ORIGINAL RESEARCH

Analgesic self- medication and its association with sleep quality among the medical students

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ABSTRACT

Background: In poor nations like India, self-medication with over-the-counter (OTC) or nonprescription medications is widespread.The present study was conducted to assess analgesic self- medication and its association with sleep quality among the medical students. **Materials & Methods:** 580 medical students of both genders. Self- medication was seen in 450 students.Parameters such as socio-demographic profile, symptoms, types of analgesics, source of information and reason for analgesic self- medication was collected. The sleep quality of students was assessed by Pittsburgh Sleep Quality Index (PSQI). **Results:** There were 65 males and 73 females in 1st year, 58 males and 46 females in 2nd year, 32 males and 30 females in 3rd year, 45 males and 46 females in 4th year and 20 males and 35 females in interns. The difference was significant (P< 0.05). Type of drugs used was paracetamol only in 45%, NSAIDs only in 32%, fixed dose combinations in 12% and opioids / opioid like in 11%. Sources of information was self knowledge in 60%, previous prescriptions by doctors in 15%, advertisement in 6%, chemist recommendation in 9% and advice from friends/ family in 10%. Types of symptoms/ illness was cough/ common cold/ fever was seen in 30%, headache in 46%, bone and joint pain in 14%, dysmenorrhoea in 7% and non-specific pain in 3%. The difference was significant (P< 0.05). **Conclusion:** Most commonly used analgesics was paracetamol alone. Most of the students had poor sleep pattern.

Keywords: Self-medication, Analgesics, paracetamol

INTRODUCTION

Self-medication, which is described as "the selection and use of medicine by individuals to treat selfrecognized illness and symptoms," is a crucial component of self-care. In poor nations like India, self-medication with over-the-counter (OTC) or nonprescription medications is widespread.[1,2] Young people, particularly students, frequently make unsupervised health-related decisions, such as self-medicating with different medications like antibiotics, analgesics, and nutritional supplements, among others. The media and internet have a big impact on young people, encouraging self-medication.[3]

According to numerous previous studies, the prevalence rate of self-medication ranges between 45 and 90 percent.[4] Due to the easy access to over-the-counter medications, the majority of common ailments in India are treated by self-medication. This practice is also becoming prevalent among undergraduate medical students, which hinders the safe and efficient use of medications.[5]

Since pain is one of the main symptoms that drive someone to self-medicate, analgesic self-medication is also frequently observed among undergraduate medical students.

Analgesics, also referred to as painkillers, are drugs that relieve various forms of pain in the body in a variety of ways.[6]Sleep disorders are frequently linked to both acute and chronic painful diseases, and vice versa. Sleep disturbances can interact with analgesic therapy and induce or regulate pain by causing hyperalgesic alterations.[7,8]The present study was conducted to assess analgesic self- medication and its association with sleep quality among the medical students.

MATERIALS & METHODS

The study was carried out on 580 medical students of both genders. All gave their written consent to participate in the study. Self- medication was seen in 450 students.

Data such as name, age, gender etc. was recorded. Parameters such as socio-demographic profile, symptoms, types of analgesics, source of information and reason for analgesic self- medication was collected. The sleep quality of students was assessed by Pittsburgh Sleep Quality Index (PSQI).Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of students

Year	Male (220)	Female (230)	P value
1st year	65	73	0.05
2nd year	58	46	
3rd year	32	30	
4th year	45	46	
Intern	20	35	

Table I shows that there were 65 males and 73 females in 1st year, 58 males and 46 females in 2nd year, 32 males and 30 females in 3rd year, 45 males and 46 females in 4th year and 20 males and 35 females in interns.The difference was significant (P< 0.05).

Table II Assessment of parameters

Parameters	Variables	Percentage	P value
Type of drugs	Paracetamol only	45%	0.05
	NSAIDs only	32%	
	Fixed dose combinations	12%	
	Opioids / Opioid like	11%	
Sources of Information	Self knowledge	60%	0.03
	Previous prescriptions by doctors	15%	
	Advertisement	6%	
	Chemist recommendation	9%	
	Advice from Friends/ Family	10%	
Types of symptoms/ illness	Cough/ Common Cold/ Fever	30%	0.01
	Headache	46%	
	Bone and Joint Pain	14%	
	Dysmenorrhoea	7%	
	Non-specific pain	3%	

Table II, graph I shows that type of drugs used was paracetamol only in 45%, NSAIDs only in 32%, fixed dose combinations in 12% and opioids / opioid like in 11%. Sources of information was self knowledge in 60%, previous prescriptions by doctors in 15%, advertisement in 6%, chemist recommendation in 9% and advice from friends/ family in 10%. Types of symptoms/ illness was cough/ common cold/ fever was seen in 30%, headache in 46%, bone and joint pain in 14%, dysmenorrhoea in 7% and non-specific pain in 3%. The difference was significant (P< 0.05).

Graph I Assessment of parameters

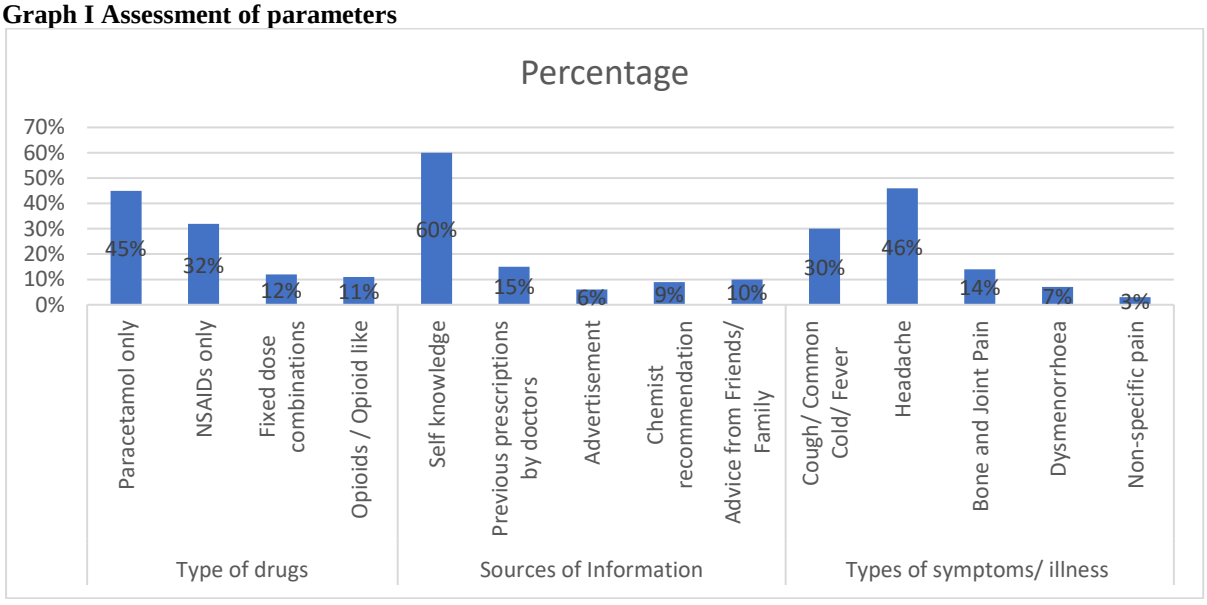

Table III Association between sleep quality and analgesic self-medication

Sleep Quality	Self- medication		P value
	Yes	No	
Poor sleepers (PSQI Score > 5)	330	70	0.02
Normal sleepers (PSQI Score ≤ 5)	120	60	

Table III shows that 330 students were poor sleepers and 120 were normal sleepers who were on self-medication. The difference was significant (P< 0.05).

DISCUSSION

As per WHO, self-medication is a selection and use of medicines by individuals to treat self recognized illnesses or symptoms.[9] Many studies done before have shown prevalence rate of self-medication ranging from 45-90%.[10,11]The present study was conducted to assess analgesic self- medication and its association with sleep quality among the medical students.

We found that there were 65 males and 73 females in 1st year, 58 males and 46 females in 2nd year, 32 males and 30 females in 3rd year, 45 males and 46 females in 4th year and 20 males and 35 females in interns. Kumar et al[12]assessed analgesic self- medication and its association with sleep quality among the medical undergraduates. Analgesic self- medication prevalence was 49.7%, more prevalence seen among males, seniors, urban residents and students of working parents. Headache (48.4%) was the most common cause and paracetamol (79.7%) was most frequent drug used, based on knowledge obtained through textbook and internet (47.1%). Mildness of symptoms (49.1%) was the most important motivation behind self- medication. Analgesic use was more (57.4%) among "poor sleepers" compared to "normal sleepers" (45.2%).

We found that type of drugs used was paracetamol only in 45%, NSAIDs only in 32%, fixed dose combinations in 12% and opioids / opioid like in 11%. Sources of information was self knowledge in 60%, previous prescriptions by doctors in 15%, advertisement in 6%, chemist recommendation in 9% and advice from friends/ family in 10%. Types of symptoms/ illness was cough/ common cold/ fever was seen in 30%, headache in 46%, bone and joint pain in 14%, dysmenorrhoea in 7% and non-specific pain in 3%. In a study by Kaur et al[13], 100 students of BSN 1st year, 2nd year, 3rd year and 4th year of RBCN, Mohali were selected by simple random sampling (lottery method) as per inclusion and exclusion criteria. The data was collected from subjects by a structured questionnaire, consisting of socio-demographic characteristics and questionnaire regarding self-medication practices. The study findings revealed that self-medication was prevalent among a maximum (73%) of subjects; in tablet/ capsule form by 86% of subjects and only during emergency condition by 44% of subjects. Headache/ Insomnia was identified as the most common cause by nearly half (47%) of subjects and the same experienced Nausea as the side-effect of self-medication drugs. The most widely used drug category was Analgesic/ Antipyretic by 73% of subjects. Further in categorization of drugs, 70% were taking Paracetamol among Analgesic/ Antipyretic; Amoxicillin as preferred Antibiotic by 45% of people for self-medication. The outcome of self-medication was reported as cure of illness up to some extent by more than one-third (37%) of subjects.

Badiger S et al[14]determined the reasons for self-medication and the pattern of self-medication among medical students.A total of 200 students, 121 (60.5%) female and 79 (39.5%) male, were included in the study. Of the medical students surveyed, self-medication was reported among 92%. The respondents who used self-medication found it to be time- saving in providing relief from minor ailments. The most common ailments for which self-medication were used were: the common cold (69%), fever (63%) and headache (60%). The students consulted their textbooks (39%) and seniors or classmates (38%) for the medications. Antipyretics (71%), analgesics (65%), antihistamines (37%) and antibiotics (34%) were the most common self- medicated drugs. Of the respondents, 33% were unaware of the adverse effects of the medication and 5% had experienced adverse reactions. The majority (64%) of students advised medications to others, more often to family and friends.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that most commonly used analgesics was paracetamol alone. Most of the students had poor sleep pattern.

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