Implications of self-medication among medical students-A dilemma

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Abstract

Objective: To evaluate the knowledge, attitude and practice of self-medication in medical undergraduate students.

Method: This cross-sectional questionnaire-based survey was conducted from January to June, 2017, among undergraduate students of Ayub Teaching Hospital, Women Medical College, International Medical College and Frontier Medical College in Abbottabad, Pakistan. The sample comprised students of first, second, third, fourth and fifth professional year. Data was collected using self-generated questionnaire.

Results: Of the 400 subjects approached, 300(75%) returned the questionnaire fully completed. Of them, 208(69.3%) were females and 92(30.66%) were males. The most common age group was 22-25 years 182(60.7%). Self-medication was found to be prevalent among 297(99%) subjects and 139(46.3%) respondents had practised self-medication in the preceding 6 months more than two times. Over-the-counter drugs were commonly used for the self-medication in 295(98.3%) cases. Overall, 285(95%) respondents had a positive attitude towards self-medication. Media was found to be the most common source of information for 93(31%) cases.

Conclusion: High prevalence of self-medication was noticed, with over-the-counter drugs being the most commonly used. Proper educational awareness programmes about self-medication can control the issue.

Keywords: Medical students, Self-medication, Abbottabad. (JPMA 68: 1363; 2018)

Introduction

Self-medication (SM) is the treatment of common health problems with medicines especially designed and labelled for a specific use without medical supervision and approval of being safe and effective for what it is being taken for.[1] SM is also defined by The National Health Surveillance Agency (ANVISA) of Brazilas, "the use of drugs without prescription, guidance, or follow-up by a physician or dentist".[2] The International Pharmaceutical Federation (FIP) defines SM as "the use of non-prescription medicines by people on their own initiative".[3] As per the World Health Organisation (WHO),[4] SM is the selection and use of medicines by individuals to treat self-recognised illnesses or symptoms.'' SM is now increasingly being considered a component of self-care.[1,5]

In general, the practice of SM has been extensively studied worldwide among populations of different countries of Africa, Asia and Europe.[5-8] Level of education of the respondents is found to be the most prevailing factor which influences SM. Many previous studies also evaluated the prevalence, nature and reasons for SM among medical and non-medical university students, worldwide.[6,9-11]

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Medical students, being the future medical practitioners, play an important role in the counselling of patients regarding the advantages and disadvantages of drugs. Medical students are also different from the general population in terms of knowledge of diseases and their treatment. Several studies have been conducted to evaluate SM practice among medical students.[1,7,9,12-15] The findings of these studies showed that the prevalence of SM varied among medical students of different countries and the primary conditions for seeking SM were found to be headache, common cold, cough, fever and abdominal pain. All these are illness of mild nature. Other factors were found to be prior experience of treating similar illness and economic considerations.[16]

SM patterns vary among different populations and are influenced by many factors, such as age, gender, self-care orientation and medical knowledge. In particular, SM is more common among healthcare professionals like physicians, nurses and pharmacists than the general public.[17]

The drug category mostly studied in reference to SM was over-the-counter (OTC) drugs and the results showed that about 25-75% population use OTC drugs for SM.[10] A recent study conducted in Malaysia stated that 75% of the studied population had used OTC drugs. The common OTC drugs used were analgesics, antipyretics and antibiotics. Cough remedies and supplements were also frequently purchased along with these OTC drug groups. Time-saving was found to be another approach towards

SM as OTC drugs are easily available and do not need prescription of a physician. Most of the OTC drugs are claimed to be safe but still inadequate knowledge of the drug utilisation can lead to adverse effects. Another dangerous outcome of SM is not obtaining the appropriate medication for the underlying disease which may lead to a delay in the diagnosis and treatment of actual disease condition.[12]

The prevalence of SM is high in European countries (68%) and much higher than this in the developing countries,[18] with rates going as high as 92% in the young people of Kuwait. Among our neighbouring countries, India has a prevalence rate of 31%[13,18] and 59% in Nepal.[14] In Pakistan, very few studies on SM have been conducted which have also confirmed high rates of prevalence of around 51%.[7,15,19,20]

There were several reasons for choosing medical students for this study. One was their trait of being easily influenced by the media, literature and the internet which promotes SM. Also they are the future physicians, so their health-seeking behaviour might influence their practice as well.

This study was conducted to assess knowledge, attitude and practice of SM in medical undergraduates.

Subjects and Method

This cross-sectional questionnaire-based survey was conducted from January to June, 2017, and comprised undergraduate students of Ayub Teaching Hospital, Women Medical College, International Medical College and Frontier Medical College in Abbottabad, Pakistan. The study was approved by the ethics committee of COMSATS Institute of Information and Technology, Abbottabad. Verbal consent was taken from all those included.

Sample size was calculated by using sample size calculator.[21] The population of district Abbottabad is about 1.3 million approximately according to 6th Population and Housing Census-2017 by Pakistan Bureau of Statistic.[22] Confidence interval 4.9 and confidence level 95% was used and the sample size required was found to be 400. Initially stratified random sampling and then simple random sampling was used for the recruitment of subjects.

Only completely filled-up questionnaires from students of first, second, third, fourth and fifth professional year were included in the study. Professionals/doctors were not excluded and so were incomplete questionnaires.

The questionnaire was adopted from various similar studies[1-4,9,12,13,17,18] and was pre-validated. The questionnaire included questions regarding demography, year of the Bachelor of Medicines, Bachelor of Surgery (MBBS) course, indications for SM, details of the drug groups used, pattern of drug usage, sources of information for drug usage, reasons for favouring SM and knowledge of adverse effects of drugs used for SM.

The data gathered was analysed and results were expressed in frequencies and percentages.

Results

Of the 400 subjects approached, 300(75%) returned the questionnaire fully completed. Of them, 208(69.3%) were females and 92(30.66%) were males. The most common

Table-1: Demographics of participants.

Demographic Variables	N (%)
Gender	
Male	92 (30.7)
Female	208 (69.3)
Age groups of Respondents (years)	
18 - 21	118 (39.3)
22 - 25	182 (60.7)
Study year	
1st year	20 (6.7)
2nd year	56 (18.7)
3rd year	43 (14.3)
4th year	105 (35)
5th year	76 (25.3)

Table-2: Advantages and disadvantages of SM.

The reasons stated by respondents	Respondent's percentage (%)
Advantages	
Aware about OTC drugs	59 (19.7)
Aware about generic and branded medicines	14 (4.7)
Aware about ADRs, dose of medicines	2 (0.7)
Aware about the importance of completing a course of medicines.	5 (1.7)
Read the package insert	5 (1.7)
All of above	215 (71.7)
Disadvantages	
Risk of ADRs	37 (12.3)
Wrong Medication	9 (3)
Disease aggravation	4 (1.3)
Drug Interaction	18 (6)
Masking underlying disease	38 (12.7)
Lack of knowledge about dose, frequency of administration and ADRs	45 (15)
Drug addiction	33 (11)
Drug Allergy	19 (6.3)
Drug Resistance	19 (6.3)
All of above	78 (26)

OTC: Over-the-counter
ADRs: Adverse Drug Reactions.

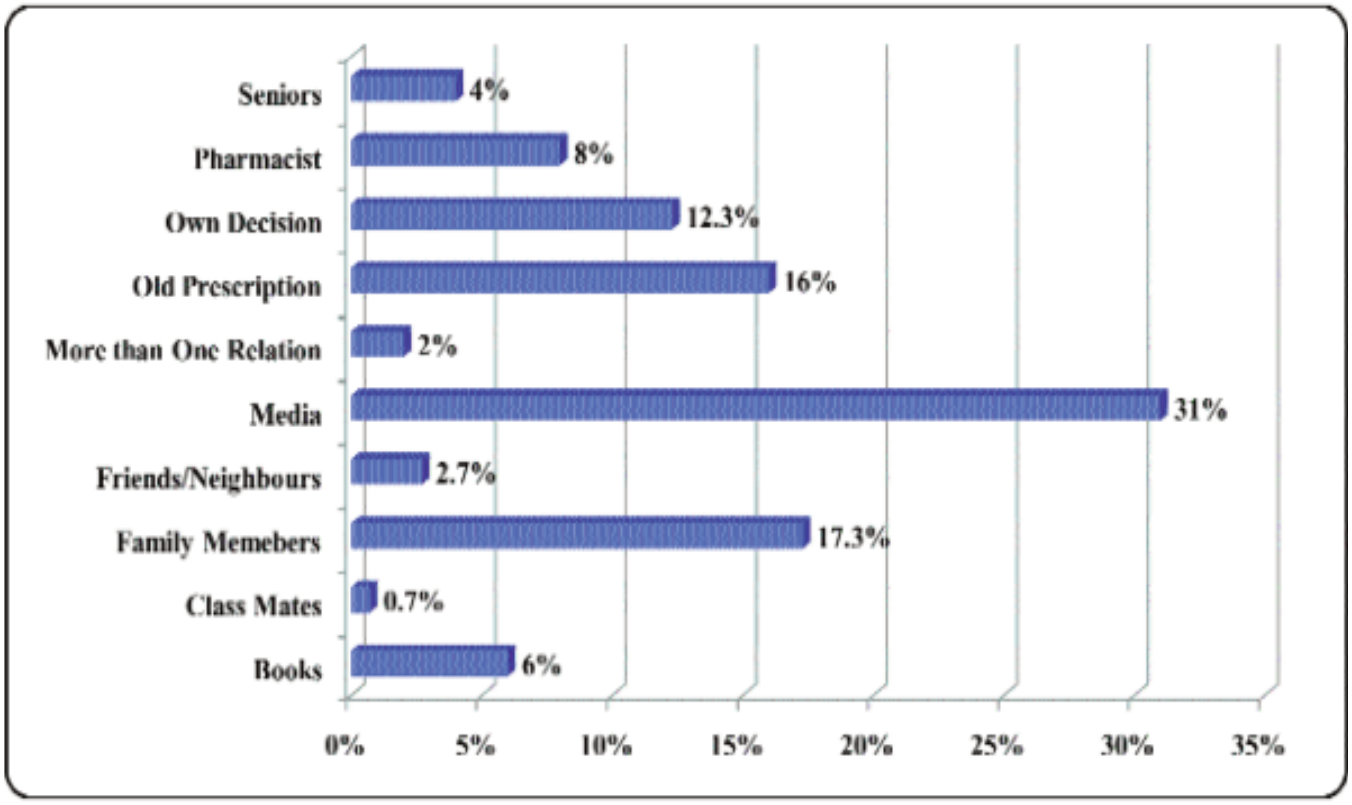

Figure: Source of information for Self-Medication (SM).

age group was 22-25 years which had 182(60.7%) subjects. Besides, 20(6.7%) students were from the first year, 56(18.7%) second, 43(14.3%) third,105(35.0%) fourth and 76(25.3%)were from the final year (Table-1).

Of the 297(99%) students practising SM, 207(69.7%) were females and 90 (30.3%) were males. Also, 105(35.4%) of those practising SM were 4th year students.

Overall, 59(19.7%) were aware of OTC drugs use, 14(4.7%) knew about the generic and branded drugs, 5(1.7%) had knowledge about the importance of completing a course of medicines. Further, 215(71.7%) respondents agreed that they had enough knowledge about all the parameters of SM which were described in the study questionnaire (Table-2).

The most serious disadvantage as perceived by the respondents was lack of knowledge about dose, 45(15%) suggested adverse drug reactions (ADRs) and frequency of dose, 38(12.7%) suggested masking of underlying disease 33(11%), checked drug addiction (11.0%, n=33) and 37(12.3%) risk of ADRs as disadvantages of SM (Table-2).

Of the 297subjects who had practised SM, 139(46.3%) had done so in the preceding 6 months more than two times. Major symptoms for self-medication were fever 41(13.7%), cough 36(12%) and headache 37(12.3%), while 126(42%) subjects were practising self-medication for more than one symptom (Table-3).

OTC drugs were commonly used for SM in 295(98.3%) cases among which non-steroidal anti-inflammatory drugs (NSAIDs) were frequently used by 223(74.3%) respondents while 31(10.3%) respondents were using more than one drug. Of all the respondents, 56(18.7%) stated that they self-medicated because of quick relief, 56(18.7%) stated "I know what to take" and 59(19.7%) did it because they thought it was time-saving (Table-3).

Of the total, 285(95%) respondents had a positive attitude towards SM and agreed with the statement that self-medication is a part of self-care. Of them, 139(46.3%) stated that they will not continue with SM while 122(40.7%) said they will start/continue with SM.

Media was found to be the most common source of information for 93(31%) cases. For 52(17.3%) respondents family members and for 48(16%) subjects, old prescriptions were the source of information (Figure).

Table-3: General parameters for SM.

General Parameters	N (%)
SM in last six month	
Once	95 (31.7)
Twice	63 (21)
More than twice	139 (46.3)
Never	03 (01)
Symptoms for SM	
Abdominal pain	11 (3.7)
Allergy	11 (3.7)
Body aches	14 (4.7)
Cough	36 (12)
Fever	42 (14)
Headache	37 (12.3)
Miscellaneous	24 (8)
More than one reason	125 (41.7)
Drug Groups used in SM	
Anti-infective	13 (4.3)
Antihistamines	14 (4.7)
GIT Drugs	11 (3.7)
Herbal	08 (2.7)
More than one Drug	31 (10.3)
NSAIDs	223 (74.3)
Reasons for SM	
Time saving	59 (19.7)
Convenience	11 (3.7)
Quick relief	56 (18.7)
Economical	19 (6.3)
Emergency use	14 (4.7)
Prevention of known illness	29 (9.7)
Mild ailments	10 (3.3)
Prior experience	19 (6.3)
Unavailability of health service	2 (0.7)
Physician will prescribe the same medicine	25 (8.3)
I have already the symptoms and i know what to "take".	56 (18.7)

SM: Self-medication
GIT: Gastrointestinal tract
NSAIDs: Non-steroidal anti-inflammatory drugs.

Discussion

SM is the treatment of common health problems with medicines without medical supervision. Different studies have reported the practice of SM among students of medical as well as non-medical undergraduates.[23-25] The current study was conducted among medical students of different institutions to evaluate their level of knowledge and pattern of practice regarding SM. This study used self-explanatory questionnaire which was largely dependent upon the information given by the respondents. Students were encouraged to independently fill the questionnaire but still mutual influence between the students and recall bias could not be ruled out completely.

SM was found high among the study participants. There were more females respondents doing SM in the preceding six months than male respondents. One reason might be the higher number of female students in medical colleges as highlighted in a previous study.[26] But the finding was not statistically significant. These findings were similar to other studies conducted in Palestine, Slovenia, India and Nepal, where the SM was reported high among students.[13,23,27,28]

There were 300 respondents in the study from different professional years of different medical colleges. Knowledge about the SM was adequate which is quite similar to other studies.[1,9,16,17] Students were well aware of the different aspects of SM. They had the knowledge about the merits and demerits of SM, as they are the future physicians so they got all knowledge from books, teachers, senior students and some had it from the media. Even though they had enough knowledge about the merits and demerits of SM, they did not know about the proper dose and use of medication.

About half of the respondents practised SM for fever, cough body aches and abdominal pain. They were practising for multiple conditions and majority were using OTC NSAIDs; most commonly paracetamol. Similar results were reported in a study conducted in India,[18] showing that OTC drugs usage was more in medical students for the conditions like cough and fever. A study conducted in Jammu[1] depicted that majority of the respondents practised SM. The most common system practised was allopathic system and very few of them practised ayurveda/herbal system. In addition, fourth and fifth professional medical students practised SM more if we compare them with first, second and third professional year students because they have more knowledge about the medicines and their usage as this is a part of their curriculum.

In the present study, majority of the participants felt that SM was a part of self-care which was higher to that reported in studies from Karachi,[7] Ethiopia[29] and Southern India.[30] Less than 50% of the respondents wished to continue/start with the SM which is low compared to a study conducted in Southern India.[30]

In order to reduce SM practices, the government has to take special measures for the implementation of rules and regulations on selling and purchasing of drugs. Also, various educational programmes should be initiated in medical institutions to raise awareness among students on the pros and cons of responsible SM to eventually improve their attitudes towards SM. Also, it might be helpful if the concepts and principles of SM could be reflected in the curriculum of healthcare institutions.

Conclusion

SM practices were more common in senior students because they had adequate knowledge about the medicines. Even juniors knew about some aspects of SM due to their exposure by way of multiple sources. Easily available OTC drugs were most commonly used for SM.

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