

# A study of the Prevalence, Pattern, and Perception of Self Medication among Medical Students in North India

Renu Chauhan<sup>1</sup>

## ABSTRACT

**Introduction:** Self medication is a global public health concern. Medical students are at high risk for self medication because of early exposure and access to drugs and related information which is often unreliable and incomplete. Study aimed to study the prevalence, pattern and perceptions of medical students about self medication.

**Material and methods:** It was a questionnaire based, cross-sectional study conducted among 1<sup>st</sup> and 2<sup>nd</sup> year medical students in Himachal Pradesh. 200 students were enrolled after taking informed consent, of which 92 (46%) were male and 108 (54%) were female. The mean age of the study participants was 20.5 ± 1.8 years.

**Results:** 166 (83%) students reported to have resorted to self medication atleast once in the 6 month period prior to the study. Overall, 82.6% males and 83.3% females had reported self medication. The common conditions for self medication were headache (77%), cough and cold (56%), fever (48%), gastritis (40%), etc. The most commonly used drugs were analgesics (78%), antibiotics (42%), anti histaminics (38%), antipyretics (26%), antacids (11%), and others (6%). The source of drug information were past experience with drugs (42%), relatives/ friends (33%), pharmacists (26%), advertisements (18%), internet (15%), and books (10%). 72% of the students started treatment within first two days of onset of symptoms. Only 31% reported completing the course of treatment. 66% students were not confident of the doses of medicines used by them. Only 36% students were aware of at least one side effect of the medication they had used. 22% students felt that self medication could be harmful. 18% students felt that occasional self medication for a mild illness would cause no harm.

**Conclusion:** Self medication is quite prevalent among the students. Hence there is a need to educate the students regarding responsible self medication.

**Keywords:** Self-Medication, Medical Students, Prevalence, Attitude, Self Care

## INTRODUCTION

Self medication is an important public health concern globally.<sup>1</sup> The WHO defines self medication as 'the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms.'<sup>2</sup> Simply put it implies the consumption of medicines without consulting a physician. Self medication is considered to be an element of a broader concept of self care which includes all the various activities that individuals undertake to remain healthy, like maintaining hygiene, good nutrition, healthy life style, etc.<sup>2,3</sup> Self medication is thus seen as an attempt by people to take care of their own health. Some of the reasons for the

increase in prevalence of self medication practice are rising socioeconomic status of people, increased literacy rates, easy access to information, shortage of time, easy availability of the over the counter drugs, etc.<sup>3</sup> Responsible self medication requires that medicines be consumed only after ensuring that they are of good quality and are accompanied with information about drug administration, monitoring, adverse drug reactions, interactions and warnings, etc.<sup>4</sup> However most people pop the pills directly from previous left overs, or purchase from the pharmacies without prescription, and often without any health advice. This is a big threat to responsible self medication and often results in adverse drug reactions and also leads to development of antibiotic resistance in the community.<sup>5</sup> Medical students are especially susceptible to the self medication because of the professional exposure to information about drugs in their books, or from peers or parents, etc. The availability of physician samples and easy access to drug stores also adds to the risk.<sup>6</sup> The present study was undertaken to identify the reasons for, and the patterns of, self- medication among medical students.

The study was conducted with the aims and objectives to study the prevalence and pattern of self-medication among medical students and to assess the perceptions of medical students about self-medication.

## MATERIAL AND METHODS

It was a cross sectional, observational study which was conducted at Dr Rajendra Prasad Government Medical College in District Kangra in Himachal Pradesh. The study duration was of two months i.e. October 2013 to November 2013. The study participants were 1<sup>st</sup> and 2<sup>nd</sup> year MBBS students. The students were explained about the objectives of the study and an informed consent for participation in the study was obtained from them. The students who expressed their consent for participation, were enrolled in the study. The study participants were administered a pretested, semi structured, questionnaire which was used as the study tool to collect information regarding the frequency and pattern of self- medication in the six months period prior to the study. A

<sup>1</sup>Assistant Professor, Dr Rajendra Prasad Government Medical College, Kangra, Tanda, Himachal Pradesh, India

**Corresponding author:** Dr Renu Chauhan, Assistant Professor, Department of Community Medicine, Dr Rajendra Prasad Government Medical College, Kangra, Tanda, Himachal Pradesh-176001, India

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longer period was avoided to prevent a recall bias. The study tool also contained sections that assessed the perceptions and attitude of medical students regarding self medication. The collected data was entered and analyzed using SPSS Version 17.

## RESULTS

A total of 200 students participated in the study, of which 108 (54%) of the participants were female and 92 (46%) were male. The mean age of the study participants was  $20.5 \pm 1.8$  years.

### Prevalence of self medication among medical students

Self medication was found to be highly prevalent, with 166 (83%) students reporting to have resorted to self medication atleast once during the 6 month period prior to the study. Of these 76 (45.78%) were males and 90 (54.2%) were females. Overall, 82.6% males and 83.3% females had reported self medication.

### Reasons for Self Medication

Self medication was reported most commonly for conditions perceived as minor illnesses (77%), and for conditions for which the students had taken treatment in the past (70%). Other reasons are as shown in Figure 1.

### Pattern of self medication among medical students

72% of the students, who reported self medication, started the treatment within first two days of onset of symptoms. The others delayed the treatment, depending upon the severity of symptoms, anticipating spontaneous resolution. Only 31% reported completing the course of treatment, while 69% took medicines only till their symptoms were relieved.

### Sources of information about medicines

The most commonly reported source of drug information was past experience with drugs (42%), followed by relatives/friends (33%), pharmacists (26%), advertisements (18%), internet (15%), and from books (10%).

### Drugs used for self medication

The most commonly used drugs for self medication were analgesics (78%), antibiotics (42%), anti histaminics (38%), antipyretics (26%), antacids (11%), and others (6%). (Figure 2)

### Indications for self medication

The common conditions for which students reported self medication were headache (77%), followed by respiratory tract infections like cough and cold (56%), fever (48%), gastritis (40%), etc as presented in Figure 3.

### Knowledge and Perceptions of medical students about self medication

Even though self medication was resorted to by the students as a quick relief measure, largely to avoid the rush in hospital OPD's and to save time, most of the students (66%) were not confident of the doses of medicines used by them. Only 36% students were aware of at least one side effect of the medication they had used. 22% students felt that self medication could be harmful. 18% students felt that occasional self medication for a mild illness would cause no

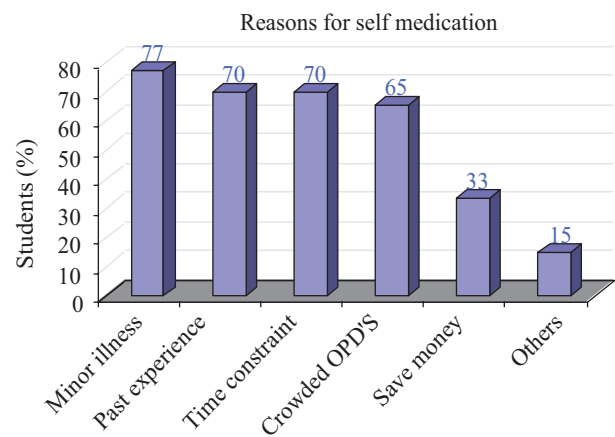


Figure-1: Reasons for Self Medication by the students

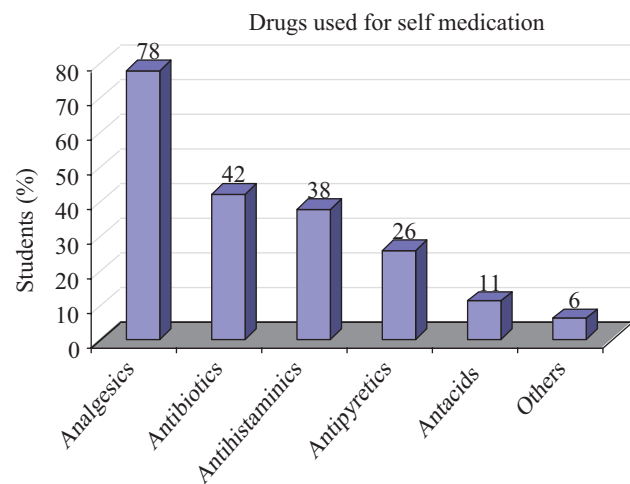


Figure-2: Drugs used for Self Medication by the students

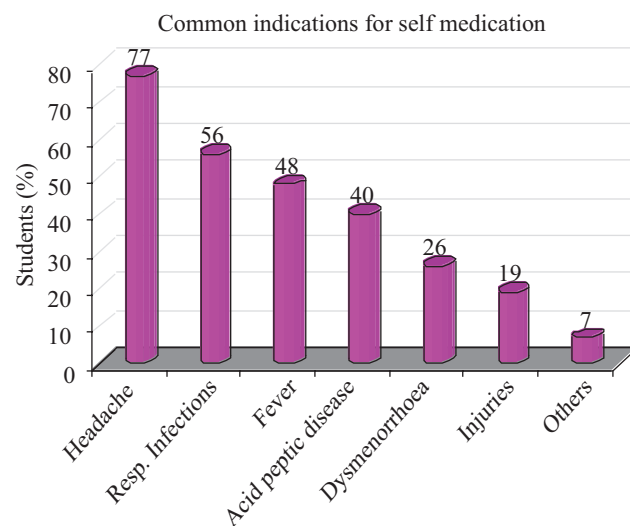


Figure-3: Common indications for Self Medication by the students

harm.

## DISCUSSION

Even though self medication has been promoted as a component of self care, yet 'responsible' self medication is found to be lacking in various studies.<sup>7-10</sup> Hence the present study was conducted to gain an insight into the prevalence of self medication among medical students and understand

their knowledge and perceptions towards it. The study participants were 1<sup>st</sup> and 2<sup>nd</sup> year medical students and 200 students were enrolled in the study. The mean age of the students was  $20.5 \pm 1.8$  years.

In our study self medication was found to be highly prevalent and was being practiced by 83% students. Different authors have reported prevalence of self medication as 57.05%<sup>7</sup>, 71.7%<sup>8</sup>, 78.6%<sup>9</sup>, 84%<sup>10</sup>, 84%<sup>11</sup>, 92.7%<sup>12</sup>. Globally, the prevalence has been reported as 62.9% from Egypt<sup>13</sup>, 80% from Pakistan<sup>14</sup>, and as high as 97.8% from Kuwait.<sup>15</sup> The difference in the prevalence can be attributed to factors like difference in study methodology and recruitment of participants apart from other socio-demographic, socio-economic, and behavioural differences among them.<sup>8</sup> For example some studies have used a shorter time frame of 1-2 months<sup>7</sup> while in others a longer recall period of 6 months to 1 year has been used.<sup>8,11,12</sup> Similarly in some studies only 1<sup>st</sup> or 2<sup>nd</sup> year students have been included<sup>12</sup>, while in others all the students have been enrolled.<sup>7-9</sup> A difference in the prevalence and practice of self medication has been reported between the 1<sup>st</sup> and 2<sup>nd</sup> year students and the final year students by different authors.<sup>7,8</sup> Self medication has been reported to be more prevalent among the senior students and is attributed to more knowledge and exposure to drug information than the juniors. In our study self medication is quite prevalent among the 1<sup>st</sup> and 2<sup>nd</sup> year students and this may be attributed to the fact that all the girl students are residing in the college hostel and the boys are staying either in hostels or as paying guests near the college. This may favour the reuse of old prescriptions and drugs as well as seeking medicine related advice from peers and seniors.

In our study the prevalence of self medication was higher among females (83.3%) as compared to males (82.6%). Similarly other authors have also reported a higher prevalence of self medication among females.<sup>7-9,11</sup> In some studies a higher prevalence among males has also been reported.<sup>6, 14,16</sup> The most common reason for self medication reported in the present study was 'minor illness' (77%), followed by previous experience with treatment (70%), and shortage of time (70%). Similarly different authors have reported the subject perceived minor illnesses to be the commonest reasons for self medication.<sup>7-10</sup> Other factors that are frequently associated with self medication are an earlier experience with a similar illness, quick relief, avoiding OPD queues, shortage of time etc. Factors associated with privacy among females have also been reported.<sup>16</sup> This could also be a reason why the prevalence of self medication is higher among female students in our study.

The common indications for which students reported self medication were headache (77%), followed by cough and cold (56%), fever (48%), gastritis (40%), among others. In other studies also headache has been consistently reported as the most common indication for self medication.<sup>8,10,14-16</sup> In some studies the predominant indications reported are cough/ cold<sup>6,7</sup> and fever.<sup>8</sup> Other less common indications include fever, gastritis, diarrhea, dysmenorrhoea, etc. Dysmenorrhoea was reported as being the commonest

cause of self medication among females.<sup>16</sup> The commonly used drugs in this study were analgesics (78%), followed by antibiotics (42%), anti histaminics (38%), antipyretics (26%), antacids (11%), and others. The most commonly self medicated drugs in different studies are analgesics<sup>14,17</sup>, antipyretics<sup>6,9</sup>, antibiotics.<sup>7</sup>

In this study, only 31% of the students who underwent self medication with antibiotics, completed the course of treatment. Rest of them (69%), took medicines only till their symptoms were relieved. Similar trend was reported in another study from Karnataka where 53.1% students reported having discontinued the treatment once they experienced a symptomatic improvement.<sup>11</sup> Such behavior is known to be significant risk factor for the development of antibiotic resistance.<sup>17</sup> The participants in our study exhibited a lack of knowledge about the medicines used for self medication. Most of the students (66%) were not confident of the doses of medicines used by them. Only 36% students were aware of at least one side effect of the medication they had used. These findings indicate the need for educating the students about adverse effects associated with unsupervised drug use. 22% of the participants in the present study felt that self medication could be harmful. Similar concerns about the safety of self medication have been voiced in different studies.<sup>7-9</sup> However while the students have agreed that medical knowledge is required for responsible self medication<sup>7,9</sup>, still they continue to consume medicines without proper medical advice and are prepared to continue their risky behavior.<sup>8</sup> This is reflected in the high prevalence of self medication among the students. In our study, 18% students felt that occasional self medication for a mild illness would cause no harm. Similarly 'mild illness' or 'minor illness' has been commonly cited as a reason for self medication by the students. Hence it is important that the students should be educated about the risks associated with self medication like making a wrong diagnosis, delay in diagnosis, drug interactions and adverse drug reactions, etc.

## CONCLUSION

The prevalence of self - medication among medical students in the present study is quite high. Students are relying on past experiences with medicines, past prescriptions and left overs for saving time, money, and for quick symptomatic relief. There is a need to counsel them about the hazards associated with unsupervised consumption of medicines and to guide them regarding responsible self medication.

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