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Research Article

A STUDY OF PATTERN OF SELF-MEDICATION AMONG STUDENTS FOR DYSMENORRHEA

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ABSTRACT

Objectives: The objectives of this study were to assess the pattern of self-medication for dysmenorrhea among students and compare it between medical and non-medical students.

Methods: The observational study was conducted from May to August 2014. After obtaining the Institutional Ethics Committee approval and written informed consent from all students with dysmenorrhea aged between 18 and 25 years were included in the study. Demographic details such as age and duration of dysmenorrhea per cycle were recorded. A questionnaire comprising 16 questions was administered to medical and nursing students of Sri Devaraj Urs Medical and Nursing Colleges and students attending outpatient departments of R.L.Jalappa Hospital and Research Center attached to Sri Devaraj Urs Medical College. The data collected were analyzed using descriptive statistics.

Results: A total of 240 students (93 medical, 84 nursing, and 63 non-medical) were included in the study. The mean age was 20.1±1.8 years (medical), 20.4±1.4 years (nursing), and 21.9±1.8 years (non-medical). 46% medical, 29% non-medical, and 10% nursing students used drugs to control pain. Most commonly used drugs were mefenamic acid + dicyclomine and mefenamic acid. 56% of medical and all non-medical and nursing students did not have knowledge of side effects of drugs. Among the eight nursing students, six self-administered the drug but 54% and 56% of medical and non-medical students, respectively, followed doctor's advice to use the pain medications. 40% of medical students self-medicated themselves.

Conclusion: Medical students preferred drugs for control of menstrual pain compared to others and most commonly used drug was mefenamic acid.

Keywords: Self-medication, Dysmenorrhea, Students.

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INTRODUCTION

Dysmenorrhea is a common gynecological disorder affecting as many as 60% of menstruating women. Primary dysmenorrhea refers to menstrual pain without any pathology involving the pelvic organs whereas secondary dysmenorrhea is defined as painful menstruation due to endometriosis, adenomyosis, subacute endometritis, pelvic inflammatory diseases, intrauterine devices, and ovarian cyst [1]. Primary dysmenorrhea usually appears within 1–2 years of menarche when the ovulatory cycles are established and may persist up to the fourth decade of life. Secondary dysmenorrhea usually develops after few years of menarche and can occur with anovulatory cycles [1].

Self-medication is defined as the use of medication by a patient on her own or on the advice of pharmacist or a layperson instead of consulting a physician. Self-medication for primary dysmenorrhea is common with an incidence of 38–80% due to easy accessibility to over-the-counter drugs. This may lead to inappropriate choice of drugs and inadequate therapeutic dose [2]. Hence, this study was carried out to evaluate the pattern of self-medication for self-diagnosed dysmenorrhea among students and compare the self-medication patterns among medical and non-medical students.

METHODS

An observational study was conducted by the Department of Pharmacology of Sri Devaraj Urs Medical College (SDUMC) from May to August 2014. After obtaining the Institutional Ethics Committee approval, written informed consent was obtained from all the participants aged between 18 and 25 years. Students suffering from dysmenorrhea which refers to cyclical lower abdominal pain occurring just before and/or during menstruation associated with symptoms such as fatigue, dizziness, headache, backache, nausea, and vomiting were included in the study. Demographic details such as age, age at menarche, educational status, college address, and also duration of dysmenorrhea per cycle were recorded.

A questionnaire comprising of 16 questions related to dysmenorrhea and its treatment was administered to medical and nursing students of Sri Devaraj Urs Medical and Nursing College and students attending outpatient department of R.L.Jalappa Hospital and Research Center attached to SDUMC. 15 min was given to respond to questions. The data were collected and analyzed using descriptive statistics.

RESULTS

Two hundred and forty students with dysmenorrhea were analyzed for menstrual cycle pattern and self-medication. Among them, 93 were medical, 84 were nursing, and 63 were non-medical students.

The mean age and duration of menstrual cycle per month was comparable in students as shown in Table 1.

Medical (51%), nursing (61%), and non-medical (52%) students expressed that the severity of symptoms of dysmenorrhea was moderate as shown in Fig. 1.

Students expressed that abdominal pain, backache, pain in lower limbs, fatigue, vomiting, and generalized weakness were the symptoms causing discomfort during menstruation as represented in Table 2. Abdominal pain during menstruation was complained by 29% (medical), 31% (nursing), and 33% (non-medical) students. Majority of students had abdominal pain after the onset of menstruation.

Majority of students were incapacitated due to dysmenorrhea up to 6 h; 70% were medical, 76% were nursing, and 57% were non-medical as depicted in Table 3.

Non-pharmacological measures were used for pain relief by nursing (90%), non-medical (71%), and medical students (54%) as shown in Table 4.

The preferred non-pharmacological method by nursing and non-medical students was hot bath, but medical students favored rest and sleep as shown in Fig. 2. 90% (medical), 89% (nursing), and 73% (non-medical) students expressed that non-pharmacological methods were effective in relieving pain.

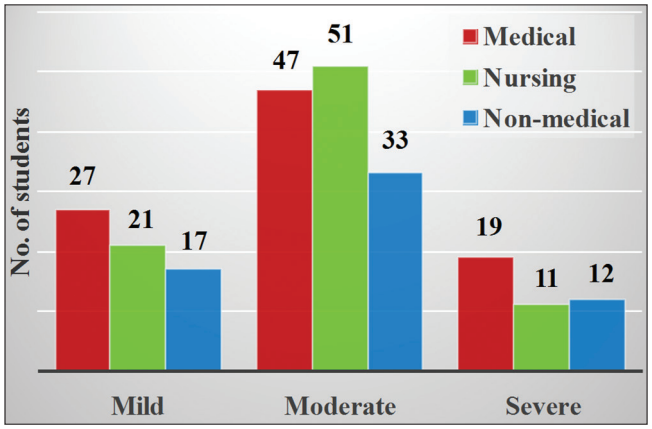

Fig. 1: Severity of dysmenorrhea

Table 1: Age and menstrual cycle pattern of students

Parameter	Medical (n=93)	Nursing (n=84)	Non-medical (n=63)
Age in years (mean±SD)	20.1±1.8	20.4±1.4	21.9±1.8
Duration of cycle in days (mean±SD)	4.18±1.48	4.21±1.49	3.33±1.45
Number of painful cycles/year	07	08	10

SD: Standard deviation

Table 2: Dysmenorrhea symptoms

Symptoms	Medical (n=93)	Nursing (n=84)	Non-medical (n=63)
Abdominal pain	27	26	21
Abdominal pain+backache	34	23	14
Backache	13	8	10
Others	19	27	18

Table 3: Duration of incapacitation due to pain

Students	<6 h	7–24 h	>24 h
Medical (n=93)	65	18	10
Nursing (n=84)	64	9	10
Non-medical (n=63)	36	13	14

Table 4: Measures to relieve pain

Students	Medical (n=93)	Nursing (n=84)	Non-medical (n=63)
Pharmacological	43	08	18
Non-pharmacological	50	76	45

The medications used by students were mefenamic acid + dicyclomine, mefenamic acid alone followed by paracetamol (Fig. 3). 65% of medical and 87% of nursing students had moderate pain relief, but 72% of non-medical students felt complete pain relief.

Among the eight nursing students, six students self-administered the drug but 54% and 56% of medical and non-medical students, respectively, followed doctor's advice to use the pain medications. 40% of medical students self-medicated themselves as shown in Fig. 4. Among the students who used medications, 24 medical, all 8 nursing, and 18 non-medical students were not aware about the side effects of the drugs.

DISCUSSION

Dysmenorrhea is the most common gynecological problem in adolescent and young adult females and affects 50–90% of the general population [1,3] during the menstrual cycle, they experience spasmodic lower abdomen pain which may be associated with low back pain, nausea, vomiting, diarrhea, fatigue, and headache. These symptoms can affect the daily activities, result in college absenteeism, and impair physical and emotional wellbeing of young women [4]. Dysmenorrhea may be due to prostaglandin, PGF2α released by the endometrial cells during its sloughing in menstrual cycle. PGF2α causes myometrial contraction, ischemia, and sensitization of nerve endings. The most commonly used drugs for dysmenorrhea are non-steroidal anti-inflammatory drugs (NSAIDs) such as mefenamic acid, ketoprofen, ibuprofen, paracetamol, and diclofenac [4]. These drugs inhibit cyclooxygenase, which results in reduction of prostaglandin production leading to pain relief [5].

Self-medication is a widespread practice in the world, particularly in economically deprived communities. Self-medication has positive and negative outcomes on the individuals and health-care systems. Self-medication helps the patients by encouraging patients to take responsibility and builds confidence to manage their own health and even save time and consultation fee. In developing countries like India, easy availability of wide range of drugs coupled with inadequate health services has resulted in increased proportions of drugs used as self-medication compared to prescribed drugs [6]. Furthermore, tribal population of Assam, boil head portion of the fish, tal tree leaf, and chilly together and use for dysmenorrhea, and in Bidar district of Karnataka, *Caesalpinia bonducella* is used [7,8]. Hence, the present study has been taken up to analyze the self-medication practice among medical, nursing, and non-medical students with dysmenorrhea.

In our cross-sectional study, 240 female students with dysmenorrhea were analyzed for menstrual pattern and self-treatment strategies using a questionnaire. In our study, more than 50% of students graded symptoms of dysmenorrhea as of moderate severity. The menstrual flow associated with pain in the abdomen, lower limbs, and lower back along with generalized weakness, fatigue, and vomiting incapacitated the students up to 6 h (Table 3) which may result in poor academic performance, restricted daily and social activities [4]. Even though the symptoms were of moderate severity in the majority of students, they reduced the day-to-day activities thus requiring measures to control or abate these symptoms.

In our study, students have resorted to self-medication with NSAIDs or non-pharmacological methods such as hot water bath, hot bag, and sleep/rest for pain relief. Self-medication with NSAIDs was common among medical students which reflect their knowledge about the drugs benefit in dysmenorrhea. These findings were reported by other studies also [4]. Non-pharmacological remedies were common in nursing and non-medical students. Majority of students expressed that non-pharmacological methods were effective in relieving pain. These findings indicate that use of either medications or non-drug measures can effectively reduce the symptoms. Mefenamic acid is the most commonly used NSAID and dicyclomine which is combined with

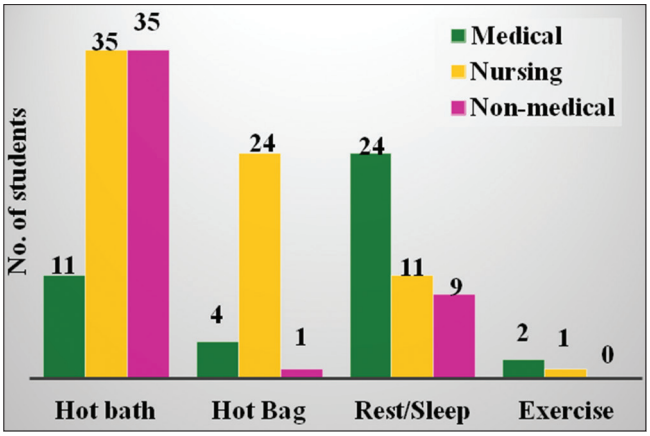

Fig. 2: Non-pharmacological methods

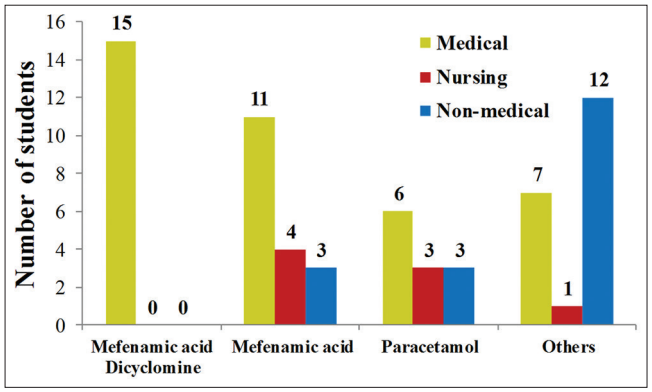

Fig. 3: Drugs used by students for pain relief

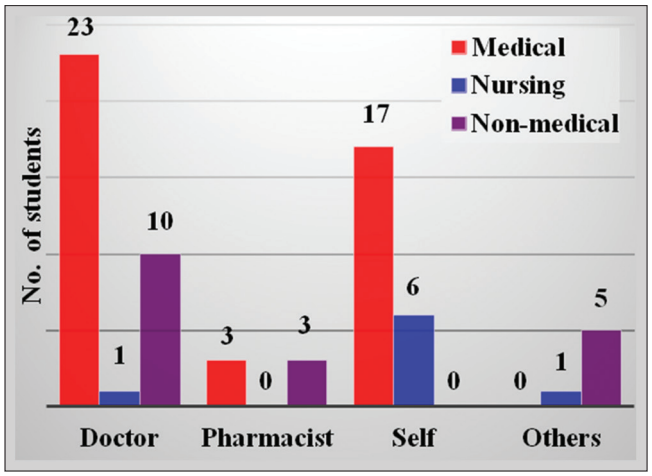

Fig. 4: Persons advising the drugs for dysmenorrhea

NSAID is an anticholinergic drug used for its antispasmodic action. Dicyclomine is associated with anticholinergic side effects such as dry mouth, dizziness, and dry eyes which the patients should be informed during prescription.

Use of non-pharmacological measures such as hot bag or bath or taking rest or sleeping may not always be practically possible in all circumstances as during college hours or traveling, even though these may be safer to follow than NSAIDs with or without a prescription. During such situations, medications can be used for acute pain relief. Hence, knowledge among all students regarding use of NSAIDs for dysmenorrhea and their side effects may be necessary. Thus creating awareness regarding the use and adverse effects of NSAIDs by the physician during prescription for dysmenorrhea may be helpful.

The medication commonly used by students was fixed drug combination of mefenamic acid and dicyclomine followed by mefenamic acid alone and paracetamol. More than 60% of medical and nursing students had moderate pain relief, but 72% of non-medical students experienced complete pain relief. Medical (54%), non-medical (56%), and nursing (13%) students followed previous advice of the doctor regarding the use of pain medications. Even the medical and nursing students were not aware of the adverse effects associated with NSAIDs.

CONCLUSION

Self-medication for dysmenorrhea was preferred by medical students, and mefenamic acid was commonly used. Majority of students did not have knowledge of side effects. Hence, it is advisable to create awareness regarding the side effects of commonly prescribed drug for dysmenorrhea.

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