

Practice of Self-Medication among Medical and Non-Medical Undergraduate Level University Students in District Abbottabad

Self-Medication
among Medical
and Non-Medical
Students

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ABSTRACT

Objective: To determine the practice of self-medication and its associated factors among the medical and non-medical undergraduate level university students in Abbottabad.

Study Design: Comparative cross sectional study

Place and Duration of Study: This study was conducted at the Department of Community Medicine, Ayub Medical College, Abbottabad for a period of 10 months from Nov 20, 2018 to Aug 31, 2019.

Materials and Methods: It was carried out on 400 undergraduate students with 200 medical and 200 non-medical students. Data was gathered on a structured questionnaire and analysis was conducted both for descriptive and inferential statistics by SPSS version 20. Chi square test of association was employed to determine the association between self-medication and the independent variables. p value of ≤ 0.05 was considered significant.

Results: Out of 400 students participating in the research, self-medication practice was found in total 326(81.5%) students with 46% among medical and 35.5% among non-medical students. Relative frequency of self-medication out of 200 medical undergraduates was 184(92%) while out of 200 non-medical students it was 142(71%) with statistically significant association ($p < 0.001$). Self-medication was also found to be associated significantly with gender and reasons for practicing self-medication ($p < 0.001$). Most frequently used group of medicines for self-medication was analgesics 127 (63.5%) and the most usual symptom was pain 75(37.5%).

Conclusion: Self-medication is more frequent among medical undergraduate students. It was found to be associated with gender and multiple reasons for practicing self-medication.

Key Words: Self-Medication, Medical Students, Analysis

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INTRODUCTION

Self-medication is administration by a person of certain traditional and recent medicines for treatment purposes without consulting a registered medical practitioner prior to intake of such medicines.¹ Presently, the practice of self-medication is increasing worldwide especially by the young adults in the developing nations.²⁻⁴ It is quite common practice among the university students more specifically in the medical students.^{5,6} Prevalence ranges between 78.1% to 96.8% among university students worldwide.^{1,5,6}

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In various main cities of Pakistan it ranges between 76-99%.⁷⁻⁹ In Abbottabad a research conducted on self-medication in non-medical undergraduates reports prevalence of 95.5%.¹⁰ Inappropriate use of over the counter medicines can result in serious implications like drug abuse and drug addiction, delayed diagnosis of diseases and drug resistance.^{5,11,12} It is also associated with higher odds of suicide attempts.¹³

The reasons of self-medication among students include considering illnesses to be minor, to save time, intake of medicines based on past experience and confident about knowledge regarding medicines.¹⁴ Most of the studies on the students report headache to be the most usually occurring symptom for self-medication and after that common cold, flu and temperature.^{14,15} The medicines used more frequently for the purpose of self-medication were analgesics or painkillers, common antibiotics, antipyretics, antiallergics and anxiolytics.^{1,5,14,15} The literature regarding self-medication among the educated youth in Pakistan is inadequate and only a few researches have been conducted at the national level. To the best of our knowledge no regional data on comparison of self-medication between medical and non-medical

university students is available. Therefore this study was conducted to determine self-medication and its associated factors amid medical and non-medical undergraduates. The results of this study will be helpful to build baseline data at the regional level especially in Abbottabad. It will also raise awareness among students regarding self-medication and help the policy makers to take steps to improve our health system.

MATERIALS AND METHODS

This comparative cross sectional study was carried out in Ayub Medical College and COMSATS University Abbottabad Campus for duration of ten months from Nov 20, 2018 to Aug 31, 2019 after taking permission from the Ethical review board and Head of COMSATS University. The sample comprised of total 400 undergraduate university students with 200 medical and 200 non-medical students. The Sample size was calculated by means of WHO software for sample size calculation with 95% CI, precision of 0.05 and taking prevalence of self-medication practice equal to 80.4%.^{15,16} The calculated sample size was 385 but we rounded off the figure to 400 students after excluding 57 students i.e 22(4.8%) medical and 35(7.6%) non-medical students who refused to give data. The students were selected by convenience sampling technique and approached in the courtyards and classrooms. Data was collected on a non-validated self-devised structured questionnaire from Pakistani national students but those students who did not give their informed consent were excluded.

Descriptive and inferential statistical analysis of the data was done by SPSS version 20. Frequencies and percentages were calculated for the demographic variables (age groups, gender) and other research variables including category of students, self-medication habit, type of medicine used for this purpose, type of symptom for which medicines were self-administered and its reasons. Chi square test of association was employed to determine the association of demographic and research variables with self-medication and p value below and equal to 0.05 was considered as statistically significant.

RESULTS

The number of students participating in this research in total was 400. Out of these 200 were medical and 200 were non-medical undergraduates. Out of these 221(55.2%) students were male and 179(44.8%) were females. Regarding age, 230(57.5%) students were below 20 years of age while 170(42.5%) were 20 years or above. Out of all 400 students participating in the study, Self-administration of medicines was present in total 326(81.5%) students with 46% in medical and 35.5% in non-medical. Out of 326 students practicing self-medication, 184(56.4%) were medical students and 142(43.6%) were non-medical undergraduates.

The most usual symptom for which students self-medicated was pain in any part of the body 143(35.7%) followed by flu 70(17.5%), fever 56(14%), diarrhea 21(5.25%), allergy 20(5%), weakness 8(2%) and other symptoms 8(2%). Other symptoms included dyspepsia and sore throat. The most habitual group of drugs used for self-medication were the pain relievers 240(60%) followed by antibiotics 32(8%), multivitamins 23(5.75%), antihistamines 8(2%), antidepressants 8(2%), other allopathic 8(2%) and homeopathic medicines 7(1.75%).

The relative frequency of self-medication out of 200 medical undergraduates was 184(92%) while among 200 non-medical students it was 142(71%). The association of self-medication practice with category of students exhibited statistical significance ($p < 0.001$) as illustrated in Table 1.

The self-administration of drugs was also significantly associated with gender of the undergraduates. The female students were found to be practicing it more as compared to the other students. However self-medication was not found to be associated with age of the students. Frequencies, percentages and p values can be seen in Table 2.

The most common reason associated with self-medication among the students was found to be lack of resources like shortage of time and money with a significant association ($p < 0.001$). The frequencies of reasons other than lack of resources associated with self-medication are shown in Table 3.

Table No.1: Self-medication in undergraduate students

Category of students	Self-medication		Total	P value
	Yes	No		
Medical	184	16	200	<0.001*
	92.0%	8.0%	100.0%	
Non-Medical	142	58	200	
	71.0%	29.0%	100.0%	
Total	326	74	400	
	81.5%	18.5%	100.0%	

(*): significant association

Table No.2: Association of demographic variables with self-medication

Variables	Categories	Self-medication		P value
		Yes	No	
Gender	Male	157	64	<0.001*
	Female	169	10	
Total		326	74	
Age groups	<20years	192	38	0.23
	≥20years	134	36	
Total		326	74	

(*): significant association

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Table No.3: Association of Reasons with self-medication

Reasons	Self-medication		Total	P value
	Yes	No		
lack of resources	87	0	87	<0.001*
flaws in health care delivery	77	0	77	
mild illness	35	0	35	
drugs accessibility	71	0	71	
Other reasons**	56	0	56	
Not applicable	0	74	74	
Total	326	74	400	

*significant association

**Other reasons: prescribing medicines on the basis of own past experience, advised by a friend/relative, thought of having enough knowledge about drugs, lack of awareness about hazards of self-medication and casual attitude regarding safety of medicines.

DISCUSSION

This research was conducted to determine the patterns of self-medication practice among the medical and non-medical university level undergraduates. Our results indicate that this practice is comparable between the two groups and more common among the female medical students. Self-medication is usually done by the students to relieve their pain using analgesics.

Overall frequency of self-medication was 81.5% in this research which is quite big and needs to be considered. A similar study carried out by Mumtaz Y also reports it to be 80.4% among university students¹⁵ which is quite near to 84.8% in general community in Karachi¹⁷. A study conducted in Baghdad shows the frequency of self-medication in the university undergraduates to be much higher than our results i.e. 92.4%.¹⁸ The reason for differences in frequency of self-medication could be as a result of differences in medical knowledge and

awareness about self-medication and sample size variations.

In our research, Self-administration of drugs was more frequently associated among medical students (46%) as compared to non-medical students (35.5%). The reason may be that medical undergraduates have more understanding and approach to the drugs in contrast to the non-medical ones. However their knowledge is still inadequate at the undergraduate level and makes them prone to the hazards of self-medication as it increases the chances of drug abuse and drug addiction.^{5, 11} Furthermore, the early diagnosis of the diseases is delayed due to masked signs and symptoms of diseases as a result of self-medication. Similarly resistance to drugs also increases.¹² It is also associated with higher odds of suicide attempts.¹³

These results are consistent with the results of a study in Saudi Arabia (96%) and the other in Rawalpindi (95.3%) which also report higher frequency in medical students^{5,14} and among female students¹⁴. However some studies report insignificant difference amid medical and non-medical undergraduates¹⁹ which may also be due to the same level of confidence and knowledge about self-medication in both the groups.

Pain in any part of the body was the most usually occurring symptom associated with self-medication among the undergraduates. Analgesics were used more among both the groups followed by medicines for the treatment of flu and high temperature in the present research. Mushtaq M et al and Afridi MI also found body pains especially headache (20% & 32.7% respectively) to be the most common symptom for practicing self-medication.^{19,17} Pain killers were also found to be used more for self-medication as in study of Bareera et al in Rawalpindi.¹⁴

Reasons associated with self-intake of drugs in this research were lack of resources (shortage of time and money), flaws in health care delivery (difficult access to the health facilities due to overburdened hospitals, unfriendly attitude of the health care workers), minor illness (considering the ailment as minor), drugs accessibility (easy access to the various over-the-counter drugs from pharmacies) and other reasons (prescribing medicines due to one's own past experience, advised by a friend/relative, thinking knowledge regarding medicines being adequate, lack of awareness about hazards of self-medication and casual attitude regarding safety of medicines). Reasons were found to be different in different regions but ill-natured attitude of the health staff, lack of transport and time were also found to be most common factors in Esan et al study.¹ Other reasons in different studies were like considering illness as minor¹⁵, self-awareness regarding self-medication, availability of over the counter medicines⁵.

This study has certain limitations which require to be highlighted. First of all, the results of this study cannot

be applied to the whole community as the sample consisted of subjects from subgroup of the population i.e. students only selected from specific universities and a limited geographic area. Secondly it covers only the acute conditions and association of self-medication with diseases of longer duration could not be evaluated. Another limitation is that not all the demographic variables were studied and convenience sampling technique was employed for sample selection.

CONCLUSION

Self-medication is a common among both medical as well as non-medical university students but more frequent among medical students. It was found to be associated with gender and multiple reasons for practicing self-medication.

The study will be beneficial to the students to raise awareness regarding self-medication and its associated factors. It will also help the policy makers to take steps to improve our health system.

It is recommended that students should be health educated and awareness should be created about the self-administration of drugs and its associated risks especially among the medical students who know more about different diseases and their treatment. Health care delivery system should be improved and flaws should be rectified. Proper Legislation should be made and implemented regarding active sale of over the counter drugs and pharmacies should be supervised. Further research involving better study designs should be carried out as this attitude is becoming more prevalent in our society so measures should be taken for its prevention.

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