	77 (19.20)
Medical/dental students altered the dosage/frequency according to the course of the problem/disease	Yes	73 (18.20)
	No	328 (81.80)
Medical/dental students stop the medicine when the symptoms are relieved	Yes	234 (58.35)
	No	167 (41.65)
Medical/dental student can give prescription	Yes	149 (37.16)
	No	252 (62.84)
Medical/dental student can prescribe drug for mild condition if they are fully aware of the condition	Yes	237 (59.10)
	No	164 (40.90)
Taking medicine without consultation could be harmful	Yes	339 (84.54)
	No	61 (15.21)
	Don't know	1 (0.25)
Medical student can diagnose a medical illness in the absence of certified doctor	Yes	68 (16.96)
	No	248 (61.85)
	Don't know	85 (21.20)
Medical student can treat patient with medication in the absence of certified doctor	Yes	34 (8.48)
	No	302 (75.31)
	Don't know	65 (16.21)

Table 3: Perception and attitude of self-medication among the dental and medical students.

Table 4 shows the association between course and self-medication practice. Medical students were less likely to have self-medication practice compared to dental students (OR 0.88; 95% CI 0.59 to 1.31), however it was not statistically significant (P-value 0.531). Table 5 shows the association between gender and self-medication practice among medical and dental students. Among medical students, male students were more likely to have self-medication practice than female students (OR 1.17; 95% CI 0.69 to 1.98) but it was not statistically significant (P-value 0.569). Among dental students, male students were less likely to have self-medication practice than female students (OR 0.37; 95% CI 0.19 to 0.73) and this was statistically significant (P-value <0.005).

Course	Self-medication		OR 95% (CI)	*P* - value
	Yes, n (%)	No, n (%)		
MBBS	130 (55.79)	103 (44.21)	0.88 (0.59,1.31)	0.531
BDS (reference)	99 (58.93)	69 (41.07)		

Table 4: Association between course and self-medication practice.

Course	Gender	Self-medication		OR 95% (CI)	*P* - value
		Yes, n (%)	No, n (%)		
MBBS	Male	54 (58.06)	39 (41.94)	1.17 (0.69, 1.98)	0.569
	Female (Reference)	76 (54.29)	64 (45.71)		
BDS	Male	22 (42.31)	30 (57.69)	0.37 (0.19, 0.73)	0.003
	Female (reference)	77 (66.38)	39 (33.62)		

Table 5: Association between gender and self-medication practice.

Table 6 shows that the association between year of study and self-medication practice among medical and dental students. Among medical students, academic year 4 (OR 1.6; 95% CI 0.7 to 3.49) and year 5 students (OR 1.26; 95% CI 0.66 to 2.41) were more likely to have self-medication practice than academic year 3 students though it was not statistically significant. There was also no significant difference in self-medication practice between different academic years among dental students; year 4 (OR 0.97; 95% CI 0.45 to 2.04) and year 5 students (OR 0.86; 95% CI 0.39 to 1.92) were less likely to have self-medication practice than academic year 3 students. Table 7 shows there was no significant association between ethnicity and self-medication practice among medical and dental students. However, Chinese (OR 0.74, 95% CI 0.44 to 1.23), Indian (OR 0.86; 95% CI 0.49 to 1.52) and "other" ethnicities (OR 0.9; 95% CI 0.35 to 2.22) were less likely to have self-medication practice than Malay students.

Discussion

Practice of self-medication has become a norm in most countries and this trend has been increasing among youth and univer-

Course	Year of study	Self-medication		OR 95% (CI)	*P* - value
		Yes, n (%)	No, n (%)		
MBBS	3 (reference)	26 (50.00)	26 (50.00)	reference	-
	4	32 (61.54)	20 (38.46)	1.60 (0.734, 3.489)	0.236
	5	72 (55.81)	57 (44.19)	1.26 (0.663, 2.408)	0.478
BDS	3 (reference)	29 (60.42)	19 (39.58)	reference	-
	4	41 (59.42)	28 (40.58)	0.97 (0.452, 2.035)	0.914
	5	29 (56.86)	22 (43.14)	0.86 (0.388, 1.924)	0.720

Table 6: Association between year of study and self-medication practice.

Ethnicity	Self-medication		OR 95% (CI)	*P* - value
	Yes, n (%)	No, n (%)		
Malay	56 (61.54)	35 (38.46)	reference	-
Chinese	98 (54.14)	83 (45.86)	0.74 (0.442, 1.233)	0.246
Indian	62 (57.94)	45 (42.06)	0.86 (0.487, 1.524)	0.607
Others	13 (59.09)	9 (40.91)	0.90 (0.350, 2.332)	0.833

Table 7: Association between ethnicity and self-medication practice.

sity students [7]. This issue also has been an active area of research because of its increasing global prevalence, as well as associated problems such as misdiagnosis, inadequate treatment which may lead to progression of disease, adverse effect, antibiotic resistance and unwanted drug interaction. In the present study, the prevalence of self-medication among students was lower, compared to the studies done in North India and in Egypt [7,8]. Students' educational background which provided them information about the route of drugs, dosage, adverse effect, interaction of drugs and other pharmacological knowledge could be the reason why there is low prevalence of self-medication. Hence, students could have been more cautious of this inappropriate practice.

Among medical students, male students practiced more of self-medication compared to female students. This finding was similar to that found in the study done by Gupta., *et al*. in 2016 [7]. Among dental students, females practiced more self-medication compared to males which is in line with the study done by Patchva., *et al*. [9]. Both medical and dental students comprised of different ethnicities such as Malay, Indian, Chinese and "others" (comprising of ethnic groups from East Malaysia such as Kadazans, Dusuns and Bajaus). Malays showed the highest prevalence of self- medication, followed by Indians, Chinese and "other" ethnic groups. Both findings may be influenced by the difference in the sample size and demographic characteristics.

Moreover, the main reason for the students to practice self-medication was due to previous experience, urgency of the problem, problem being too trivial and due to convenience of available facilities. A study done in India showed high prevalence of self-medication because drugs are easily available in pharmacies in India [10]. In Malaysia, most medications can only be dispensed from pharmacies with valid drug prescriptions made by the certified doctors [11]. However, OTC drugs are available to treat trivial illnesses or symptoms such as headache, fever, flu, cough or cold which explains the most common reason for practising self-medication.

Furthermore, this study also assessed the awareness and perception of self-medication among medical and dental students. These students generally showed positive attitude towards practice of self-medication. For example, 80.8% of them agreed that they should consult a physician before taking any drugs and taking drugs without consulting authorized physician could be harmful (84.5%). Contrary to this, the study by Patchva., *et al*. found that 67% of the students felt that there was no necessity to consult a physician for simple ailments [9]. This of course would be depending on the type of illnesses encountered by the students where the knowledge about the disease can be used for self-medication practice. Additionally, the students reported that most of them did not alter the dosage or frequency of the prescribed medicine. This is congruent with the comparative cross-sectional study done by Gupta., *et al*. [10]. However, most of the students stopped the medicine when their symptoms were relieved. This finding may be dependent on the type of medicine such as painkillers or antipyretics where it can be taken only when needed while other drugs such as antibiotics must be taken for the entire prescribed course.

It is noteworthy that in our study, it is reported that 61.35% of the students never prescribed drugs to others and this is supported by 62.84% of the students from both courses that stated that they disagree to prescribe drugs to other people. However, 59.10% of the students agreed that they can prescribe drugs only for minor conditions. Based on the present study, the most commonly pre-

scribed drugs were painkiller (29.43%), antipyretic (27.18%) and anti-allergy (9.73%).

Among those who practice self-medication, the most commonly used drugs were anti- pyretic (28.09%), painkiller (25.07%) and vitamins (17%). A similar finding was also seen in another study in Malaysia where antipyretic drugs were the most frequently used category of drugs for self- medication [8]. This might be because of easy accessibility of OTC drugs such as paracetamol which is generally safe when taken according to the instruction on the label. These results of frequently used drugs are also consistent with the common ailments stated in the results such as fever (47.25%), headache (42.89%) and flu/cough/cold (38.40%). Previous studies done by Zafar., *et al*. in Karachi and by Gupta., *et al*. in North India [2,7] also supports this finding. Another reason why students practice self-medication for these common ailments is probably due to their restricted schedule to see a physician, inability to miss lecture or clinical postings or because they already had previous experience dealing with such ailments.

Students often acquired drugs from pharmacies (50.87%). The mushrooming of pharmacy stores in Malaysia may explain why pharmacy is the ultimate source of drugs in Malaysia [8].

Conclusion

Self-medication practice may reduce unnecessary consultation for minor ailments which could lead to maximum care and quality for those patients with severe conditions and thereby lessen the burden of Malaysian healthcare professionals. However, a few issues should be highlighted regarding this practice such as misdiagnose, improper use of prescription drugs, excessive intake or inadequate dosage and delay in seeking professional care. It is important for the authorized agencies and government to educate the public regarding awareness about the rational use of medicine and to provide imperative information about various medications to the public. Dispensing modes needs to be improved through proper education, strict regulatory and managerial strategies. Health professionals must educate one another as well as the patients regarding self-medication. Improved knowledge and understanding about self-medication may result in rational use and thus limit emerging microbial resistance issues and drug abuse.

Bibliography

1. The Role of the Pharmacist in Self-Care and Self-Medication: 2. Definitions: Self-medication (2018).

2. Zafar SN., *et al*. "Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes". *Journal of the Pakistan Medical Association* 58.4 (2018): 214-217.

3. Bhatia MK., *et al*. "Knowledge, Attitude and Practice of self medication among undergraduate medical students of Punjab". *The Journal of Medical Research* 3.33 (2017): 151-154.

4. Bennadi D. "Self-medication: A current challenge". *Journal of Basic and Clinical Pharmacy*. Wolters Kluwer -- Medknow Publications 5.1 (2013): 19-23.

5. Montastruc JL., *et al*. "[Pharmacovigilance of self-medication]". *Therapie* 52.2 (2018): 105-110.

6. Definition of Prevalence (2018).

7. Helal RM and Abou-ElWafa HS. "Self-Medication in University Students from the City of Mansoura, Egypt". *Journal of Environmental Public Health* (2017): 1-7.

8. Gupta S and Singh M. "Self-medication among North Indian first-year undergraduate healthcare students: A questionnaire-based study". *Tropical Journal of Medical Research*. Medknow Publications and Media Pvt. Ltd 19.2 (2016): 162.

9. Jamshed S., *et al*. "Self-medication practices among female students of higher educational institutions in Selangor, Malaysia: A quantitative insight". *Journal of Pharmacy and Bioallied Sciences* 8.3 (2016): 217.

10. Deepika Patchva L and Priyambada S. "Practice of self-medication among 2 nd year medical and dental students". *International Journal of Basic and Clinical Pharmacology* 5.5 (2016): 2013-2016.

11. Kumar R., *et al*. "Self-medication practice and factors influencing it among medical and paramedical students in India: A two-period comparative cross-sectional study". *Journal of Natural Science, Biology and Medicine* 7.2 (2016): 143.

12. Ali SE., *et al*. "Medication storage and self-medication behaviour amongst female students in Malaysia". *Pharmacy Practice (Granada)* 8.4 (2010): 226-232.