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Original Research Article

Self medication among under-graduate students in IGIMS, Patna - An observational & prospective study

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ABSTRACT

Background: Inapt medical use is a major problem to ensure effective and safe treatment. Most common health diseases are treated by the people themselves without medical supervision, commonly referred to as self-medication (SM). However, it is also known that responsible SM must be accompanied by relevant health information. It has become a serious problem that raises concerns about misdiagnosis and drug reactions as well.

Aim: To determine the pattern of SM procedures, to identify common diseases and common drugs used, SM causes and to examine the relationship between the level of medical education and SM practices among undergraduate medical students.

Materials and Methods: A structured and validated questionnaire was used for the study to collect information regarding age, gender, awareness of SM practice, type of drugs self-medicated and source of information. Students were also interviewed to check their knowledge and attitude towards self-medication. Results obtained from this study were presented in tabular form and data were interpreted by using Microsoft Excel 365 software.

Results: Out of 387, 365 students (94.32%) students accepted self-medication practice. Most of the self-medicators used the medicines for fever (24.11%) followed by common cold (17.26%) and headache (16.71%). Paracetamol was used by 51.78% of students. Most of the students took self-medications for quick relief and for minor ailments.

Conclusion: our study shows that SM is most prevalent in medical students of North India. Schedule H drugs have also been used without a prescription. This highlights the need for improved drug control.

1. Introduction

Inapt medical use is a major problem to ensure effective and safe treatment. Most common health diseases are treated by the people themselves without medical supervision, commonly referred to as self-medication (SM). SM is a human behavior where; a person uses drugs to treat symptoms or debilitating diseases that are found to have the potential to do good and harm as it involves the use of drugs. It is widely practiced worldwide for people in urban and rural areas including developing countries such as India because many drugs are given over the counter without prescription and offer an alternative that costs less people.[1] It may be due to a number of factors such as socioeconomic status, lifestyle, drug-free access, and greater availability of available medical products in developing countries.[2] It is an important issue regarding the health of the individual. The practice of Self-Medication should be based on false medical knowledge to avoid unnecessary drug use, which can also lead to loss of resources, increase resistance to viruses and can lead to serious health risks such as long-term suffering, drug reactions and drug dependence.

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Self-medication is now considered part of self-care.[3] Conversely, when properly applied, it can be used effectively to treat minor ailments, save time, and save lives. The World Health Organization (WHO) has also suggested that proper Self-Medication can help prevent and treat diseases that do not require consultation and may provide a cheaper alternative to treating common ailments. However, it is also known that responsible SM must be accompanied by relevant health information.[4]

Unregistered drugs among young people, especially students, are being abused as a result of media exposure and advertising. It has become a serious problem that raises concerns about misdiagnosis and drug reactions as well. As future medical professionals, SM has a special impact on medical students. The prevalence of SM was found to vary among medical students from different countries in previous studies[5–9] conducted to obtain an SM procedure among medical students. The most common reasons for SM reported in previous study were previous technologies,[8–11] lack of consultation with doctors,[12,13] rapid relief,[14] and time saving.[15] As most of the studies were conducted in countries other than India, the pattern of SM practices in our country remained unknown.

With this in mind, the current study was designed to determine the pattern of SM procedures, to identify common diseases and common drugs used, SM causes and to examine the relationship between the level of medical education and SM practices among undergraduate medical students.

2. Materials and Methods

This study was conducted at IGIMS Patna, after approval by institutional ethics committee of IGIMS, Patna (Bihar).

2.1. Sample size - 387

2.2. Study design

Observational & Prospective Study

2.3. Study duration

3 Months from January 2020 to March 2020

2.4. Source of data

Medical College, IGIMS Patna, (Bihar)

2.5. Materials

Answers given by Under-Graduate students to the Questionnaire on Self-Medication

2.6. Methodology

A structured and validated questionnaire was used for the study to collect information regarding age, gender, awareness of SM practice, type of drugs self-medicated and source of information.

Prior to administrating the questionnaire, the students were addressed regarding the purpose and process of data collection. They were informed that data collected would be anonymous and their participation would be voluntary. Questionnaires were distributed among the participants after taking informed consent. Students were also interviewed to check their knowledge and attitude towards self-medication.

Results obtained from this study were presented in tabular form and data were interpreted by using Microsoft Excel 365 software.

FORMAT

Questionnaire on Self-Medication

Name: …… Age: ……

Sex: …….. Session: ……

Mobile No.: …… E-Mail: ……..

1. Indications for self-medication:

……

2. Drugs used for self-medication:

……

3. Source of drug information:

……

4. Reasons for self-medication. Choose from given options:

a. Quick relief c. Economical

b. Minor ailments d. Self-Diagnosis & Previous expertise

5. Source for drug procurement Choose from given options:

a. Pharmacy c. Unused medicines at home

b. Batchmates/Seniors d. Free Physician Sample

6. Do you know the term "OTC (Over the Counter) Drugs" Yes/No

7. Do you know the recommended dose & frequency of the drug Yes/No

8. Do you know common adverse effect of the drug Yes/No

3. Results

Table 1: Comparison of different indication for self-medication

Indications	Number of Students	Percentage of Students
Fever	88	24.11
Common Cold	63	17.26
Headache	61	16.71
GI upset	40	10.96
Diarrhea	37	10.14
Constipation	26	7.12
Nausea & Vomiting	23	6.30
Wound	16	4.38
Sleep disorder	11	3.01
Total	365	100.00

4. Discussion

SM is the use of drugs by individuals alone without competent medical guidance. In developing countries such as India, many episodes are handled by SM due to the easy availability of prescription drugs. It is a major obstacle to ensuring the safe and effective use of drugs. It may not be possible without full knowledge even though it is common practice these days especially for undergraduate students.[5–11,16,17]

Out of 387, 365 students (94.32%) students accepted self-medication practice. However, various studies have

Table 2: Comparison of drugs used for self-medication

Drugs	Number of Students	Percentage of Students N=365
Paracetamol	189	51.78
Levocetirizine	51	13.97
Cetirizine	17	4.66
Montelukast	42	11.51
Omeprazole	23	6.30
Pantoprazole	13	3.56
Ranitidine	09	2.47
Dicyclomine	21	5.75
Norfloxacin	39	10.68
Tinidazole	39	10.68
Metronidazole	23	6.30
Liquid paraffin	15	4.11
Sodium pico-sulfate	15	4.11
Milk of magnesia	15	4.11
Polyethylene glycol	16	4.38
Probiotics	18	4.93
Ondansetron	12	3.29
Domperidone	09	2.47
Metoclopramide	07	1.92
Wound	16	4.38
Azithromycin	47	12.88
Amoxycillin	31	8.49
Amoxycillin + Clavulanate	23	6.30
Cefixime	13	3.56
Ciprofloxacin	09	2.47
Levofloxacin	03	0.82
Clonazepam	09	2.47
Zopiclone	02	0.55

Table 3: Comparison of different sources of drug information for self-medication

Sources	Number of Students	Percentage of Students
Book	105	28.77
Internet	98	26.85
Lecture	55	15.07
Seniors	41	11.23
Colleague	35	9.59
Family	31	8.49
Total	365	100.00

Table 4: Comparison of Different Reason for Self-Medication

Reasons	Number of Students	Percentage of Students
Quick relief	164	44.93
Economical	77	21.10
Minor Ailment	112	30.68
Self Diagnosis & Previous Expertise	12	3.29
Total	365	100.00

Table 5: Comparison of Different Sources of DrugProcurement for Self-Medication

Sources	Number of Students	Percentage of Students
Pharmacy	216	59.18
Unused medicines at home	67	18.36
Batchmates/Seniors	49	13.42
Free Physician Sample	33	9.04
Total	365	100.00

Table 6: Knowledgeregarding self-medication among undergraduate students

Knowledge domain	Number of Students having Adequate Knowledge (%)	Number of Students having Inadequate Knowledge (%)
Over the counter drugs	247 (67.67%)	118 (32.33%)
Recommended dose & frequency of the drug	296 (81.10%)	69 (18.90%)
Adverse effect of the drug	208 (56.99%)	157 (43.01%)

reported different distribution figures ranging from 43.2 to 91%.[8–12,16–19] It is very difficult to compare the increase in diversity of education with the current study due to different demographic characteristics, different approaches, and different socio-economic status.

Among the self-medicators, the majority followed allopathic system of medicine followed by ayurvedic and homeopathic system of medicine which is in conformity with earlier studies,[12–14] which, might be due to easy access of allopathic medicines. The reason attributed to the use of other system of medicines have been stated as practice from childhood, earlier prescriptions available for same ailments, easy accessibility, belief in those systems.

Most of the self-medicators used the medicines for fever (24.11%) followed by common cold (17.26%) and headache (16.71%). Gastrointestinal problem were indications for 34.52% of total indications. The same was reported in other studies,[7–12,14–17,20–22] although it differs from a study conducted in South India that revealed cough and cold as the most common cause.[13]

Paracetamol was used by 51.78% of students. Various researchers[7,9–13,15–17,19–22] have identified antipyretics and analgesics as the most commonly used SM drugs, consistent with the current study and, research conducted a medical college in West Bengal reported that antibiotics are the most widely used drugs.[18] 135.52% students used antimicrobial agent without prescription. This highlights the poor regulation of sale of schedule H drug.

Most of the students have procured information about self medicated drugs from books (28.77%), internet (26.85%) and lecture (15.07%) while rest of the students

have procured it from seniors, colleague and family. This is similar to previous studies.[7,9,13] In contrast, some studies have identified a source of information such as decision-making,[10] adults,[16,20] family and friends,[11,15] and previous instructions.[12,14,17,21]

Most of the students took self-medications for quick relief and for minor ailments. The findings are similar to those found in the literature,[16,20,21] however some employees have reported previous experiences,[8–11] lack of time to consult a doctor,[12,13] immediate relief,[14] and time savings[15] as common reason.

Pharmacy was the most common source of drug purchases (59.18%). The free physician sample was used by 9.04% of students. This was similar to the results of previous studies.[9–11,16,20] The reason could be easy availability and previous treatment for illness by medication obtained from a pharmacy. Although students have easy access to doctors, but a complex consultation process, getting prescription drugs and going to the pharmacy increases the practice of SM.

Our findings regarding non-pharmacological awareness are consistent with the findings of studies conducted in Maharashtra and Jammu.[7,12] Findings from various studies[7,11] regarding knowledge on dosing are similar to the current study. The majority of students regardless of the academic year reported that they were aware of the side effects of their medications, similar to other studies.[7,11–13,15,19,20,22]

5. Conclusion

Therefore, our study shows that SM is most prevalent in medical students of North India. Schedule H drugs have also been used without a prescription. This underscores the need for improved drug control. Although it is difficult to eliminate SM, various measures can be taken to discourage such practices. If no action is taken, the risk of drug interaction and side effects may increase. With this in mind, an awareness program should be developed to educate students about the various aspects of SM. This will raise awareness of students about SM drug abuse and will also lead to the development of a variety of health education strategies, which are needed to educate students and the community at large.

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7. Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

8. Source of Funding

None.

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