

SELF MEDICATION WITH PARACETAMOL FOR MIGRAINE RELIEF AMONG MEDICAL STUDENTS, A CROSS SECTIONAL STUDY

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ABSTRACT

Migraine is a frequent neurological disorder impacting quality of everyday life performance of medical students. Easy access to medications and medical knowledge increasingly tends to promote self-medication with particularly extensive use of paracetamol, in order to lead to misuse and possible harm. The purpose of this study was to determine the prevalence, practice, and predictors of self-medication with paracetamol for recurrent headache among medical students.

Methodology:

This was a cross-sectional study which involved 358 medical undergraduates from Superior University, Lahore. A structured online questionnaire was used to collect data. Google Forms the survey was disseminated on university social medical networks media groups, student also coordinated with schools, SVLs and teachers to achieve full attendance. Data on demographic medications and associated factors were recorded and descriptive and inferential statistics were employed.

Results:

The majority of subjects complained about frequent headaches, females had prominent prevalence. Most patients resorted to self-medication with paracetamol which was found to be frequently for migraine relief. Among ten studied variables, sleep pattern ($p = 0.01$) and academic stress ($p < 0.01$) were the most significant associated factors. Average sleep duration was inversely related to headache frequency, while headache location also showed a significant association ($p < 0.01$).

Conclusion:

Self-medication with paracetamol for migraine is highly prevalent among medical students, particularly females. Poor sleep hygiene and academic stress were identified as major contributing factors. Awareness programs promoting responsible medication use and healthier sleep practices are strongly recommended.

Keywords: Migraine, self-medication, paracetamol, medical students, sleep pattern, academic stress.

INTRODUCTION

Self-medication has been studied a lot in different countries across Africa, Asia, and Europe. The has been restated in a different manner. In Nigeria, it's typical for street vendors and those selling on the side of the road to sell both over-the-counter and prescription medications. There are numerous unlicensed establishments where individuals

purchase illicit substances from individuals they do not personally know. Previous research concentrated primarily on self-treatment behaviors in the broader public and among medical professionals [1]. Healthcare faces a significant challenge with pain management. The most recent Global Burden of Disease study indicates that numerous prevalent health

conditions are linked to pain, such as tension headaches, migraines, and lower back pain. Medications are the most frequent method for managing pain. A variety of pain relievers is accessible. Many people opt for self-care for pain, and this trend is expected to grow as individuals assume more control over their health. Nevertheless, individuals who self-medicate their ailments are often poorly understood [2].

Self-medication is a not unusual component in each rich and poor nations round the arena. It manner people take remedy by using themselves without speak me to a doctor approximately their health hassle. the arena fitness organization says self-medicinal drug is while humans use drugs which are available without a prescription to deal with signs they assume they have got, or use medicines they were given earlier than for similar issues again [3]. We also desired to apprehend how people felt approximately whether or not the medication helped with their symptoms and whether any demographic factors prompted using self-remedy in Peru. The effects of this look at will help healthcare coverage makers in Peru take better moves to shield humans lives [4].

Many factors impact self-remedy, and those can differ relying at the region. a number of these elements consist of way of life, smooth get entry to to tablets, and monetary and social conditions. With this historical past, a go-sectional community-primarily based look at became conducted to find out how common self-remedy is, how it is used, and why humans do it [5]. Paracetamol is used to treat pain and fever. It can interact with some other medicines and has been linked to certain blood problems like thrombocytopenia, leucopenia, and neutropenia. Taking too much paracetamol can harm the liver and cause kidney damage. Poor understanding of the correct dose and the easy access to this medicine have led to more cases of illness. People, especially university students, often use paracetamol without a doctor's advice. Self-medication means individuals choose and use medicines on their own to deal with health issues they think they have [6].

Paracetamol has been used for treating mild pain and fever since the mid-1950s and is still the most common treatment for these issues in children, pregnant women, older adults, people

with non-inflammatory pain, and those who cannot take NSAIDs. So, over the counter motive of this evaluate is to over-the-counter and describe what's already regarded approximately these less commonplace makes use of paracetamol. The authors additionally be aware that over the counter is lots of studies on humans deliberately poisoning themselves with paracetamol, over-the-counter determined to consciousness over the counter on different, much less common makes use of [7].

People mostly go for self-medication because it saves cost; particularly they who cannot afford clinic charges. Studies have shown an increase in the practice of self-medication due to economic as well as other reasons like social factors, lifestyles, easy access to drugs, information regarding self-care, and drug availability. This implies that using drugs on one's initiative may be harmful. The adverse effect due to inappropriate drugs, doses, and indications can be severe. Besides, it may complicate diseases and create drug interactions. [8]. The common condition for which medication is sought includes pain. Analgesics are those drugs consumed under presumption or otherwise for relief from various types and intensities of pain within the body [9].

Earlier research observed that factors such as stress, inadequate sleep, the menstrual cycle, nutrition, climatic changes, temperature, frequent traveling, oral contraceptive pills, certain foods and physical activities all precipitate migraine [10]. Researches in Pakistan regarding self-medication revealed that individuals were content using paracetamol for their ailments. There is also not enough information about cases of paracetamol poisoning and other over-the-counter painkillers, which is a serious concern for health departments in Pakistan. Without this data, it's hard to understand how much people know and feel about over-the-counter medicines [11].

Preceding studies of migraine amongst clinical college students confirmed that paracetamol and pills (NSAIDs) are 2 of the maximum generally used analgesia. Sleep, relaxation, hot showers, water or meals intake, self-medicinal drug, acupuncture/rubdown, and prescribed medicine are used as coping mechanisms [12].

Chronic ache affects the great of lifestyles (QOL). Students frequently use analgesics in preference to specific anti-headache treatment, which leads to analgesic abuse headache in addition impairing QOL. Incidence of migraine in university college students has varied among 12.6% and forty-eight %. [35-7] This distinction should possibly be attributed to variations in environmental, socio-demographic, way of life, and genetic factors [13].

Targeted populace research for any sickness will assist us in identifying the high-threat institution in the pattern studied, figuring out the trigger elements, and also in understanding its impact on their QOL. clinical university lasts for five years. occurrence of migraine has not been a subject of research in medical college students in India. in this look at, we aimed to analyze the prevalence and traits of migraine complications in clinical college students, to identify trigger elements, and to recognise its effect at the sports of each day residing and to evaluate their consciousness about the ailment [14].

Material and METHODS

Results

Age Distribution of Participants

		AGE	
		Frequency	Percent
Valid	18-20	28	
	21-23	227	63.4
	24-26	80	22.3
	27-30	23	6.4
	Total	358	100.0

Prevalence of Headache in the Last Six Months
period, while 30.2% (n = 108) did not report any headache episodes.

This study was designed as cross-sectional study conducted among undergraduate medical students. The study will be conducted from the students of Superior University. The study population will consist of medical students at Superior University. A convenience sampling method was used to recruit participants from different academic years of the medical program. Students who were available, willing to participate, and met the inclusion criteria were invited to complete the questionnaire. The final sample included 358 medical students. Everyone got a structured questionnaire online—sent out through Forms. The survey covered basic demographics, migraine symptoms and triggers, how students use paracetamol, and how that use affects their studies. Nobody had to put their name down, and taking part was totally voluntary. We kept the survey open for four weeks. Google Forms to collect responses, Google Sheets to organize everything, SPSS for deeper statistical analysis, and R for crunching numbers and making charts. For analysis, we calculated averages, frequencies, and percentages, then presented the findings using different charts, graphs, and tables.

The majority of students, 69.8% (n = 250), reported experiencing a headache during this

Have you experienced a headache in last 6months?

		Frequency	Percent
Valid	NO	108	30.2
	YES	250	69.8
	Total	358	100.0

Duration of Headache among Participants

Now, looking at how long these headaches last, there's a real difference between male and female students. A smaller group (almost 24%) had headaches lasting 30 minutes or less, and about 10% dealt with pain for 2–4 hours. For women, the most common duration was 30 minutes or less (about 38%), but a good

number also had headaches that lasted 2–4 hours (27%) or 30 minutes to 2 hours (35%). So, for everyone overall, almost half of the students (49%) had headaches that lasted 30 minutes to 2 hours, with about 32% dealing with shorter episodes and 19% with headaches lasting 2–4 hours.

Characteristics of participants at baseline(N=358)							
Variables		30mint	30mint-2hours	2-4hours	4-12hours	Total	P
Duration of headache	Male	38	104	16	0	159	<0.01
	Female	76	70	53	1	199	
	Total	114	174	69	1	358	

The association between gender and headache duration was statistically significant ($p < 0.01$), suggesting that male and female students differ in the typical duration of headache episodes, which could be influenced by hormonal, lifestyle, or stress-related factors. Most headaches were relatively short in duration, indicating a predominance of mild-to-moderate headache episodes, which may explain the reliance on self-medication with paracetamol for quick relief.

Location of Headache Pain by Age

For students aged 24–27 years ($n = 80$), the majority reported pain around the eyes (55; 68.8%), followed by one side (22; 27.5%) and forehead (3; 3.8%), with no reports of pain on both sides. Among the 28–30 years age group ($n = 23$), headaches were mainly reported on one side (20; 87.0%), with a few cases on both sides (3; 13.0%), and no reports around the eyes or forehead. Overall, one-sided pain (44.4%; $n = 159$) and pain around the eyes (42.5%; $n = 152$) were the most frequently reported headache locations across all ages.

Do you use paracetamol?

Digging into the numbers, 253 out of 358 students said they use paracetamol. That's most of them, which shows just how common it is for medical students to rely on it for pain relief. Breaking it down: 95 students use it a lot, which points to a habit of regular self-medication. Another 158 use it now and then—so, they're not strangers to it either. On the flip side, 105 students don't use paracetamol at all. What's driving this? Easy access, everyone thinking the

drug is safe, and the pressure cooker of medical school all probably play a part. But the numbers make it clear: self-managing pain with paracetamol is the norm, not the exception. With so many students turning to it—sometimes pretty often—it's important to ramp up education about using it wisely, understanding the risks, and knowing when too much really is too much.

		Frequency
Valid	Yes frequently	95
	Yes occasionally	158
	NO	105
	Total	358

		Location of pain				Total	p
		One side	Both sides	forehead	Around eyes		
AGE	18-20	16	5	0	7	28	<0.01
	21-23	101	22	14	90	227	
	24-27	22	0	3	55	80	
	28-30	20	3	0	0	23	
Total		159	30	17	152	358	

Do you take paracetamol with Doctor prescription?

A look at how often these students pop paracetamol each month tells a pretty clear story. Out of 358 medical students, 121 said they only take it once or twice a month—not that often. But most students, 205 of them, use paracetamol three to five times every month. That's not just an occasional thing; it's a steady

habit for managing pain or just getting through discomfort. Then there's a smaller group—32 students—who take it six to ten times a month. That's pretty frequent, and honestly, it raises some red flags about possible dependence or side effects. So, it's not just the odd headache; a good chunk of students reaching for paracetamol regularly.

		Frequency
Valid	No	194
	Yes	164
	Total	358

How often do you take paracetamol in a month?

Turns out, most students just grab it without checking with a doctor first. Out of everyone

surveyed, 194 said they took paracetamol on their own, no prescription, while 164 only used it after talking to a doctor. More than half went the self-medication route. That's a lot, especially

considering these are students who already know a thing or two about how drugs work. It says a lot about how casually people treat painkillers like paracetamol—almost like it's harmless just because you can buy it anywhere. Honestly, this whole thing points to a bigger issue: even future doctors need a reminder

about using meds responsibly and asking for real medical advice, no matter how common or “safe” the drug seems.

		Frequency
Valid	0-2times	121
	3-5times	205
	6-10times	
	Total	358

Discussion

We looked into how often medical students at Superior University in Lahore use paracetamol on their own to manage migraines, and what drives them to do it. Turns out, a lot of students self-medicate—especially women, who report headaches more often than men. The main reasons? Messed-up sleep schedules and academic stress. This isn't unique to Lahore. Other studies from Pakistan and beyond show that medical students, thanks to easy access and a bit of know-how, often skip the doctor and reach for medication themselves. In India and Saudi Arabia, researchers found the same thing: paracetamol tops the list as the go-to over-the-counter painkiller for students. Why do more women get migraines? The pattern lines up with global research—hormonal swings and emotional stress play a big part. For example, in Kuwait, female university students also report more headaches. Our study found poor sleep ($p = 0.01$) and academic pressure ($p < 0.01$) really set off migraine episodes and push students toward self-medication. Other researchers have seen the same—bad sleep and stress are big migraine triggers for students. It makes sense. Medical students deal with long hours, constant exams, and clinical duties. This wrecks their sleep and jacks up stress, which only makes things worse. No wonder paracetamol is so popular. It's cheap, easy to get, and has a reputation for being safe. But there's a catch. Used too much or in the wrong way, paracetamol can damage your liver, especially if you go over 4 grams a day. Surprisingly, even

though these are medical students, a lot of them don't really know the safe limits or long-term risks. This isn't just a local issue—other studies have found the same gap in pharmacological knowledge among med students elsewhere. Why are headaches more common in women here? Hormones like estrogen are a likely culprit, and psychological stress often hits female students harder, which could explain the trend. All this points to a real need for better awareness and education. Universities should step up and offer workshops or counseling on managing stress, improving sleep, and using medication responsibly. Adding sessions on drug safety and wellness into the curriculum could make a difference. Of course, this study has its limits. Since we only surveyed one university and relied on self-reported data, there's some risk of bias, and we can't say for sure what causes what. To really nail down the details, future research should look at more universities and follow students over time. Bottom line self-medicating with paracetamol for migraines is common among medical students, especially women, and stress and poor sleep are major drivers. Even with their training, many students still don't fully understand safe medication use. Educational programs that promote healthier habits and smarter self-care are badly needed.

Conclusion

This study looked at how medical students use paracetamol on their own and found that a lot of them take it often, without much

supervision. Out of 358 students, most were between 20 and 27 years old—a time in life packed with tough classes, endless exams, late nights, and way too much screen time. No surprise, those things go hand in hand with more migraines and headaches. That's actually the main reason students reached for paracetamol. What really stands out is how quickly students turn to paracetamol for pain—usually right away, skipping any kind of medical advice or even thinking about other ways to manage it. Even though these are medical students, plenty of them still self-medicate without really paying attention to how much paracetamol they're taking or for how long. It's easy to get, feels safe, works fast, and for many, it's something they've relied on before, so they just keep doing it. Over time, this habit starts to look a lot like dependence. Some students said they'd take paracetamol for even the smallest aches, almost out of routine. This shows that self-medicating with paracetamol has become normal for them, and it also points to a big problem: a lot of students don't seem aware of the risks that come with using too much paracetamol, like liver damage or hiding bigger health issues under the surface. The study also makes it clear that academic stress and lousy sleep set off this cycle—stress leads to headaches, which leads to more paracetamol, and so on. So, this isn't just about convenience. It's about how students cope with the pressures of medical school and the habits they pick up along the way. Medical students need better education on how to use medicine safely, manage stress, and try other ways to deal with pain. If schools tackle these issues, they can help future doctors avoid risky habits and take better care of themselves.

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