

# Prevalence of Self-Medication Practice among Medical and Paramedical Students- A Comparative Study

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## ABSTRACT

### BACKGROUND

Medical and paramedical students practice self-medication as they are exposed to information about drugs in their books and from their peers, easier availability of medicines etc. This study aimed to assess the prevalence of self-medication practice among medical and paramedical students.

### METHODS

A cross sectional study was conducted among medical and paramedical students to assess the self-medication practice by administering a structured questionnaire. A total of 265 students (20.56 ± 1.59 years) was enrolled in the study (136 were medical and 129 paramedical students).

### RESULTS

80.14% medical and 85.3% paramedical students practiced self-medication ( $p > 0.05$ ). Among the studied group, 89.5% were using self-medication for symptomatic relief and 81.1% accessed the medicines from market followed by obtaining physician's sample. The common indication of self-medication was for fever (76.2%) and the commonly used drug was paracetamol (78.5%). Self-medication was significantly high in medical students with regard to the use of medications for gastritis ( $p=0.002$ ), diarrhea ( $p = 0.002$ ), painkillers ( $p= 0.0001$ ) and allergy ( $p=0.0001$ ). Only 60% of subjects were completing full course of treatment. Medical students complete their full course of antibiotic treatment compared to paramedical students (Fisher's exact test= $0.001$ ). In the study population, 59.3% were aware of the side effects and no significant difference between medical and paramedical students was seen. In the study population, 75.6% did not recommend self-medication to others.

### CONCLUSIONS

The practice of self-medication was common and comparable between medical and paramedical students. Awareness programmes about hazards of self-medication need to be conducted to avoid the unsupervised use of drugs.

### KEYWORDS

Allergy, Antibiotics, Diarrhea, Gastritis, Paracetamol, Self-Medication

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*DOI: 10.18410/jebmh/2020/115*

*Financial or Other Competing Interests:*  
*None.*

*How to Cite This Article:*  
*Vincent A, James T. Prevalence of self-*  
*medication practice among medical and*  
*paramedical students- a comparative*  
*study. J. Evid. Based Med. Healthc. 2020;*  
*7(11), 525-528. DOI:*  
*10.18410/jebmh/2020/115*

*Submission 11-02-2020,*  
*Peer Review 16-02-2020,*  
*Acceptance 28-02-2020,*  
*Published 10-03-2020.*



**BACKGROUND**

According to WHO, health is defined as the “state of complete physical, mental and social well-being and not merely the absence of any disease”.<sup>1</sup> Self-care is one of the important factors that help people to achieve the state of well-being. Self-care means that, what people do to themselves for maintaining health as well as for preventing illnesses such as hygiene, nutritional and lifestyle modifications, making changes in environmental and socioeconomic factors, self-medication etc.<sup>2</sup> Among that, self-medication forms an integral part of self-care, which forms one of the primary public health resources in the healthcare system.<sup>3</sup> It is defined as the use of any medication for self-recognized illness or symptoms by choosing and taking medicines without consulting doctor.<sup>4</sup> Many factors such as changes in life style, various socio economic factors, increased potential to manage certain illness through self-care, more availability of healthcare and health professionals, greater exposure to advertisement, education and professional status influence self-medication.<sup>5</sup> Previous studies have shown that the practice of self-medication is common among health workers and medical students.<sup>6,7</sup> Medical students do practice self-medication as they are exposed to information about drugs in their books and from their peers, easy availability of medicines from pharmacy as well as getting physician’s sample. This can lead on to development of dangerous adverse drug reactions as well as antibiotic resistance in a community.<sup>8,9</sup> Being future doctors and health prescribers of community, it is important to know the prevalence of self-medication among medical students and their attitude towards the same so as to prevent the complications related to it. This study was aimed to assess the prevalence of self-medication practice among medical and paramedical students of Kerala.

**METHODS**

This was a cross sectional study conducted amongst undergraduate medical students as well as paramedical students of Amala Institute of Medical Sciences, Thrissur during the period of July to December 2019, after taking their informed consent. This study was conducted as per regulations of Institutional research committee. A structured questionnaire was administered to assess the self-medication practice among medical and paramedical students.

**Statistical Analysis**

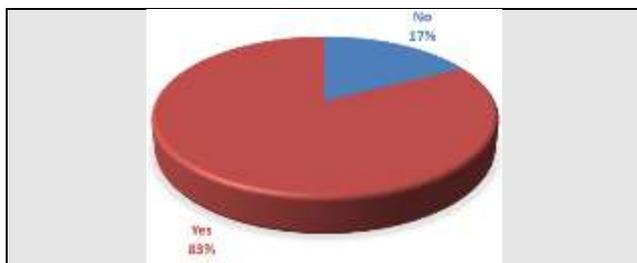
The collected data was analysed using SPSS Version 23. The data were represented as Mean± SD. Fischer’s exact test was used to assess the difference of categorical data. p<0.05 was considered significant.

**RESULTS**

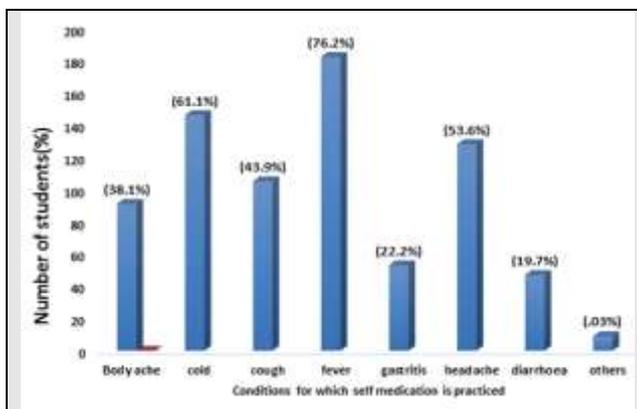
A total of 265 students were enrolled in the study, out of which 51.3% (136) were medical students and 48.7% (129) paramedical students. The study population included 224 female and 41 male subjects. The mean age of the entire study population was 20.56 ± 1.59 years. Distribution of sample was given in the table 1. 82.6% of the entire study population practice self-medication, whereas 17.4% doesn’t and is represented in the figure 1. Among medical and paramedical students, 80.14% and 85.3% practice self-medication respectively and there was no statistically significant difference between the groups in terms of that. 89.5% of the entire study population used this for symptomatic relief. Out of students practising self-medication, 89.8% of medical students and 96.2% of paramedical students practice consider it as and when needed. 81.1% of the study population practising the same have access to the medicines from the market followed by obtaining physician’s sample. The common indication in which self-medication was used by the study population were for fever (76.2%), cold (61.1%), headache (53.6%), cough (43.9%), body ache (38.1%), gastritis (22.2%) and diarrhoea (19.7%) which is represented in the figure 2. The commonly used drugs other than antibiotics were paracetamol (78.5%) followed by antihistamines (39.2%), antacids (29.4%) and painkillers (19.6%) and were represented in figure 3. Significantly increased use of ayurvedic mediation is noted among paramedical students compared to medical students. Self-medication was significantly higher in medical students compared to paramedical students with regard to the use of medications for gastritis (p=0.002), diarrhea (p = 0.002), painkillers (p= 0.0001) and allergy (p=0.0001). Though 66% of study population start antibiotics for self-medication, only 60% of subjects were completing full course of treatment. Medical students complete their full course of antibiotic treatment compared to paramedical students and is significantly different from each other (Fisher’s exact test=0.001). There is a significant difference in the usage of antibiotics by students of different year in both medical & paramedical students and is represented in the figure 4. Regarding the knowledge of possible side effects, 59.3% of the study population were aware of the side effects and there were no significant difference between medical and paramedical students for the same. Though practicing, with regard to occurrence of possible side effects, 75.6% of the study population doesn’t recommend self-medication to others.

Variable	Frequency	Percentage
<b>Sex</b>		
Male	224	84.5
Female	41	15.5
<b>Year of Study</b>		
First Year	78	29.4
Second Year	55	20.8
Third Year	75	28.3
Fourth Year	57	21.5
<b>Course</b>		
Medicine	136	51.3
Paramedical	129	48.7

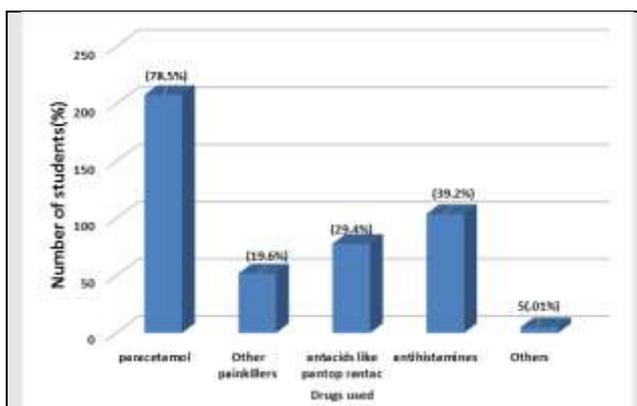
**Table 1. Distribution of Sample Population**



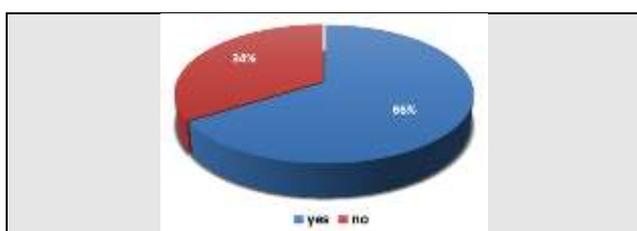
**Figure 1. Prevalence of Self-Medication Practice among Medical and Paramedical Students**



**Figure 2. Indications for Self-medication among the Study Population**



**Figure 3. Drugs Used for Self-Medication among the Study Population**



**Figure 4. Usage of Antibiotics as Self-Medication in the Entire Study Population**

## DISCUSSION

The present study helped to assess the prevalence of self-medication among medical and paramedical students of South Kerala, India. This study noted a high prevalence of self-medication among both medical (80.14%) and paramedical (85.3%) students which could be attributed to

the knowledge of the drugs, easy availability of medicines without a prescription.<sup>10</sup> The results are in accordance with the studies done in India by Pal et al,<sup>11</sup> Jagadeesh et al,<sup>12</sup> Patil et al<sup>13</sup> and Kumar et al,<sup>14</sup> showed a prevalence of 65%, 66%, 88.18% and 78.6% respectively. Studies in Pakistan (80%), Kuwait (97.8%), Egypt (62.9%) were also reported an increased prevalence of the same.<sup>15,16,17</sup> This population used self-medication for fever (76.2%), cold (61.1%), head ache (53.6%), cough (43.9%), body ache (38.1%), gastritis (22.2%) and diarrhoea (19.7%). Self-medication was significantly higher among medical students compared to nonmedical students with regard to the use of medications for gastritis ( $p=0.002$ ), diarrhea ( $p = 0.002$ ), painkillers ( $p=0.0001$ ) and allergy ( $p=0.0001$ ) as they are more exposed to the details of the drugs, earlier experience with a similar illness and reuse of old prescriptions, easier availability as well as information obtained from their peers and seniors.<sup>18</sup> Significantly increased use of Ayurveda mediation is noted among paramedical students compared to medical students which must be due to their source of information from parents, relatives or friends. The present study showed that 66% of the study population use antibiotics for self-medication and is represented in figure 4. Among the students who underwent self-medication with antibiotics, 75.3% of medical students and 47.9% of paramedical students completed their full course treatment. This means that medical students complete their full course of antibiotic treatment compared to paramedical students and is significantly different from each other (Fisher's exact test= $0.001$ ). These results are in accordance with the study done by Chauhan among medical students.<sup>19</sup> This means that students related to medical profession were having a tendency to use antibiotic without consulting a doctor. This could be because of the better knowledge of usage of antibiotics in medical students compared to others. There is a greater tendency seen among paramedical students compared to medical students to discontinue antibiotics after getting a symptomatic relief ( $p<0.001$ ). Among the year of study, third year students complete their full course antibiotic compared to others which could be due to the better knowledge of side effects related to the drugs as well as antibiotic resistance. 59.3% and 35.7% of the study population were aware of the >3 side effects and at least one side effect respectively and this is in agreement with the previous studies.<sup>20</sup> There is no significant difference in the awareness of possible side effects in both the groups. Though practicing, 75.6% of the study population does not recommend self-medication to others. Hence, there is a need for creating awareness among medical students to avoid making wrong as well as delay in diagnosis of disease and adverse reactions associated with the unsupervised use of drugs.

## CONCLUSIONS

The practice of self-medication is very common and comparable between medical and paramedical students.

There is significantly greater use of antibiotics in medical students compared to paramedical students. This could be explained by their knowledge about the drugs compared to the other group, easier availability of drugs as well as opinion from peers and seniors. This could lead to misdiagnosis and development of adverse drug reactions as well as antibiotic resistance. Awareness programmes about hazards of self-medication need to be conducted among the medical students to avoid the unsupervised use of drugs.

### ACKNOWLEDGEMENT

The author acknowledges the valuable help of Dr. Ajith T.A., Professor, Department of Biochemistry, Amala Institute of Medical Sciences, Thrissur, Kerala, India, during the preparation of this manuscript.

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