



## A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF SELF-MEDICATION FOR DIARRHOEA AMONG UNDERGRADUATE MEDICAL STUDENTS IN A TERTIARY CARE TEACHING HOSPITAL OF NORTHEAST INDIA

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**ABSTRACT** **Background:** Self-medication is referred to the selection and use of medicines to treat self-recognized or self-diagnosed disorders or symptoms without a valid prescription. The practice of self-medication is noticed widely due to availability of OTC drugs and unawareness about safe and rational use of medicine or of adverse drug reactions related to improper self-medication. Antimicrobials are frequently used for self-medication in diarrhoea that can lead to development of antimicrobial resistance. **Aims and Objectives:** To study the knowledge, attitude and practice (KAP) of self medication for diarrhoea among undergraduate medical students in Gauhati Medical College & Hospital, Guwahati, a tertiary care teaching hospital of North East India. **Materials and methods:** This is a cross-sectional questionnaire based study. A questionnaire was designed and used to collect data on individual KAP regarding self-medication for diarrhoea from a total of 250 students. Only those students who gave prior written informed consent to participate were included in the study. The data of the completely filled up questionnaires were analyzed and presented as mean and percentage. **Results:** Out of 250 students 82% practiced self-medication for diarrhoea. The most common cause of self medication practice was for ease and convenience and source of information was from earlier prescriptions. The most common source of medicines was pharmacy and commonly used drugs for diarrhoea were ORS, Fluoroquinolones (Ofloxacin), Metronidazole, probiotic and anti-motility drugs. Only 28.8% of students had awareness of the harmful effects of self medication for diarrhoea. **Conclusion:** There is high prevalence of self-medication practice to treat diarrhoea among undergraduate medical students which demands proper education and counselling to raise awareness regarding the benefits and risks associated with self-medication practice.

**KEYWORDS :** Self-medication, OTC drugs, knowledge, attitude, practice

### INTRODUCTION

Self-medication is defined as the selection and use of medicinal products by individuals (or a member of the individuals' family) to treat self-recognized or self-diagnosed disorders or symptoms. It also refers to purchasing medications by giving old prescriptions, sharing medicines among other people or using leftover medicines. With the rise in awareness and knowledge related to medications, self-medication practice is widely spreading in developing countries like India.<sup>2</sup>

World Health Organization (WHO) has defined self-medication as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of prescribed drugs for chronic or recurrent disease or symptoms.<sup>3</sup>

Non-Prescription or Over the Counter (OTC) drugs can be sold directly to people without a medical prescription through pharmacies to treat common and temperate medical conditions. These OTC drugs are mostly used for self-medication purposes.<sup>4,5</sup> According to literature search a high prevalence of self-medication is present among both medical and paramedical students due to their easy access to drug information sources. Medical students cannot prescribe medicines but their knowledge about and exposure to medicines and various diseases increase as they progress through their course. This knowledge may lead them to self-diagnose the disease and also to self-medicate. Students mostly self-medicate with over-the-counter drugs.<sup>6-8</sup>

Appropriate self-medication has got several benefits that includes increased access to medication and relief for the patient, active role of patients in their own health care, better use of skills of health professionals and reduced or optimized burden of governments due to health expenditure for the treatment of minor health conditions.<sup>1</sup> However self-medication is associated with risks such as misdiagnosis, masking of an underlying disease, use of excessive drug dosage, excessively prolonged use, severe adverse effects, antimicrobial resistance, failure to recognize any contraindication or precaution, interactions, and polypharmacy.<sup>1,9,10</sup>

### AIMS AND OBJECTIVES

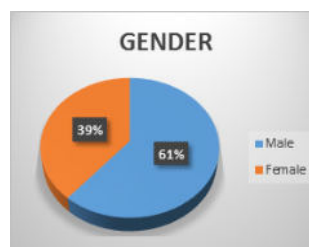
In the present study, we aimed to study the knowledge, attitude and practice of self-medication for diarrhoea among undergraduate medical students in a tertiary care hospital of North East India.

### MATERIALS AND METHODS

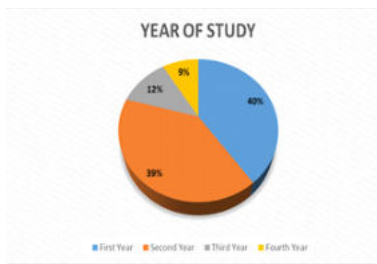
The cross sectional study was carried out among Undergraduate medical students of Gauhati Medical College and Hospital in a time period of two months after getting approval from the Institutional Ethics Committee. A total of 250 undergraduate students were included in the study. A face to face questionnaire based interview was held for collecting the data regarding self-medication practice. A prior written informed consent was taken from the respondents before conducting the study. The predesigned pretested questionnaire contained items to assess knowledge, attitude and practice of self-medication for diarrhoea besides the demographic information of the participants. After collecting the questionnaires the data were analyzed using Microsoft Excel and results were expressed as mean and percentage.

### RESULTS AND OBSERVATIONS

Among 250 participants included in our study, 153 (61.2%) were males and 97 (38.8%) were females; 100 (40%), 98 (39.2%), 30 (12%) and 22 (8.8%) were the first, second, third and fourth year undergraduate students respectively. The mean age of the participants was found to be 20.8. The response rate was 100%.

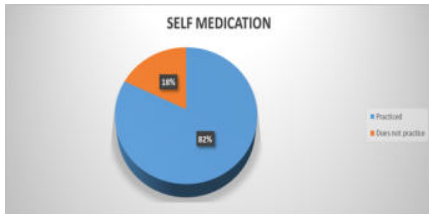


**Figure 1A: Gender distribution**



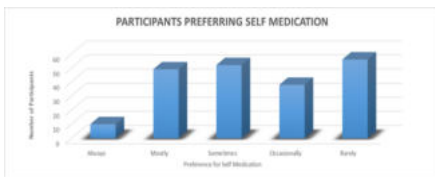
**Figure 1B: UG study year wise**

Out of total 250 study participants, 205(82%) practiced self-medication for diarrhoea and 45 (18%) did not practice it.



**Figure 2: Practice of self-medication for diarrhoea**

Out of 205 participants practicing self-medication for diarrhoea, 10 (4.9%) always and 49 (23.9%) mostly went for self-medication. Rest 25.4% (52), 18.5% (38) and 27.3% (56) self-medicated sometimes, occasionally and rarely respectively.



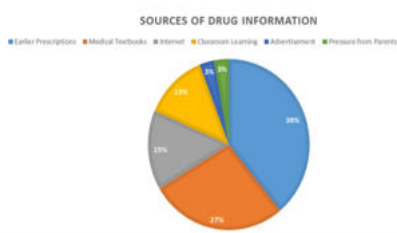
**Figure 3: Frequency of self-medication practice for diarrhoea**

The most common cause for practicing self-medication for diarrhoea among undergraduate medical students was for ease and convenience (125 out of 205, 60.98%) followed by to save time (45 out of 205, 21.95%), hesitance to visit doctors as diarrhoea is frequent these days (21 out of 205, 10.24%), less expenditure (9 out of 205, 4.39%) and others (5 out of 205, 2.44%).



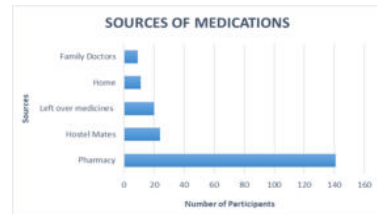
**Figure 4: Causes of self-medication practice**

Earlier prescriptions (39.02%) were found to be the most common source for information about medications for diarrhoea among medical students. Medical textbooks (27.3%) and internet (15.1%) were also common drug information sources followed by classroom learning (12.68%), advertisement (2.93%) and pressure from parents (2.93%).

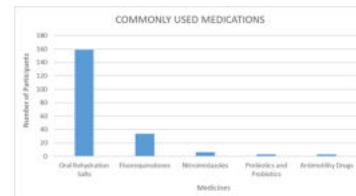


**Figure 5: Sources of drug information**

Pharmacy (141 out of 205, 68.78%) and hostel mates (24 out of 205, 23.27%) were the two most common sources of drugs for students practicing self-medication for diarrhoea followed by left over medicines from previous episode of diarrhoea (20 out of 205, 9.76%). Others are home (11 out of 205, 5.37%) and family doctors (9 out of 205, 4.39%).

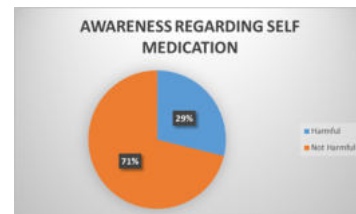


Oral Rehydration Solution (159 out of 205, 77.56%) followed by Fluoroquinolones group of drugs like ofloxacin (34 out of 205, 16.59%) were most commonly used by the students who practiced self-medication. Nitroimidazole (6 out of 205, 2.92%), probiotics (3 out of 205, 1.46%) and antimotility drugs (3 out of 205, 1.46%) were the other drugs used.



**Figure 7: Commonly used medications**

Among 250 undergraduate medical students, 28.8% are aware of the harmful effects of self-medication practice for diarrhoea but 71.2% students are unaware of the harmful effects of this practice.



**Figure 8: Awareness of harmful effects of self-medication for diarrhoea**

**DISCUSSION**

In the present study, out of 250 students 153 (61.2%) were male and 97 (38.8%) were female. Mean age of students was calculated to be 20.8. The first year and second year undergraduate students mostly participated in our study. Out of all, 82% (205 out of 250) students practiced self-medication for diarrhoea. The most common cause for practicing self-medication was for ease and convenience. The most common source of information was from earlier prescriptions. They procured medications mostly from pharmacy followed by hostel mates. The most commonly used drugs for self-treating diarrhoea were Oral Rehydration Solution (ORS), Fluoroquinolones (Ofloxacin), Metronidazole, probiotics and antimotility drugs. Only 28.28% of students were aware of the harmful effects of self-medication for diarrhoea.

According to literature search, Bhatia et al. studied knowledge, attitude and practice of self-medication among undergraduate medical students of Punjab using a pre-formed detailed questionnaire. The study suggested that, self-medication is highly prevalent amongst undergraduate medical students.11 They found old prescriptions to be the most common source of information encouraging self-medication and is in coherence with our study. Kumari et al. and Shankar et al. carried out similar kind of questionnaire based cross-sectional studies on Knowledge, perception and practice of self-medication among undergraduate medical students at Govt. Medical College Jammu and Xavier University School of Medicine respectively. These studies also found that practice of self-medication was common among medical students.5,6 A study by Kanwal et al. also recorded high prevalence of self-medication practice among undergraduate students of four different medical colleges in Abbottabad, Pakistan.7

Agarwal et al. carried out a questionnaire based study to evaluate the knowledge, attitude and practice of self-medication among second year undergraduate students in Bastar region and found 88.57% of students practicing self-medication. The source of information for self-medication was previous prescription for most of the students.<sup>12</sup> Another questionnaire based study by Kumari et al. on the practice of self-medication in diarrhoea among second year medical students in a tertiary care hospital in Jharkhand also concluded that self-medication is widely practiced among medical students and the most common drug group used for diarrhea was oral rehydration salt (ORS).<sup>13</sup>

## CONCLUSION

Diarrhoea is a self-limiting condition in most of the cases which mostly requires rehydration therapy only. Lack of adequate fluid replacement may lead to dehydration and electrolyte imbalance. Frequent and unnecessary use of antimicrobial drugs can lead to antimicrobial resistance, adverse drug reaction and waste of resources. The study concludes that, self-medication practice for diarrhoea is highly prevalent among undergraduate medical students. Proper education and counselling to improve knowledge and understanding about self-medication may help in rationale use and thus limit emerging antibiotic resistance issues. The high prevalence of self-medication practice amongst undergraduate medical students is of concern as their attitude towards pharmacotherapy reflect how they prescribe as future physicians.

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