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Knowledge, Attitude and Practice of Self Medication: A Cross-sectional Study among Yemeni Health Profession Students

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ABSTRACT

Self-medications practice is increasing widely. It is expected to be higher in health students due to their awareness and knowledge of diseases and medicines.

The Aim of the study to assess the self-medications among the first year students of health science facilities in Aden University, Yemen.

Cross sectional study was conducted using Questionnaire from previous study served as the data collection instrument among first year students who were available during study period.

Descriptive statistics was used to describe the frequency of variable

A total of 231 out of 250 questionnaires were completed and returned, which gives the response rate of 92.4%. 119 (51.5 %) of respondents were male and 112(48.5%) of them were female. Approximately 69 (29.9 %) of respondents had no Knowledge on definition of Self-medication at all, only 25 (10.8 %) had very much knowledge about it , majority of respondents 82 (68.9 %) stated that they did so because the illness were minor were among the most reasons for self-medication, followed by prior experiences with the previous episode and treatment 72 (60.5 %), emergency use 54(45.4 %), quick relief 46 (38.7%) , cost effectiveness 42 (35.3 %) and 39 (32.8 %) of respondents reported that lack of time to go for consultation

The most common sources of information used by the respondent were text books and pharmacists. The attitude was positive towards self-medication and favored self-medication saying that it was acceptable.

Self-medication habits were common among first year students of faculty of Medicine and Health Sciences at Aden University in Yemen. An urgent and rapid intervention should be made to promote health awareness of the self-medication among students because the percentages of using antibiotics and other classes of medicines are alarming. Students must be educated about the potential hazard of using medicines without physician advices and their serious adverse reactions. The Ministry of Health and Population must enact laws regulating the dispensing of medicines from pharmacies

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BACKGROUND:

The use of medicines without medical consultation can lead to harming the patients ,adverse drug reactions and drug toxicity[1]

Self-medication is the practice of intake of medicines by the people on their own or with help of a pharmacist, but without proper advice or prescription from a medical professional to treat a self-diagnosed condition Self-medication is common practice and global problem which can have risks and benefits

Self-medication cannot restricted to the medicines over the counter but also to prescription drugs which can lead to ADRs , drug interaction , poly pharmacy and drug resistance[2,3]

The prevalence of self-medication increase to 68%in developed countries[4] and 92%in developing countries [5] which indicate that is increasing in our country Yemen and should be evaluated from medical and pharmacy researchers.:

Inappropriate and irrational use of medicines is a common practice in countries that lack strict regulation on the use

of pharmaceutical products. The prevalence of illiteracy, ignorance, low education and poverty promote the misuse and abuse of medicines among populations of resource poor countries like Yemen

. In Yemen, almost every pharmacy sells drugs without a prescription; a phenomenon seen in many developing countries consequently, antibiotics and potentially habit forming medicines are easily available to the common man. This together with poor awareness leaves the layman uninformed about the potentially lethal effects of some of these drugs. Also, the lack of a good primary health care system coupled with cost issues causes the general public to approach various other doors instead of a doctor's to seek help for a good treatment

There is in the literature many previous studies [6,7,8,9,10] which evaluate and assessed the KAP of self-medication among pharmacy and medical students so far there is not study to evaluate KAP of health students towards self-medication in country like Yemen.

Health students are in a unique position for wide practice of self-medication.

The current study aimed to find out the existing knowledge, attitude and pattern of practice regarding self-medication among the undergraduate health students of Medical, Pharmacy. Dental. Medical laboratory and nursing faculties of Aden University.

METHODS:

Study design:

A cross sectional descriptive study was conducted from December 2018- to febrour 2019- among first year health students of Aden University in Aden city, the port city of Yemen (with population around 800,000 people).

Study population and sampling

The sample size of 250 participants was estimated. The first year students were approached in a convenient way, we take all first year students as our Respondents excluded were those disagreeing to take part in the study..

Study tool

Questionnaire from previous study[25] served as the data collection instrument. Trained medical and pharmacy students distributed the final questionnaire to first year students and gathered the responses from the respondents. There were 20 questions in the questionnaire. It was first written in English and then translated to the local language-Arabic. The Arabic version of the questionnaire was pretested by administering it to 20 community pharmacists to identify any unclear or difficult questions and to ensure the appropriateness of the content. After minor changes, the questionnaire was finalized and distributed among the target group. The reliability of the questionnaire was tested by calculating the Cronbach alpha of the completed questionnaires. The alpha score was 0.761 and it was regarded as acceptable. The final version of the questionnaire encompasses questions on the socio-demographic characteristics of the study participants, , their knowledge, attitude, and their practices concerning self-medication. .

Ethical Consideration

The study protocol was endorsed by the Ethics Research Committee of the Faculty of Medicine and Health Sciences, University of Aden. Written informed consent was obtained from all participants who were willing to participate in the study after the objectives, importance and benefits of the research and voluntary participation were mentioned. They were assured that all the data gathered will be handled with full confidentiality, and it will be used only for research purposes.

Data analyses

The data gathered from the respondents was entered and analyzed using SPSS (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.). Categorical variables were elaborated using the frequency distribution and percentage

RESULTS:

Characteristics and Self-medication of the study population

A total of 231 out of 250 questionnaires were completed and returned, which gives the response rate of 92.4%. 119 (51.5 %) of respondents were male and 112(48.5%) of them were female (Table 1). The mean age of respondents was 19.7 ± 1.07 years, with a range of 18-24 years. Most respondents reported living in urban area 135(58.4%), while 96 (41.6%) were resident in rural area. Regarding the field of study, distributions are shown in Table 1. Fifty eight (25.1 %) were in medicine, 51(22.1 %) were in faculty of pharmacy, 43(18.6 %) were in faulty of nursing, while 41(17.7%) were in Dentistry, 38(16.5 %) were in medical laboratory. .Approximately 119(51.5 %) of the respondents stated that they do practice self-medication, and 112 (48.5 %), reported that they do not take self-medication. Self-medication were practiced by more than half of male 71 (59.7 %), and 48 (42.9 %) of females with a statistical difference (p=0.01).

Table 1: Socio-Demographic Characteristics of study population (n =231)

Variables	Frequency	Percentage
Gender		
Male	119	51.5
Female	112	48.5
Residence		
Rural	96	41.6
Urban	135	58.4
Field of Study		
Medicine	58	25.1
Dentistry	41	17.7
Pharmacy	51	22.1
Nursing	43	18.6
Medical Laboratory	38	16.5
Practice self-medication		
Yes	119	51.5
No	112	48.5

Diseases/symptoms self-medicated

It was clearly noticed that the most common symptom in last year reported by participants was headache (75.8 %), followed by cold/ flu (72.3%), the symptoms of the respondents is shown in Table 2.

Table 2: Diseases/symptoms self-medicated by participants (n =231)

	Frequency	Percentage
Reported symptoms last year		
Headache	175	75.8
Sinusitis	78	33.8
Cold/flue	167	72.3
Fever	113	48.9
Diarrhea	60	26.0
Insomnia	93	40.3
Allergies	59	25.5

Knowledge on self-medication:

Approximately 69 (29.9 %) of respondents had no Knowledge on definition of Self-medication at all, only 25 (10.8 %) had very much knowledge about it (Table 3). The source of self-medication information was senior 72 (31.2 %), followed by textbook 65 (28.1 %), and pharmacist 57 (24.7%) (Table 4).

Knowledge regarding hazards of change of drug's timing 31.2% had a little knowledge, and 65 (28.1%) had very much knowledge. In respect to the knowledge about hazard due to the increased drug dose 98 (42.4 %) had very much knowledge about this issue. Whereas 62 (26.8 %) of the respondents had very much knowledge on adverse drugs reaction. 118 (51.1%) had very much knowledge on completing dose of drugs and 20 (8.7 %) had no knowledge about it (Table 3). Overall, more than two thirds 172 (74.5 %) of the respondents were deemed to have good knowledge about the self-medication, while 59 (25.5%) had poor knowledge.

Table 3: Respondent's knowledge on self-medication (n =231)

	Responses				
	Not at all	**A little**	**Some**	**Quite a bit**	**Very much**
Knowledge about definition of self-medication	69 (29.9 %)	53 (22.9 %)	45 (19.5 %)	39 (16.9 %)	25 (10.8 %)
Knowledge about:-					
a. Hazards due to change of timing	16 (6.9%)	72 (31.2%)	31 (13.4 %)	47 (20.3 %)	65 (28.1%)
b. Hazards due to increase drug dose	19 (8.2 %)	45 (19.5 %)	34 (14.7 %)	35 (15.2 %)	98 (42.4 %)
c. Drug adverse reaction	24 (10.4 %)	57 (24.7 %)	51 (22.1 %)	37 (16.0 %)	62 (26.8 %)
d. Completing dose of drug	20 (8.7 %)	32 (13.9 %)	28 (12.1 %)	33 (14.3 %)	118 (51.1%)

Aspects of self-medication

As shown in Table 5, among the reasons given for self-medication, majority of respondents 82 (68.9 %) stated that they did so because the illness were minor were among the most reasons for self-medication, followed by prior experiences with the previous episode and treatment 72 (60.5 %), emergency use 54 (45.4 %), quick relief 46 (38.7 %), cost effectiveness 42 (35.3 %) and 39 (32.8 %) of respondents reported that lack of time to go for consultation.

Table 4: Respondent's source of information (n =119)

Source of information		
Pharmacist	57	24.7
Textbook	65	28.1
Senior	72	31.2
Advertisement	24	10.4
Internet	8	3.5
Friends	4	1.7

Table 5: The reasons that pushed participants to practice self-medication (n =119)

Reason in favour of self-medication **	Frequency	Percentage
Minor illness	82	68.9
Prior experience	72	60.5
Emergency use	54	45.4
Quick relief	46	38.7
Lack of time to consult doctor	39	32.8
Cost effectiveness	42	35.3

Attitude towards self-medication

The attitudes of the respondents towards self-medication are presented in Table 6, it is clearly noticed that about 56 (24.2 %) and 34 (14.7 %) of respondents were agreed and strongly agree to the statement of self-medication is acceptable for medical students, respectively. However, 46(19.9 %) were disagree to this statement. 32(13.9 %) were strongly disagreed and 63(27.3%) were unsure about it. In regards to the ability of students to diagnose the symptoms 96(41.6 %) were agreed, 33(14.3%) were strongly agreed, 23(10.0%) disagreed, 16(6.9%) were strongly disagreed and 63(27.3%) were unsure about it.

In respect to the statement of medical students have the ability to treat the symptoms, it was found that 27(11.7%) were strongly agreed, 83(35.9%) were agreed, 43 (18.6%) disagreed, 19(8.2 %), were strongly disagree and 59 (25.5 %) were uncertain about it. Majority of respondents 162 (70.1 %) strongly agreed that the self-medication would be harmful if they are taken without proper knowledge of drugs and disease, and equal number of respondents 8(3.5%) were disagreed and strongly disagreed and 13(5.6 %) were neutral. Approximately 105 (45.5.3%) of the respondents strongly agreed towards the statements medical license would be essential for better administration of drugs, 52(22.5%) were agreed, 23(10.0%) were disagreed, 17 (7.4 %) were strongly disagreed towards it, and 34(14.7%) were unsure about it. Majority 123(53.2%) of the respondents strongly greed towards the statements the course of

medicine should be complete although the symptoms subside, while 22 (9.5%), 8(3.5 %), were disagree and strongly disagreed, respectively. 27(11.7 %) were unsure about it. Majority 95 (41.1 %) of the respondents agreed and 82(35.5 %) were strongly agree towards the statements the pharmacist is a good sources of advice/ information about minor medical problems. However, 35(15.2%) were unsure, 13(5.6%) were disagreed and 6(2.6 % %) were strongly disagree about it. About 63 (27.3 %) of the respondents were unsure about the statement of medical students are likely to bother their doctors with minor problems always. Whereas 54 (23.4%) were disagreed, 31 (13.4 %) were strongly disagreed and 38(16.5%), 45(19.5%) were strongly agreed and agreed, respectively. Majority 148 (64.1 %) of the respondents were strongly agreed and 55(23.8%) were agree on the statement medical students should be careful with non-prescribed over the counter medicines. Nonetheless, equal split 5 (2.2%) were disagreed and strongly disagreed towards the statement and 18(7.8 %) were unsure.

More than half 137 (59.3%) of the respondents were strongly agreed and 61(26.4%) were agree towards the statement medical students should check the accompanied medication leaflet contain. 19(8.2%) were uncertain, 7(3.0%) were disagreed and 7(3.0%) were strongly disagreed about it. Overall, almost all 230 (99.6%) of respondents were exhibited negative attitude towards self-medication as indicated.

Table 6: Respondents' attitudes towards self-medication (n =231)

SN	Statements	Responses				
		Strongly agree	**Agree**	**Unsure**	**Disagree**	**Strongly disagree**
1	Self-medication is acceptable for medical students.	34 (14.7%)	56 (24.2%)	63 (27.3%)	46 (19.9%)	32 (13.9%)
2	Medical students have good ability to diagnose the symptoms.	33 (14.3%)	96 (41.6%)	63 (27.3%)	23 (10.0%)	16 (6.9%)
3	Medical students have good ability to treat symptoms.	27 (11.7%)	83 (35.9%)	59 (25.5%)	43 (18.6%)	19 (8.2%)
4	Self-medication would be harmful if they are taken without proper knowledge of drugs and disease.	162 (70.1 %)	40 (17.3%)	13 (5.6 %)	8 (3.5%)	8 (3.5%)
5	Medical license would be essential for better administration of drugs	105 (45.5 %)	52 (22.5%)	34 (14.7%)	23 (10.0%)	17 (7.4%)
6	The course of medicines should be complete although the symptoms subside.	123 (53.2%)	51 (22.1 %)	27 (11.7 %)	22 (9.5 %)	8 (3.5%)
7	The pharmacist is a good source of advice/information about minor medical problems.	82 (35.5%)	95 (41.1 %)	35 (15.2 %)	13 (5.6%)	6 (2.6 %)
8	Medical students are likely to bother their doctors with minor problems always	38 (16.5%)	45 (19.5 %)	63 (27.3 %)	54 (23.4%)	31 (13.4 %)
9	We should be careful with non-prescribed over the counter medicines.	148 (64.1%)	55 (23.8 %)	18 (7.8 %)	5 (2.2 %)	5 (2.2 %)
10	Medical students should check the accompanied medication leaflet contain.	137 (59.3%)	61 (26.4%)	19 (8.2 %)	7 (3.0 %)	7 (3.0 %)

Practise of self-medication

Medication usage pattern are presented in Table 7. Out of 119 respondents who practised self-medication, majority of them 92 (77.3 %) were used self-medication for themselves. 33(27.7%) practiced self-medication for family member only. Approximately 40 (33.6 %) practice self-medication for themselves and family member as well and 20(16.8 %) use for someone else. The therapeutic drugs that have been used by the respondents in self-medication are depicted in Table 8. Antibiotics were the most common class 70 (58.8 %) used in self-medication, followed by Vitamins 60 (50.4%), and Antipyretics 53 (44.5%).

Table 7: Medication Usage Pattern (n=119)

Medications Usage Pattern **	Frequency	Percentage
Practice self-medication for yourself	92	77.3
Practice self-medication for both	40	33.6
Practice self-medication for someone else	20	16.8
Practice self-medication for family	33	27.7

Table 8: Drugs used for self-medication (n= 119)

Drugs used for self-medication**	Frequency	Percentage
Analgesics	49	41.2
Anta-acids	39	32.8
Antipyretics	53	44.5
Antispasmodic	42	35.3
Antibiotics	70	58.8
Vitamins	60	50.4
Anti-allergies	28	23.5
Herbal	34	28.6

Respondents view towards self-medication

Respondents view towards self-medication is shown in Table 9. 74 (62.2%) follows doctor's prescription, while 56(47.1 %) discontinue the prescribed medicines by themselves when symptoms are not relieved. Approximately 78(65.5 %) of the respondents were reuse the prescription and who increased the drug dose when symptoms are not relieved are 32 (26.9 %). 42 (35.3 %) were habitual to some drug and 38 (31.9 %) experience adverse reaction during self-medication. The respondents who give their prescription to other who have similar symptoms were 59 (49.6 %), 26 (21.8 %) combined the herbal medicine and western medicine and 82 (68.9 %) judge themselves in deciding how much of the doctor's advice to follow.

Table 9: Respondents view towards self-medication (n=119)

Statements	Responses	
	Yes	No
Do you follow doctor's prescription?	74 (62.2 %)	45 (37.8 %)
Do you discontinue the prescribed medicines by yourself when symptoms are not relieved?	56 (47.1 %)	63 (52.9 %)
Do you reuse the prescription when experienced with similar symptoms?	78 (65.5 %)	41 (34.5 %)
Do you increase the drug dose on yourself when symptoms are not relieved?	32 (26.9 %)	87 (73.1 %)
Are you habitual to any drug?	42 (35.3 %)	77 (64.7 %)
Do you experience adverse reaction during self-medication? Are you habitual to any drug?	38 (31.9 %)	81 (68.1 %)
Do you give your prescription to someone who is having similar symptoms as yours before?	59 (49.6 %)	60 (50.4 %)
Do you combine herbal medicine and western medicine?	26 (21.8 %)	93 (78.2 %)
Do you judge yourself in deciding how much of the doctor's advice to follow?	82 (68.9 %)	37 (31.1 %)

DISCUSSION:

Self-medication can be defined as administration of medicines without prescription, or monitoring of some health experts [10]. In most developing countries, peoples are practicing self-medication due to several factors such as: cost effectiveness, availability of most medicines without prescription, recurrence of some infectious diseases which are endemic in those countries, absence of dispensing regulations and low health awareness and knowledge.

The current study, was conducted to evaluate the self-medication among the health profession students. The percentages of participation from different faculties were between (22.1-16.5 %) which provides approximately equal involvement from the faculties under study. Nearly half of the participants practice self-medication, the result is parallel to a study conducted in Ethiopia (50%) [11]. The finding was lower than other studies carried out in Gulf countries such as: Saudi Arabia [12], Bahrain [13] and in Kuwait [14], where the percentage was, 66.6%, 86% and 92% respectively. Another study in South India indicated that self-medication is more prevalent among medical students, 92% in contrast to 59% in a non-medical population [15,16]. It is stated that a medical education and being professional are prognostic factors for self-medication. Health sciences students with backgrounds about diseases and drugs behave as being professional in the medication [17]. Also, self-medication is prevalent among male (51.5%) than females (48.5 %) similar to the study in India (59.7 % male and 42.9 females) [6] and in Nigeria (94% male and 91% female) [18]. The finding from another study revealed that females practicing self-medication more than male [19,20].

Most of the self-medication was for treatment of headache, flu /cold followed by fever. The result is near the percentage obtained from a comparative study among pharmacy students in Ethiopia [21]. In the same vein, a study among undergraduate medical students in Palestine showed that headache, sore throat, cold, and dysmenorrhea were the prevalent complaints for which students practice self-medication [22]. However, other studies shared the same symptoms despite of slightly different percentages order [23,24]. The present study indicated that the lest self-medicated symptoms were diarrhea and allergies.

Around 30 % of the students had no self-medication knowledge. The participants have proper knowledge about the hazards of change of drug's timing, commitment to dosages and about the potential adverse effects. This study is congruent with the finding from a study among medical students in Nepal, which revealed that students had good knowledge [25] and other study in India [26]. However, this knowledge must accompany with the awareness in the hazard of self-medication. Regarding the source of getting information, most of the students get the information from the senior (31.2%), followed by textbook then by pharmacists. Though, the highest percentage in getting information in the previous study in Nepal and India was from pharmacists followed by textbook [27,28].

Concerning the reasons given for self-medication, the main reason was the minor illness (68.95), and ailments of prior experience (60.5%), followed by emergency cases (45.4%), the percentages of other reasons such as: quick relief, lack of time to consult doctor, cost effectiveness were distributed more or less equally as represented in table.5. The finding revealed that the students couldn't realize the possible serious consequences of the minor symptoms, the complication and progress of the previous diseases. The wrong initial management of minor illness may lead to serious progress of diseases. The results are parallel with the study among undergraduate medical students in Bengal [29], Ethiopia [21] and India [29,30].

In respect to the attitude towards self-medication, 24.2% of the participants agree that self-medication is acceptable for medical students and only 13.9% strongly disagreed. However, finding from a study among the medical students in Bahrain, indicated that (76.9%) of the participants preferring self-medication [21]. Relating to the statement concerning the ability of the medical students to diagnose and treat the symptoms around (41.6%) and (35.9%) of students agree, whereas (6.9%) and (8.2%) strongly disagreed. This might reflect the improper disease-related information because students of first year still haven't had enough disease backgrounds. Nevertheless, the students have a positive attitude about the hazard of self-medication that associated with improper knowledge of drugs and disease (70.1%). As well as a positive attitude towards getting the medical license for better administration of drugs (45.5 %), completing the course of medicines (53.2%), attention about non-prescribed over the counter medicines (64.1%), and checking the medicines leaflet (59.3%). While (16.5%) of the students don't like to bother their doctors with minor problems always. The study conducted in Sharjah University indicated that 7% contributors practice self-medication due to shame of discussing their symptoms [30]. Approximately (41.1%) of the contributors agree that the pharmacists might be consulted for minor medical problems, as mentioned above in some developing countries, the pharmacists play essential role in self-medication.

Most of the respondents (77.3%) were practiced self-medication for themselves, while (16.8%) were applied it for someone else. About (33.6 %) practice self-medication for themselves and family member. The study indicated using antibiotics (58.8%) as a common drug class of self-medication. The outcome is near the study conducted in Saudi Arabia [13]. About 42.2% of the medical and 48% of the nonmedical students in Iran used antibiotic as self-medication [31]. Dispensing antibiotics without prescription is the main reason for their uncontrolled usage. Self-medication with antibiotics might result in developing resistance bacteria that couldn't be treated in the near future by using common antibiotics. The situation is different in countries that have regulation on dispensing antibiotics; a low percentage was obtained from studies in Ethiopia [32] and Nepal 16. Vitamins were the second used medicine (50.4%), the result is quite similar to the study carried out in Malaysia [33]. However, excess uses of vitamins could have unusual side effects. Analgesics (41.2%) and antipyretics (44.5%) also at the top of the self-prescribed medicines. According to some studies analgesics and antipyretics were the most used medicines [25,20]. While other studies revealed that acetaminophen and NSAIDs were the most frequently used categories of drugs [23,7]. Antispasmodic (35.3%) and Anta-acids (32.8%) has approximately similar percentages. The least used classes of medicines were anti-allergies (23.5%) and herbal medicines (28.6%). Adverse effects associated with usual administration of analgesic are nephropathy and hepatotoxicity [34, 35], and other studies reported serious side effect associated with self-medication [36-38], so students must be aware about the potential hazard of using medicine for minor symptoms.

Most of the students followed the doctors' prescription (62.2%), about (65.5 %) reuse the prescription when experienced with similar symptoms and (49.6 %) prescribed the same medicines to others who are having similar symptoms. These percentages revealed that the students were unaware to the mutual symptoms that associated with the common diseases; thus, it might lead to misdiagnosis of the different diseases.

CONCLUSION AND RECOMMENDATIONS:

Self-medication habits were common among first year students of faculty of Medicine and Health Sciences at Aden university in Yemen. An urgent and rapid intervention should be made to promote health awareness of the self-medication among students because the percentages of using antibiotics and other classes of medicines are alarming. Students must be educated about the potential hazard of using medicines without physician advices and their serious adverse reactions. The Ministry of Health and Population must enact laws regulating the dispensing of medicines from pharmacies.

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