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ASSESSMENT OF SIDE EFFECTS AND USE OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS AMONG MEDICAL STUDENTS

Introduction

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are common analgesics, antipyretics and anti-inflammatory drugs [1]. The key enzyme in the manufacture of prostaglandins is cyclooxygenase (COX). There are two isoforms of it: constitutive COX-1, which is in charge of physiological processes, and inducible COX-2, which is implicated in inflammation [2]. NSAIDs work by blocking the action of cyclooxygenase enzymes, which are involved in the production of prostaglandins, chemical's that promote inflammation, pain, fever in the body. They are primarily used to relive pain, reduce inflammation, lower fever. NSAIDs consumption pattern and self-medication behavior is a common practice [3].

Goal

The aim is to study the assessment of side effects and use of non-steroidal anti-inflammatory drugs among medical students.

Material and methods of research

The Google Forms questionnaire consisted of 24 questions aimed at assessing NSAIDs usage among students. The questionnaire consisted of the following questions: age, gender, country, university course), frequency and duration of NSAIDs use, health conditions treated with NSAIDs, whether they use over-the-counter or prescription NSAIDs, decision-making for usage, types of NSAIDs used, intake methods, adherence to dosage guidelines, side effects experienced, awareness of risks from prolonged use, and confidence in using NSAIDs without medical supervision.

The results of the research and their discussion

Our research involved conducting of an anonymous online survey which included 90 medical students from Gomel State Medical University, including 45 (50%) female students and 45 (50%) male students. The study included 50 (55.7%) Sri Lankans, 15 (16.7%) Indians, 7 (7.8%) Nigerians, 3 (3.3%) Iranians, 3 (3.3%) Moroccans, 2 (2.2%) Pakistanis, 2 (2.2%) Americans, 2 (2.2%) Britons and 1 (1.1%) student form each of these countries: Syria, Iraq, Liberia, Yemen, Cameroon and Norway.

To analyze the data, the medical students were grouped to different age categories, and then the results were compared. There were 10 students (11.1%) aged 17–19 years, 60 students (66.7%) aged 21–24 years, 17 students (18.9%) aged 25–30 years and 3 students (3.3%) aged more than 30 years.

The total results of the survey found that; 75 students (83.3%) have used NSAIDs, 10 students (11.1%) haven't used NSAIDs and 5 students (5.6%) believe that they may have used NSAIDs. Among the 80 students who used NSAIDs, 59 students (73.7%) use NSAIDs monthly, 14 students (17.5%) rarely use NSAIDs, 5 students (6.3%) use NSAIDs weekly, and 2 students (2.5%) use NSAIDs daily. Figure 1 presents a pie chart showing the duration of use of NSAIDs among medical students.

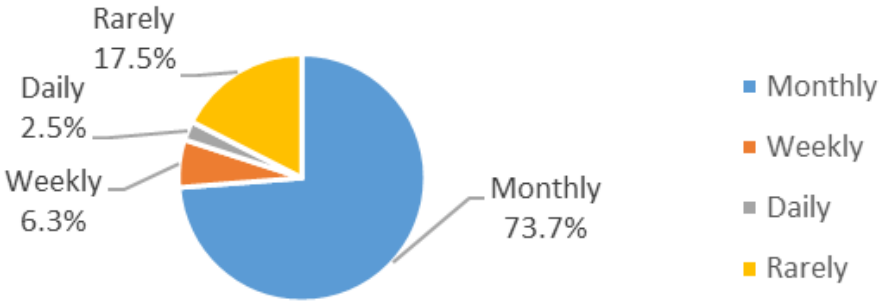

Figure 1 – The duration of the use of NSAIDs among medical students

12 (15.0%) students buy NSAIDs through prescriptions, 37 (46.3%) students buy NSAIDs through over-the-counter availability, while 31 (38.7%) students buy NSAIDs through both the ways.

Majority of the students used NSAIDs for two to four conditions; the most common condition was due to headaches (32.0%), fever (24.0%), muscle/joint pain (20.0%), pain in abdomen (8.0%), menstrual pain (14.0%), post-operative pain (2%). Figure 2 shows the results about the health conditions treated with NSAIDs.

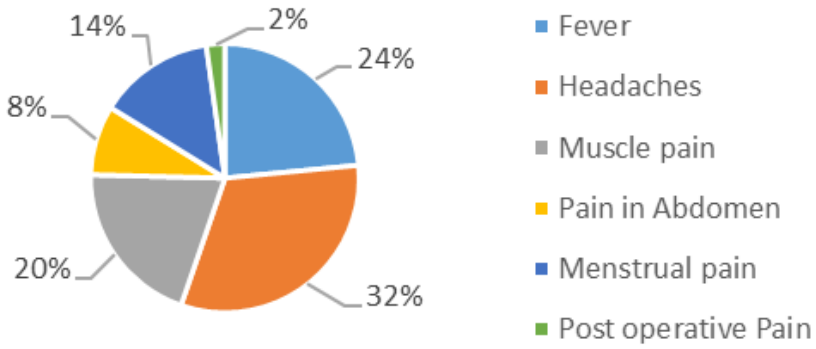

Figure 2 – Health conditions treated with NSAIDs

When questioned about the way they intake NSAIDs; all the 80 (88.9%) students' intake them orally (in solid or liquid forms), among them 18 (20.0%) students also use creams or gels, and 2 (2.1%) students also use injections. The types of NSAIDs used by the students were; 71 students (40.0%) used Paracetamol, 44 students (25.0%) used Ibuprofen, 26 students (15.0%) used Diclofenac, 19 students (11.0%) used Aspirin, 5 students (3.0%) used Naproxen, 7 students (4.0%) used Nimesulid, 3 students (2.0%) used Ketorolac Figure 3 shows the results of the types of NSAIDs used by medical students.

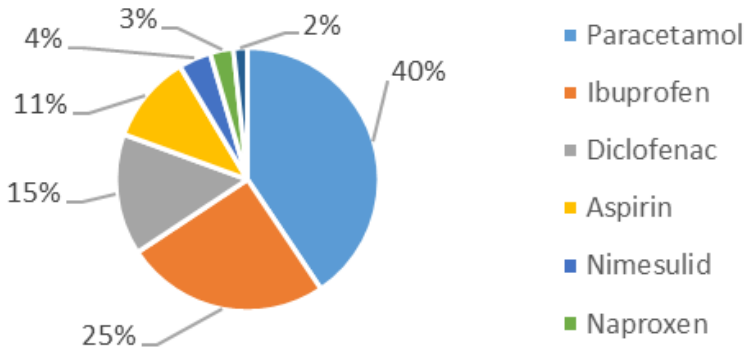

Figure 3 – Types of NSAIDs used by medical students

9 (11.3%) students faced side effects; 58 (72.5%) students didn't face any side effects while 13 (16.2%) students believe that they might have had side effects. Among the students who suffered from side effects, the most common was gastrointestinal tract (GIT) problems, with 21 (95.4%) students suffering from it, and 1 (4.6%) student suffering from liver problems, 5 (23.8%) students suffer from allergic reactions, 1 (4.7%) student suffering from bleeding problems. The GIT problems were; 11 (52.3%) pain in abdomen, 7 (33.3%) esophagitis/gastritis, 3 (14.3%) stomach/duodenal ulcers, 2 (9.5%) reflux, 2 (9.5%) they don't know what problems they had, 1 (4.8%) GIT bleeding.

The students were given the question, "Are you aware of the risks associated with frequent use of NSAIDs?", the responses received from all the 90 students were; 51 (56.7%) students were aware of the risks, while 39 (43.3%) students had no idea about any risk.

Conclusion

The study found that the prevalence of NSAIDs use and self-medication among the medical students are relatively high. Most of the students frequently use NSAIDs, but are unaware of the potential risks they could cause. Measure should be taken to increase the awareness and education between the medical students.

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