

To study the pattern, efficacy and tolerability of analgesic self-medication among undergraduate medical students: a questionnaire based survey

Krishna Tanwar^{1*}, Shobhana Mathur²

¹Department of Pharmacology, Lady Hardinge Medical College and Associated Hospitals, New Delhi, India,
²Department of Pharmacology, Deccan College of Medical Sciences and Associated Hospitals, Hyderabad, India

Received: 12 March 2015

Accepted: 04 April 2015

***Correspondence to:**

Dr. Krishna Tanwar,
Email: tanwar.krishna@Yahoo.co.in

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Self-medication is widely prevalent among medical students. Sufficient data is still lacking in India. The present study was aimed to determine the pattern, efficacy and, tolerability of analgesic self-medication among undergraduate medical students.

Methods: This was a cross-sectional questionnaire-based study. A structured questionnaire was given to medical students aged 18-24 years. Results were expressed in numbers and percentage.

Results: In the present study, 130 students filled the questionnaires completely and were assessed for study. The principal morbidity for seeking self-medication was moderate intensity headache which is completely relieved by analgesics in most of the cases. Pain affected the quality of life of students by decrease in concentration in studies, decrease in energy level, and affecting their daily activity. Analgesics which were commonly used for self-medication included paracetamol (64%), diclofenac (7.6%), aceclofenac (5.3%), paracetamol plus ibuprofen combination (4.6%), mefenamic acid plus dicyclomine combination (7.7%) ibuprofen (5.3%), and others (5%). Gastrointestinal side effects were also observed (29%). Reasons for seeking self-medication were mild nature of the illness (39%), saves time and money (27%), self confidence in treatment (19%), easy and effective (15%). Among the source of information of self-medication includes the use of previous prescriptions (50%), advertisement (9%), textbooks (23%), and others (18%).

Conclusions: Our study showed a high prevalence (77.8%) of analgesic self-medication among medical students. Paracetamol was the most common drug consumed, followed by other non-steroidal anti-inflammatory drugs. A high incidence of side effects observed. It is necessary to create more awareness regarding possible harmful effects of self-medication and ways to minimize them.

Keywords: Medical students, Analgesics, Self-medication, Pain

INTRODUCTION

Self-medication is defined as the use of medication by a patient on his own initiative or advice of a pharmacist or layperson instead of registered medical practitioner.¹ Self-medication can result in wastage of resources, serious health hazards such as prolonged suffering, drug dependence and adverse drug reactions, and drug interactions.² Some important reasons for self-medication include the high cost of medical consultation, lack of time, previous experience with the condition and its drug management. Moreover, medical students are more likely to indulge in self-medication for pain relief.³ The mainstay of pain management is the pharmacological approach by various analgesics depending on the severity of pain.

Other alternative approach for pain management includes physiotherapy, ayurvedic and homeopathic drugs.

Incidence of use of analgesics without doctor's advice is approximately 87.3%.⁴ However, the published data regarding self-medication for various types of pain in India is still lacking and hence the present study was undertaken to evaluate the existing self-medication pattern in pain and impact of pain on quality of life (QOL) among medical students.

METHODS

The study was done on third semester medical students of Deccan College of Medical Sciences. This was a

questionnaire based cross sectional study. Prior approval from Institutional Ethic Committee was obtained for the study. We contacted the medical students during their scientific session. All students aged 18-24 years with a history of any pain in past 3 months for which they had taken self-medication were included in this study.

The following data were collected: demographic characteristics, site of pain, severity, impact of pain on daily life, and academic activity. History of self-medication for pain in last 3 months, history of any present and past illness, history of any prolonged use of medicine was recorded. The drug consumed and its dose, frequency, relief of pain, source of information about the drug, and any side effects produced was also recorded. Results are expressed as numbers and percentages.

RESULTS

A total of 190 medical students aged 18-24 years were contacted for voluntarily filling the questionnaire. Out of this 167 students correctly filled and returned the forms while 15 students did not fill correctly and 8 students did not return back the questionnaire. Out of 167 students, 130 students reported having practiced self-medication for pain in past 3 months. Of these 130 students, females were 99 (76%) and males were 31 (24%). Among all the types of pain, 66% suffered from headache, 15% lower backache, 8.4% neck pain, 7% joint pain, and 20% other site pain (abdomen mainly). Duration of pain was <24 hrs in 83% of cases while in 17% it persisted >24 hrs. Intensity of pain also varied. It was mild in 15%, moderate in 65% and severe in 20% of cases. Pain affected the overall enjoyment of daily activities, decrease in energy level, difficulty in concentrating in study in 38%. Further, 21% felt depressed due to pain, 22% not able to sleep, and 4% also missed classes.

Distribution pattern of various analgesics is shown in Table 1. Majority of the students (64%) took acetaminophen (paracetamol), followed by diclofenac 13%, ibuprofen 10%, meftal spas (mefaminic acid + dicyclomine) 8%, and others 5%. Regarding their adequacy in terms of dose and frequency most of them were taking drugs in correct dose 73% and adequate frequency 63%. It was observed that most of the students got relieved of their pains. Pain relief was complete in 55%, fair amount in 41%, and incomplete in 4%. Results of the present study show that in 29% side effects were observed like nausea, vomiting, and loss of appetite.

It was observed that there were many factors for self-medication, but most common was mildness of pain in 39% of the subjects. 27% of subjects practiced self-medication because it saves time and money. 19% of students had confidence in self-treatment as they are medical students. In 15% of subject found self-medication as easy and effective method for treating minor pains.

Table 1: Types of analgesics used by medical students.

Name of drug	Number of student n=130	Percentage
Paracetamol	77	59.2
DOLO-650 (paracetamol 650 mg)	06	4.6
Diclofenac	10	7.7
Aceclofenac	07	5.3
Combiflam (ibuprofen+paracetamol)	06	4.6
Ibuprofen	07	5.3
Meftal spas (mefaminic acid+dicyclomine)	10	7.7
Others	07	5.3

About 12% of the students used alternatives for pain management like physiotherapy, ayurveda, homeopathy, and acupuncture therapy.

DISCUSSION

The present study indicates that undergraduate medical students are widely practicing self-medication for pain (77.8%) which is similar to the finding of other studies.^{5,6} The high prevalence for self-medication with painkillers was due to unwillingness to visit a doctor considering pain as mild illness (39%), and because of busy schedule. This was the most common factor for self-medication. Banerjee and Bhadury also showed a similar result.⁷

The effect of migraine on daily activity of medical students has been studied.⁸ Hence, we had attempted to find out the impact of all types of pain on QOL of students. It was found that the pain had an impact on their social life and academics.

Analgesic used most commonly was acetaminophen 64% which is significantly higher as compared to other analgesics (36%) may be due to the fact that paracetamol is easily available without a prescription. The results of our study are similar to other studies.⁹

Regarding the source of information for self-medication includes previous advice from doctor in 50% of cases, remaining students acquired the knowledge of analgesics from textbook, advertisements, and also took advice from others (most commonly from family members).

Gastrointestinal side effects of pain killers were reported in 29%. Gastrointestinal (GI) side effects are very common among analgesics use. Non-steroidal anti-inflammatory drugs (NSAIDs) can also lead to serious GI bleed and peptic ulceration.

Out of 130 students, one student was taking treatment for bronchial asthma and he was using combiflam (ibuprofen+paracetamol) as self-medication for pain. This is a significant finding because NSAIDs like aspirin and ibuprofen are known to precipitate asthma attack.¹⁰ These findings indicate that unregulated self-medication may increase the risk of health hazard.

Thus, we conclude that self-medicated analgesic may be accompanied by adverse drug reaction and drug interaction in medical students. Hence, awareness of side effects and caution while taking them should be ensured. This can be achieved by including information on drugs suitable for self-medication and appropriate precautions in their curriculum.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. World Health Organisation: guidelines for the Regulatory Assessment of Medicinal Products for use in Self-medication. Available at <http://www.apps.who.int/medicinedocs/pdf/s2218e/s2218e.pdf>. Accessed 15 August 2013.
2. Hughes CM, McElnay JC, Fleming GF. Benefits and risks of self-medication. *Drug Saf*. 2001;24(14):1027-37.
3. James H, Handu SS, Al Khaja KA, Otoom S, Sequeira RP. Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. *Med Princ Pract*. 2006;15(4):270-5.
4. El Ezz NF, Ez-Elarab HS. Knowledge, attitude and practice of medical students towards self-medication at Ain Shams University, Egypt. *J Prev Med Hyg*. 2011;52(4):196-200.
5. Sharif SI, Ibrahim OH, Mousli L, Waisi R. Evaluation of self-medication among pharmacy students. *Am J Pharmacol Toxicol*. 2012;7(4):135-40.
6. Badiger S, Kundapur R, Jain A, Kumar A, Pattanshetty S, Thakolkaran N, et al. Self-medication patterns among medical students in South India. *Australas Med J*. 2012;5(4):217-20.
7. Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. *J Postgrad Med*. 2012;58(2):127-31.
8. Menon B, Kinnera N. Prevalence and characteristics of migraine in medical students and its impact on their daily activities. *Ann Indian Acad Neurol*. 2013;16(2):221-5.
9. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC Fam Pract*. 2002;3:17.
10. Gohil U, Modan A, Gohil P. Aspirin induced asthma: a review. *Glob J Pharmacol*. 2010;4(1):19-30.

doi: 10.18203/2319-2003.ijbcp20150012

Cite this article as: Tanwar K, Mathur S. To study the pattern, efficacy and tolerability of analgesic self-medication among undergraduate medical students: a questionnaire based survey. *Int J Basic Clin Pharmacol* 2015;4:446-8.