e-ISSN: 0975-5160, p-ISSN: 2820-2651

Available online on www.ijtpr.com

International Journal of Toxicological and Pharmacological Research 2024; 14(11); 41-47

Original Research Article

Exploration of Self-Medication: Examining Knowledge, Attitudes, and Practices among Undergraduate Medical Students – A Cross-Sectional Study

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Received: 18-08-2024 / Revised: 21-09-2024 / Accepted: 26-10-2024
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Conflict of interest: Nil

Abstract:

Introduction: Self-medication is widespread among medical students, impacting health outcomes. Understanding knowledge, attitudes, and practices (KAP) on self-medication among this population is essential to guide interventions for responsible medication use.

Methods: A cross-sectional study was conducted among 300 undergraduate medical students at Government Medical College Suryapet to assess their KAP towards self-medication using a structured questionnaire. Descriptive statistics were employed to analyse the data.

Results: Demographic: The sample comprised 150 males and 150 females. Age distribution: 35%, 42%, and 23% were aged 18-20, 21-23, and above 23. Year of study distribution: 31%, 36%, and 33% in 2nd, 3rd, and 4th year. Approximately 3% reported that they have chronic medical illnesses. Knowledge: Fifty four percent accurately defined self-medication. 62% acknowledged potential adverse effects in all medications. Furthermore, 57% stressed the importance of basic drug knowledge was essential for self-medication. While 65% correctly identified age-based self-medication limitations.41% suggested discontinuation if adverse effect appears. Attitude: Fifteen percent endorsed that all dosage ranges posed risks, and 20% strongly agreed that self-medication was unsafe across age groups. Further, 53% endorsed close symptom monitoring during self-medication, while 64% believed self-medication drugs could interact with other drugs and food. Additionally, 45% considered certain self-medication drugs unsafe during pregnancy. Practice: Twenty nine percent admitted consuming medication without reading package inserts, 17% shared prescriptions with symptomatic peers. Additionally, 38% self-medicated without medical knowledge, and 21% extended self-medication without medical oversight. Cost-saving motivated 25%, while 18% were uncertain about prescription necessity. Moreover, 12% reported adverse effects from self-medication.

Conclusion: This study emphasizes the diverse KAP regarding self-medication among undergraduate medical students, with demographic-specific targeted educational interventions that can cultivate responsible self-medication practices, ensuring safe and effective medication use.

Keywords: self-medication, medical students, knowledge, attitude, practice, cross-sectional study.

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Introduction

"Self-medication refers to the practice of using over-the-counter (OTC) medications to address self-diagnosed symptoms or conditions, or even reusing prescribed drugs for recurring illnesses" (World Health Organization) [1]. In developing nations like India, it's common for not just OTC drugs, but also prescription medications to be easily accessible without the need for a prescription at pharmacies [2].

This practice presents numerous medical and social challenges, leading to significant and widespread consequences. Self-medication encompasses actions like obtaining medications without a prescription, repurposing old prescriptions for purchasing drugs, sharing medications with family, friends, or others, using leftover medications stored at home, deviating from prescribed instructions by extending or prematurely discontinuing usage, or altering the originally prescribed dosage.

These behaviours contribute to the misuse of medicines, resulting in adverse outcomes such as increased risks of adverse drug reactions, drug resistance, and heightened morbidity [3]. Observations indicate that medical students frequently partake in self-directed healthcare practices without a comprehensive grasp of the

medical conditions they are addressing [4]. Although numerous studies have assessed the global prevalence of self-medication, India has conducted limited investigations focusing on medical students. This study aims to assess the knowledge, attitudes, and practices (KAP) regarding self-medication among medical students enrolled at Government Medical College, Suryapet. This research is crucial in informing interventions that promote responsible medication utilization.

Methodology:

Study Design and Period: This study adopted a cross-sectional research design and was conducted over a period spanning from May 2023 to July 2023.

Sampling and Participants: The study involved 300 undergraduate medical students enrolled at Government Medical College Suryapet, selected through a purposive sampling technique. These students were chosen due to their relevance to the research topic.

Data Collection: Data collection was primarily achieved through a structured questionnaire. This questionnaire was thoughtfully divided into four distinct sections:

Sociodemographic Details: The first section aimed to gather sociodemographic information from the participants, including age, gender, educational level, and any other pertinent background details. This information served as a necessary contextual backdrop for the subsequent analyses.

Knowledge of Self-Medication: The second section sought to assess the students' understanding of self-medication. It likely included questions pertaining to the definition of self-medication, its potential benefits, associated risks, and the types of health conditions suitable for self-treatment.

Attitudes towards Self-Medication: The third section delved into the attitudes and beliefs of the medical students concerning self-medication. It may have included inquiries regarding their perceptions of the safety of self-medication, ethical considerations, and the factors influencing their decision-making processes.

Practices of Self-Medication: The fourth and final section focused on the practical aspects of self-medication among the participants. This segment may have included questions about the frequency of self-medication, common types of drugs used for self-treatment, sources of information guiding their self-medication choices, and any instances of misuse or responsible self-treatment.

Ethical Considerations: Ethical considerations played a crucial role in this study. The researchers adhered to ethical principles, including obtaining informed consent from all participants before data collection. Participants were assured of confidentiality, and their participation was entirely voluntary. The study also aimed to minimize any potential harm or discomfort to the participants.

Data Analysis: Following data collection, the research team employed descriptive statistics as the primary analytical approach. Descriptive statistics enabled the researchers to summarize and present the collected data in a clear and informative manner, facilitating the identification of key findings, trends, and patterns. These insights will guide future interventions and policies related to responsible medication use among medical students.

Results:

Socio-Demographic Profile: The sample size comprised 150 males and 150 females, resulting in a well-balanced gender distribution. In terms of age distribution, the participants were categorized as follows: 35% were aged 18-20, 42% fell within the 21-23 age bracket, and 23% were aged 23 and above. Regarding their year of study, 31% were in their 2nd year, 36% in their 3rd year, and 33% in their 4th year. Approximately 3% of the participants reported having a chronic medical condition.

Table 1: Socio-Demographic Features of medical students

	Group	N	%
Gender	Male Female	150 150	50% 50%
Age	18-20 21-23 >23	105 126 69	35% 42% 23%
Year of study	Second year Third year Fourth year	93 108 99	31% 36% 33%
Do you have any chronic medical illness?	Yes No	9 291	3% 97%

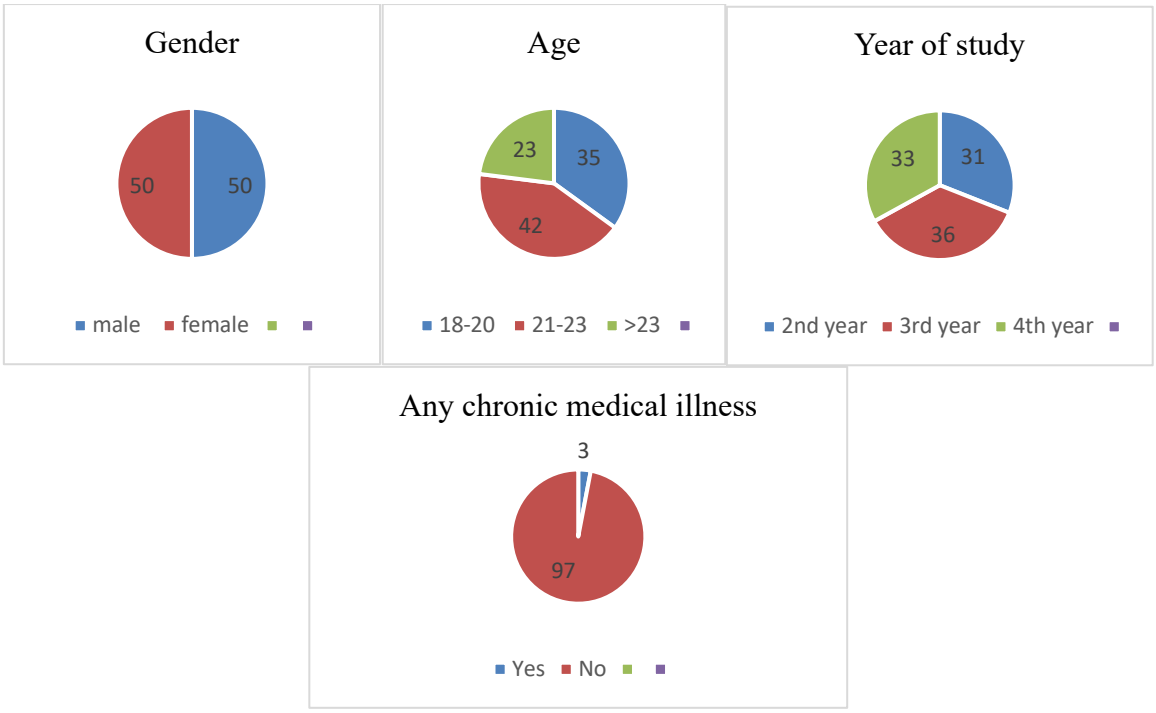

Figure 1:

Knowledge towards self-medication: Participants demonstrated varying levels of understanding: 54% accurately provided a definition for self-medication, while 67% recognized the potential lack of safety and effectiveness associated with this practice.

Additionally, 62% acknowledged the possibility of adverse effects from all medications, and 57% believed that possessing basic knowledge of drug actions was crucial for responsible self-medication. Furthermore, 65% correctly identified age restrictions as a limiting factor for self-medication, and 35% recognized the importance of adhering to specific timeframes for self-administration. Notably, 41% of participants indicated that discontinuing medication was the appropriate course of action in response to unwanted effects.

Table 2: Knowledge towards Self-Medication among medical students

Question	Answer	N	%
1. Self-Medication is self-consuming of medicine without prescriber advice.	a) Yes b) No c) Do not Know	162 90 48	54% 30% 16%
2. Self-Medication may not always be safe and effective.	a) Yes b) No c) Do not Know	201 69 30	67% 23% 10%
3. whether All medications may have adverse effects	a) Yes b) No c) Do not Know	156 96 18	62% 32% 6%
4.Basic drug action knowledge is essential for self-medication	a) Yes b) No c) Don't know	171 120 9	57% 40% 3%
5.Self-medication intake is time specific	a) Yes b) No c) Do not know	105 150 45	35% 50% 15%
6. Discontinuation as proper response to unwanted effect	a) Yes b) No c) Do not know	123 27 150	41% 9% 50%

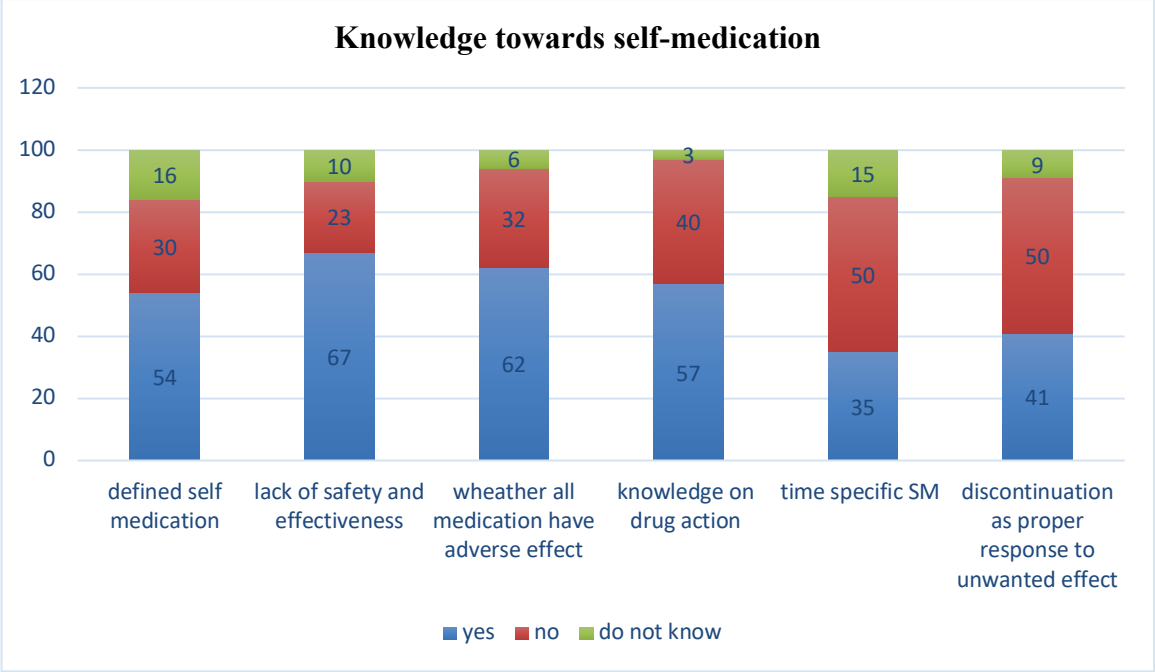

Figure 2: Knowledge towards self-medication

Attitude towards responsible self-medication: A range of perspectives emerged among the participants: 15% expressed concern that all dosage ranges carried inherent risks, while 48% strongly agreed that extended self-medication was inadvisable. Additionally, 20% strongly concurred that self-medication posed safety concerns across all age groups. A majority, 53%, agreed on the necessity of closely monitoring symptoms during self-medication, and 64% acknowledged the potential for interactions between self-medication drugs, other medications, and food.

Moreover, 45% of participants agreed that specific self-medication drugs were unsafe for use during pregnancy, reflecting a nuanced spectrum of attitudes.

Table 3: Attitude towards responsible self-medication among medical students

Questions	Answers	N	%
All dosage ranges of drugs preferred for self-medication posed risk	a) Agree b) Neither agree nor disagree c) Disagree	45 195 60	15% 65% 20%
Prolonged self-medication is inadvisable	a) Agree b) Neither agree nor disagree c)Disagree	144 138 18	48% 46% 6%
self-medication is unsafe across age groups	a) Agree b) Neither agree nor disagree c)Disagree	60 180 60	20% 60% 20%
Close monitoring of symptoms during self-medication required	a) Agree b) Neither agree nor disagree c)Disagree	159 111 30	53% 37% 10%
Self-medication drugs have a tendency to interact with other drugs and food	a) Agree b) Neither agree nor disagree c)Disagree	192 102 6	64% 34% 2%
self-medication drugs are unsafe during pregnancy	a) Agree b) Neither agree nor disagree c)Disagree	135 135 30	45% 45% 10%

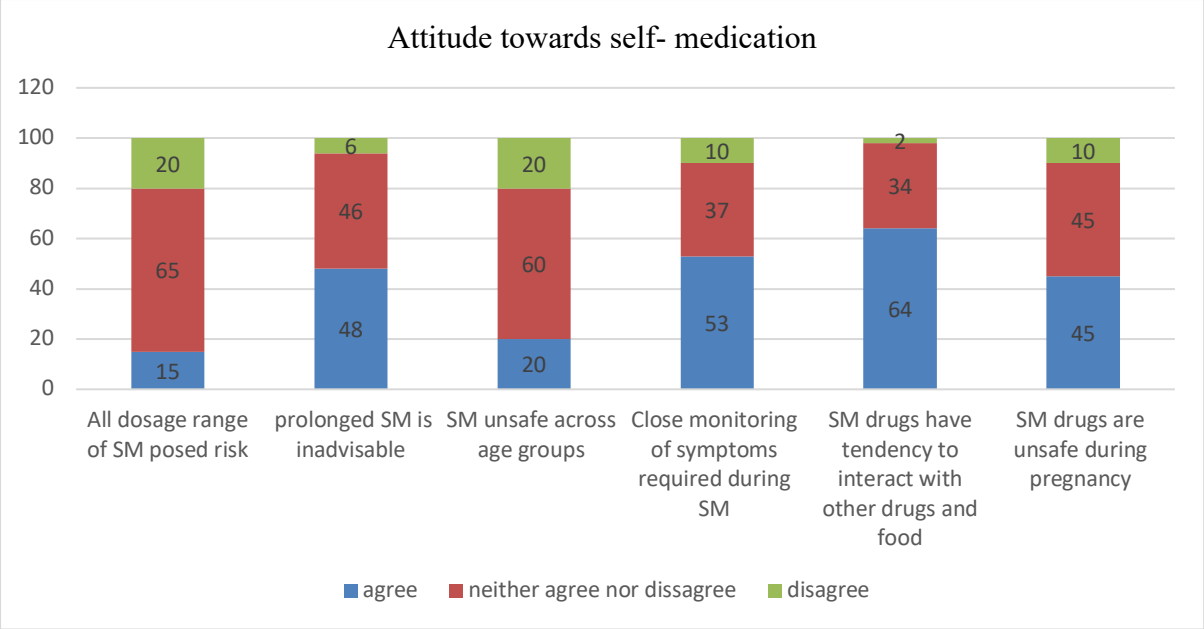

Figure 3: Attitude towards self- medication

Practice towards responsible self-medication: The study uncovered a spectrum of self-medication practices among participants, reflecting a diversity of behaviors and motivations: 29% admitted to consuming medications without reading the package insert, highlighting the importance of informed usage. Additionally, 17% disclosed that they had shared their prescriptions with symptomatic individuals, potentially posing risks of inappropriate medication use. Moreover, 21% acknowledged prolonged self-medication without medical expertise, raising concerns about its implications for health. Notably, 25% cited cost-saving as a motivating factor for self-medication, reflecting economic considerations in healthcare decisions. Furthermore, 18% expressed uncertainty regarding the necessity of a prescription for the medicines they consumed, indicating potential gaps in understanding regulations. Alarmingly, 12% reported experiencing adverse side effects from self-medication, underlining the importance of responsible practices. Finally, 38% of participants admitted to practicing self-medication without possessing medical knowledge, underscoring the need for targeted interventions and education in this domain.

Table 4: Practice toward responsible self-medication among medical students

Questions	Answer	N	%
Do you consume self-medication without reading package insert	a) Yes b) No	87 213	29% 71%
Have you shared prescription with symptomatic individual	a) Yes b) No	51 249	17% 83%
Have you prolonged self-medication without medical knowledge	a) Yes b) No	63 237	21% 79%
Cost saving motive of self-medication	a) yes b) No	75 225	25% 75%
Do you know whether or not the medication you took required a prescription?	a) Yes b) No	54 246	18% 82%
Have you ever reported adverse effect after Self-Medication?	a) Yes b) No	36 264	12% 88%
Have you ever self -medicated without medical knowledge	a) Yes b) No	114 186	38% 62%

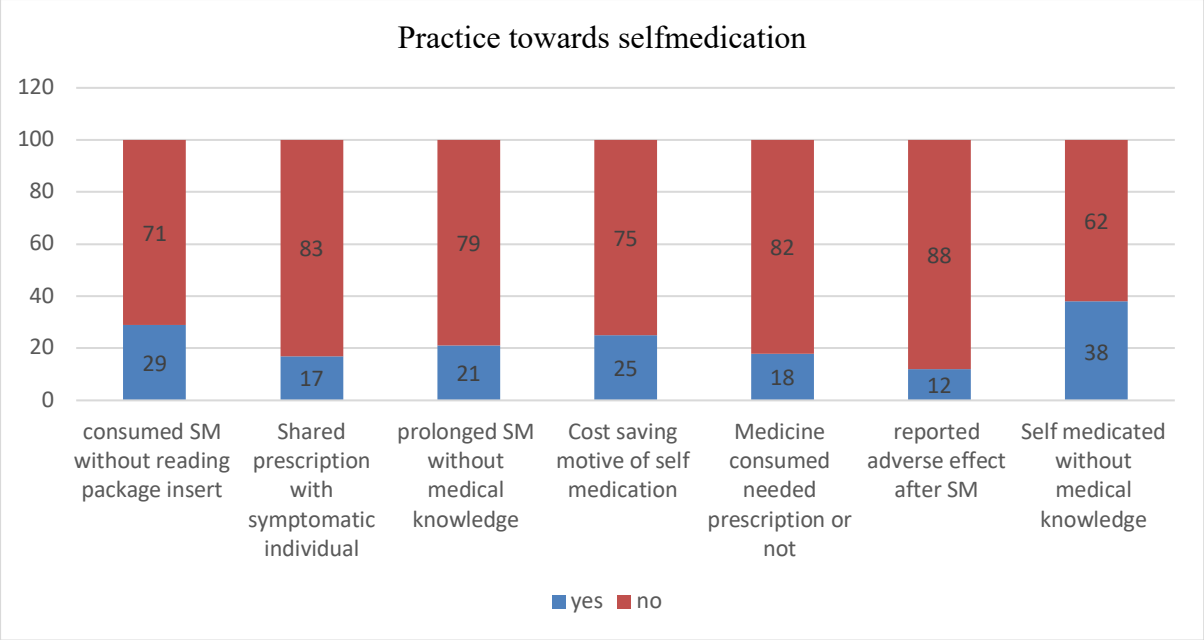

Figure 4: Practice towards selfmedication

Discussion:

Self-medication entails individuals treating their ailments with readily available medications that are typically safe and effective when prescribed by healthcare professionals [5]. However, when used improperly, these medications can result in adverse effects. The practice of self-medication is prevalent, particularly among medical students [6]. Consequently, assessing their Knowledge, Attitudes, and Practices (KAP) regarding self-medication becomes paramount for fostering responsible self-treatment and mitigating drug-related side effects within this demographic. Such insights can inform targeted interventions and educational initiatives to promote safe and informed medication practices among medical students.

While it is expected that medical students should possess a comprehensive understanding of proper drug use, this survey revealed a regrettable gap in knowledge, with only 54% of respondents demonstrating a significant level of awareness about self-medication (SM). Notably, these findings align with similar investigations conducted in Ethiopia [7], Riyadh [8], and Taiwan [9], where overall knowledge scores also trended lower. The consumption of inappropriate medications by medical students can be attributed to these unsatisfactory knowledge levels. In this study, 67% of participants recognized the potential lack of safety and effectiveness associated with self-medication, while 62% acknowledged that all medications could potentially lead to adverse effects. These results mirror those found in Sudan, where 54.7% of participants were unaware of the effects of the medicines they took [11]. In another comparable study, only 14.43% of students were knowledgeable about the side effects of drugs they had used for self-medication [10]. These findings underscore the importance of improving knowledge levels among medical students to promote safer and more informed self-medication practices.

In this study, the most prevalent reason for engaging in self-medication (SM) was cost-saving, aligning with the findings of previous research. However, contrasting motives have also been identified in other studies, such as lack of time to see a doctor [12,13] the desire for faster relief14, and time-saving15 as primary motivators for SM. Interestingly, even though students in this study had relatively easy access to healthcare professionals, the cumbersome process of consultations, prescription acquisition, and pharmacy visits has contributed to the widespread practice of self-medication. It's noteworthy that 71% of participants in this study reported reading package inserts and instructions, a behavior consistent with the guidance found in prior research studies [16,17]. These findings underscore the complex interplay of factors that influence self-medication practices among medical students, highlighting the need for holistic interventions to promote responsible and informed healthcare decisions.

This study unequivocally highlights the prevalence of self-medication (SM) as a common practice among medical students. This trend may be attributed to their knowledge of drugs and convenient access to medications. In light of this, ensuring safe and responsible SM practices becomes paramount, especially given the alarming pace at which SM is taking place. While the

complete eradication of SM may be a formidable challenge, there are various measures that can be implemented to discourage such behaviour. The risk of drug interactions and adverse effects looms large in the absence of intervention. Therefore, by sensitizing and educating medical students, we can take meaningful steps toward reducing the adverse effects associated with SM, ultimately fostering safer and more informed healthcare decisions within this demographic.

Conclusion:

This study underscores the diverse knowledge, attitudes, and practices (KAP) related to self-medication among undergraduate medical students. It highlights the need for targeted educational interventions tailored to specific demographics. Such interventions have the potential to foster responsible self-medication practices, ultimately ensuring the safe and effective use of medications within this population.

Acknowledgement:

The authors would like to extend their heartfelt gratitude to all the students who participated in this study, generously contributing their time and responses. Your valuable input has been instrumental in advancing our understanding of self-medication practices among medical students.

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