How to Cite:
Gorantla, N. C., Hanumanthu, L., Nagamani, P. S., & Manchi, R. K. (2021). Self-Medication practices with analgesics among medical students. *International Journal of Health Sciences*, *6*(S9), 1697–1703. https://doi.org/10.53730/ijhs.v6nS9.12827

Self-Medication practices with analgesics among medical students

Naveen Choudary Gorantla
Assistant Professor, Dept. of Pharmacology, Guntur Medical College, Guntur, Dr. NTRUHS, Andhra Pradesh, India.
Email: drnaveenkmc@gmail.com

Lalitha Hanumanthu
Assistant Professor, Dept. of Pharmacology ACSR Govt Medical College,Nellore,, Dr. NTRUHS, Andhra Pradesh, India.
Corresponding author email: drlalithah@gmail.com

Penupothu Sree Nagamani
Assistant Professor, Dept. of Pharmacology, ACSR Govt Medical College,Nellore,, Dr. NTRUHS, Andhra Pradesh, India.
Email: nagamanni@gmail.com

Rajesh Kumar Manchi
Associate Professor, Department of Pharmacology, Saraswathi Medical College, Unnao, UP, India.
Email: manchirajesh1985@gmail.com

***Abstract*---**Practice of self-medication with analgesics is thought to be rampant among medical students. This study was undertaken to figure out whether there is a difference in usage of analgesics with theoretical background (third year students) to those without impartation (second year students). It is a questionnaire-based study to assess the extent and pattern of usage of analgesics among third year and second year medical students. 95% of third year students and 87% of second year students self-medicated with analgesics. Analgesics were used commonly less than once a month. The most frequently used analgesic was paracetamol (28%) in third year students whereas diclofenac (31%) in second year students for common ailments like fever and headache. Awareness of maximum daily dose of analgesic was not optimum (54%). Usage of analgesics as self-medication was high among both the batches. Concomitant use of proton pump inhibitors was high among third year students. Awareness of Maximum Daily Dose needs to be improved.

***Keywords*---**Self-medication, Analgesics, Medical students, Maximum daily dose (MDD).

1 Introduction

Self-medication is the treatment of common health problems with medicines especially designed and labelled for use without medical supervision and approved as safe and effective for such use (SA, R, & A, 2008). Self-medication provides a cheaper alternative for treating common illnesses (World Health Organisation (WHO), 1995). Self-medication's purpose is to solve minor health issues (S., L., & G., 2006). Self-reliance and playing an active role in his or her own health care (World Health Organisation (WHO), 2000) prompt the students to resort to Self-medication. Self-medication may be justified only in safe hands that are aware of the nature of the drug and able to perceive the drug related side effects (Adhikary, Tiwari, Singh, & Karoo, 2014). The International Association for the Study of Pain (IASP) defines pain as, "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (Loeser & Treede, 2008). Pain is always subjective" (Carr et al., 2011). The use of analgesics is best seen as simply one way of elevating a patient's pain threshold (G, 1984). The objective of pain elimination is to enable normal functioning of the individual in his/her working and daily activities; pain is most frequently removed by taking painkillers (Brlić, Janev Holcer, Sović, & Štimac, 2014). There is a paucity of studies on self-medication among medical students (James, Handu, Al Khaja, Otoom, & Sequeira, 2006).

2 Materials and methods

This is an observational, cross sectional descriptive questionnaire-based study. 147 third year and 147 second year students were distributed a pretested questionnaire after approval from Institutional Ethics Committee. Written informed consent was taken. This questionnaire comprised of questions regarding frequency and indications of analgesics use, various analgesics used, awareness of maximum daily dose, simultaneous use of proton pump inhibitors and the drug formulations preferred by the students. Percentages of the responses to various questions obtained were expressed and used in comparison.

3 Results & Discussion

3.1 Results

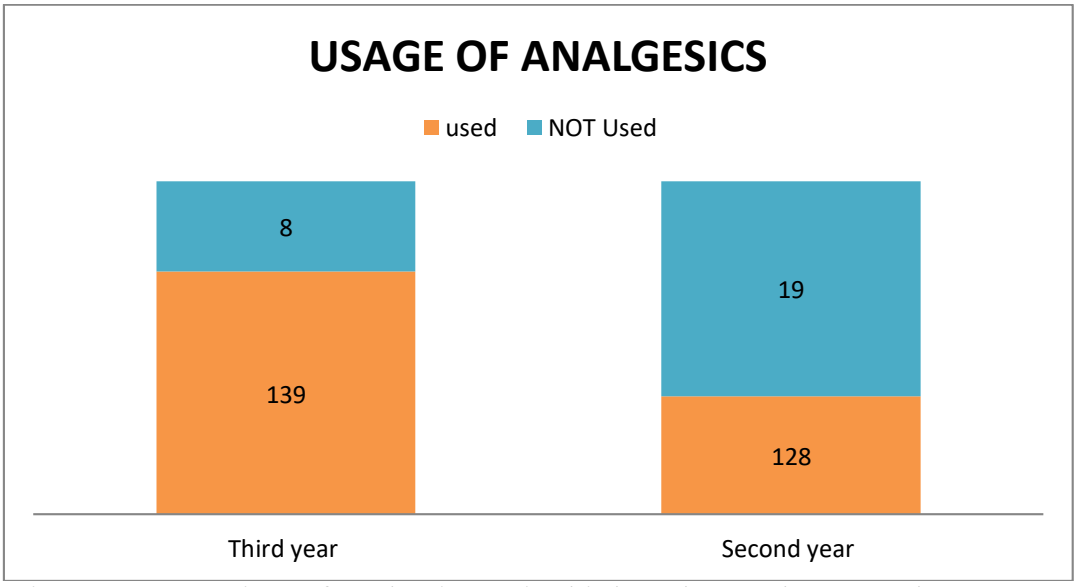

Figure 1: Comparison of Analgesic use in third- and second-year students

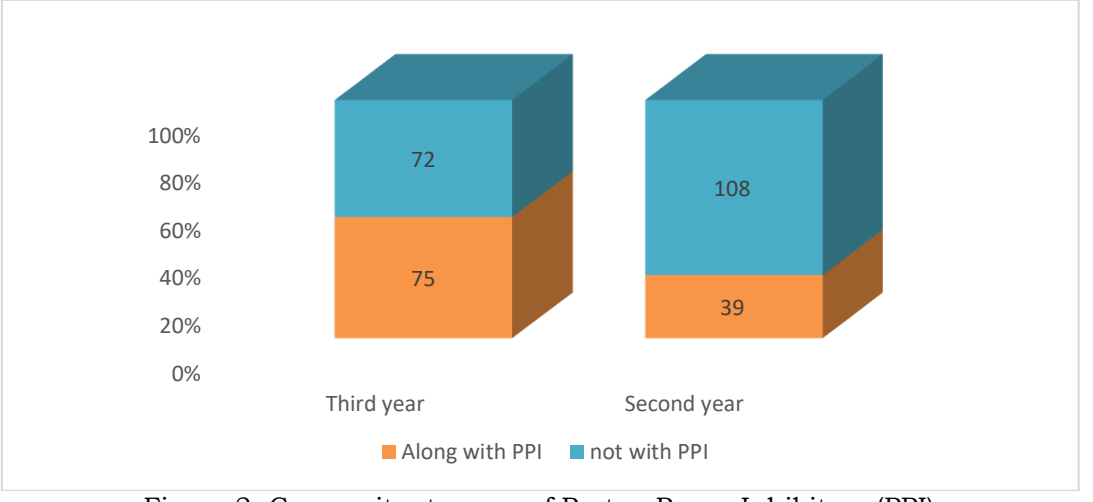

Figure 2: Concomitant usage of Proton Pump Inhibitors (PPI)

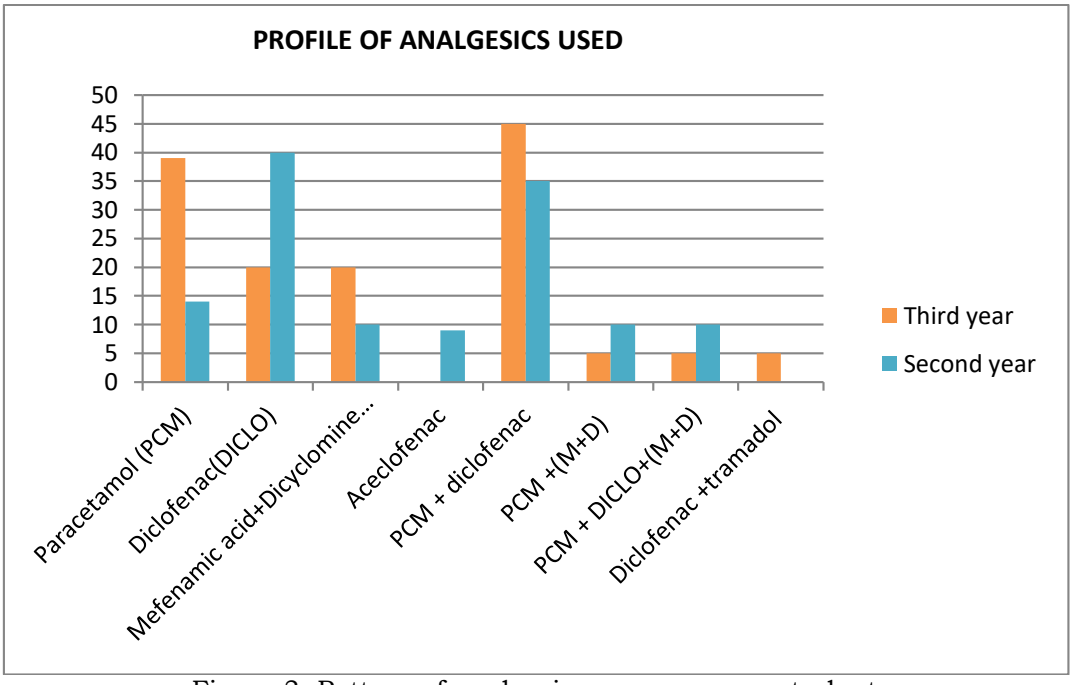

Figure 3: Pattern of analgesics usage among students

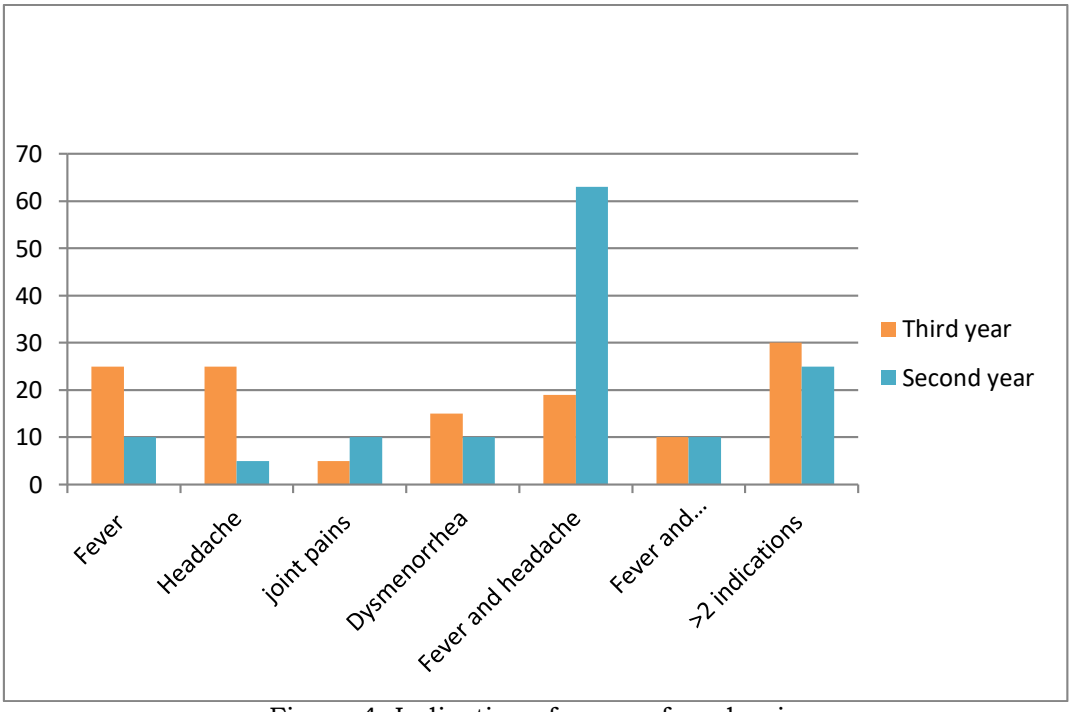

Figure 4: Indications for use of analgesics

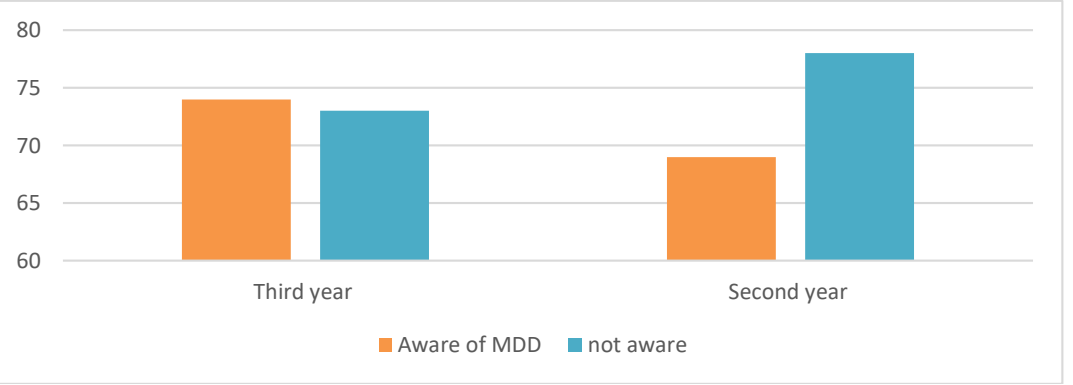

Figure 5: Awareness of maximum daily dose among both batches

3.2 Discussion

It is generally expected that the prevalence of self-medication would be higher in third year medical students as they are exposed to the knowledge about drugs and disease (Sontakke, Bajait, Pimpalkhute, Jaiswal, & Jaiswal, 2011). As seen in Fig 1, 95% of third year students and 87% of second year students self-medicated with analgesics. 63.6% of the students practiced analgesic self-medication (Shivamurthy, Manchukonda, & Gurappanavar, 2015). Most students used analgesics less than once a month (68% of third year and 58 % of second year). 54% of third year students self-administered Proton Pump Inhibitors along with analgesics more frequently than second year (30%) as seen in Fig 2.

As seen in Fig 3, the most frequently used analgesic among third year students was Paracetamol (28%) whereas Diclofenac (31%) was preferred by second year students. 14% of third year and 8% of second year female students used fixed dose combination of mefenamic acid with dicyclomine exclusively for dysmenorrhoea. The most commonly used analgesic for self-medication was acetaminophen (paracetamol), followed by fixed-dose combinations of paracetamol and other non-steroidal anti-inflammatory drugs such as ibuprofen and diclofenac (Kumar, Vandana, & Aslami, 2016). In our study, students showed strong preference for oral tablets over other available analgesic formulations. The patient taking oral medication is free to move around and enables the patient to maintain control over his own drug administration (G, 1984).

Third year students used analgesics for fever (18%) and headache (18%) while second year students used analgesics for both fever and headache (49%) as seen in Fig 4. The most common types of ailments for which the respondents reported to practice self-medication for were headache (86.6%) (Sawalha, 2007). The most common symptoms experienced by students that prompted self-medication were headache, fever, pain, and dysmenorrhea (N = 64, 14.2%) (Albusalih, Naqvi, Ahmad, & Ahmad, 2017). As seen in Fig 5, proportion of students with awareness of Maximum Daily Dose (MDD) was similarly insufficient in both batches.

4 Conclusion

In our study, self-medication with analgesics among medical students was pronounced. On an average, analgesics were used less than once a month. Typically for common ailments like fever and headache, third year students used Paracetamol, whereas second year students used Diclofenac. Incidence of heartburn was lesser among third year students probably attributed to simultaneous usage of Proton Pump Inhibitors. Awareness of Maximum Daily Dose of analgesic was not ideal and needs to be improved. We would like to plan and conduct small group discussion in pharmacology for calculation of Maximum Daily Dose of analgesics.

Limitations
All the responses were based on self-reporting by the students. We advised them to be genuine in their responses.

Source of support: Nil

Conflict of interest: Nil

References

Adhikary, M., Tiwari, P., Singh, S., & Karoo, C. (2014). Study of self medication practices and its determinant among college students of Delhi University North Campus, New Delhi, India. *International Journal of Medical Science and Public Health*, *3*(4), 406. https://doi.org/10.5455/ijmsph.2014.260120146

Albusalih, F., Naqvi, A., Ahmad, R., & Ahmad, N. (2017). Prevalence of Self-Medication among Students of Pharmacy and Medicine Colleges of a Public Sector University in Dammam City, Saudi Arabia. *Pharmacy*, *5*(4), 51. https://doi.org/10.3390/pharmacy5030051

Brlić, K. Č., Janev Holcer, N., Sović, S., & Štimac, D. (2014). Characteristics of self-medication for pain relief among first-year health care students in Zagreb, Croatia. *Psychiatria Danubina*, *26 Suppl 3*, 459–465. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/25536982

Carr, D., Cohen, M., Devor, M., Dworkin, R., Greenspan, J., King, S., … Collett, B. (2011). *Classification of Chronic Pain: Descriptions of Chronic Pain Syndromes and Definitions of Pain Terms* (2nd ed).

G, R. (1984). Twycross Analgesics. *Postgraduate Medical Journal*, *60*, 876–880.

James, H., Handu, S. S., Al Khaja, K. A. J., Otoom, S., & Sequeira, R. P. (2006). Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. *Medical Principles and Practice : International Journal of the Kuwait University, Health Science Centre*, *15*(4), 270–275. https://doi.org/10.1159/000092989

Kumar, A., Vandana, & Aslami, A. (2016). Analgesics self-medication among undergraduate students of a Rural Medical College. *Journal of Pharmacology and Pharmacotherapeutics*, *7*(4), 182–183. https://doi.org/10.4103/0976-500X.195903

Loeser, J. D., & Treede, R. D. (2008). The Kyoto protocol of IASP Basic Pain Terminology. *Pain*, *137*(3), 473–477. https://doi.org/10.1016/j.pain.2008.04.025

S., Z., L., C., & G., B. (2006). Herbal products: Behaviors and beliefs among Italian women. *Pharmacoepidemiology and Drug Safety*, *15*(5), 354–359. Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed7&NEWS=N&AN=2006255282

SA, A., R, E., & A, H. (2008). Self Medication Practices Among Undergraduate Medical. *Medical Principles and Practices*, *17*, 315–320.

Sawalha, A. F. (2007). Assessment of Self-Medication Practice among University Students in Palestine : Therapeutic and Toxicity Implications نيبعماجلا يف نيطسلف نلا جئاتن يطلا ّ ة و ةيمسلا بيبطتلل يتاذلا د نيد ةبلطلا. *The Islamic University Journal*, *15*(2), 67–82.

Shivamurthy, S., Manchukonda, R., & Gurappanavar, D. (2015). Evaluation of analgesic self-medication pattern among under-graduate medical students of Adichunchanagiri Institute of Medical Sciences, BG Nagar, Karnataka: a cross-sectional questionnaire-based study. *International Journal of Basic and Clinical Pharmacology*, 438–441. https://doi.org/10.18203/2319-2003.ijbcp20150010

Sontakke, S., Bajait, C., Pimpalkhute, S., Jaiswal, K., & Jaiswal, S. (2011). Comparative study of evaluation of self-medication practices in first and third year medical students. *International Journal of Biological & Medical Research*, *2*(2), 561–564.

World Health Organisation (WHO). (1995). *Report of the WHO Expert Committee on National Drug Policies*. Retrieved from http://www.who.int/medicines/library/dap/who-dap-95-9/who-dap-95-9.shtml.

World Health Organisation (WHO). (2000). WHO Guidelines for the regulatory assessment of medicinal products for use in self-medication. *WHO Drug Information*, *14*(1), 18–26.