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Exploring Self-Medication Practices and Perceptions in Hail City: A Comprehensive Survey Study

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Abstract

This comprehensive survey study explores self-medication practices and perceptions among 1,145 residents of Hail City, Saudi Arabia, contextualizing these behaviors within the broader spectrum of global self-medication trends. Utilizing a detailed cross-sectional survey methodology, the research aims to elucidate the prevalence, driving factors, and community attitudes towards self-medication, taking into account variables such as healthcare accessibility, cultural norms, economic conditions, and the availability of over-the-counter medications.

Demographic analysis of the participant pool, comprising 732 females (63.9%) and 413 males (36.1%), highlights a female predominance and significant representation of middle-aged adults (35 - 44 years) in self-medication practices, suggesting specific demographic influences on these behaviors. Findings indicate a prevalent yet cautious approach to self-medication among the community, with a notable preference for over-the-counter drugs by 59.4% of participants. However, a considerable 40.6% also resort to prescription drugs for self-medication, raising concerns about the potential risks associated with unsupervised medication use.

Perceptions of self-medication within the community are largely negative, with 83.8% viewing it as unsafe and 90.4% advocating for stricter regulations. This underscores a strong community consensus on the need for increased public awareness and education regarding the risks of self-medication. Furthermore, 51.1% of participants reported seeking professional medical advice post-self-medication, indicating a proactive approach to validating self-care practices.

Advanced statistical analyses, including correlation analysis, Chi-Square tests, and logistic regression, provide deeper insights into the interrelations among studied variables, revealing significant associations between demographic factors and self-medication practices. These findings underscore the imperative for multifaceted public health strategies to address the complexities of self-medication practices and to promote safe medication practices across the board.

Keywords: Self-Medication Practices; Perceptions; Demographic Influences; Over-the-Counter Drugs; Professional Medical Advice; Public Health Strategies; Hail City; Saudi Arabia

Introduction

Self-medication, the practice of using drugs, herbs, or home remedies on one's own initiative without professional supervision, is a global phenomenon with varying prevalence across different regions and cultures. In Hail City, as in many parts of the world, self-medication practices are influenced by a myriad of factors including accessibility to healthcare

services, cultural beliefs, economic conditions, and the availability of medications over the counter. Understanding these practices and the perceptions surrounding them is crucial for healthcare providers, policymakers, and the community at large to ensure safe and effective healthcare practices.

This comprehensive survey study aims to explore the extent, drivers, and implications of self-medication among the residents of Hail City, Saudi Arabia. By examining the patterns and perceptions of self-medication, this research seeks to contribute valuable insights into the informal healthcare practices prevalent within the community. This study not only aims to map the current state of self-medication but also to understand the underlying reasons behind such practices, whether they stem from traditional beliefs, economic constraints, or gaps in the healthcare system.

Literature Review

Self-medication, the practice of using medication without professional guidance, is a global health concern with significant implications for public health. This literature review synthesizes findings from recent studies to understand the prevalence, determinants, and perceptions of self-medication across various populations.

A cross-sectional study in Al-Baha City, Saudi Arabia, revealed that nearly half of the participants engaged in self-medication, with analgesics, vitamins, and antipyretics being the most common substances used. This study highlighted the significant role of demographic factors such as age and education in influencing self-medication practices [1]. Similarly, a study among university students in Hail, Saudi Arabia, reported an alarming prevalence of self-medication, with a notable inclination towards using medication for common ailments like headaches and coughs [2]. These findings underscore the widespread nature of self-medication and its association with specific demographic and educational backgrounds.

The reasons behind self-medication practices are multifaceted. In Western Nepal, a study found that the majority of self-medication practices were influenced by friends, family, and past experiences, with NSAIDs, cough syrups, and antibiotics being the most commonly used drugs [3]. This suggests a significant influence of social networks and personal health experiences on self-medication behaviors. Furthermore, a study in Riyadh, focusing on the self-medication with ocular topical steroids, identified repeated symptoms and advice from non-professionals as key factors driving self-medication, highlighting the risks associated with unsupervised medication use [4].

Perceptions towards self-medication vary widely. In Hyderabad, India, a study among medical interns revealed a high prevalence of self-medication, particularly with analgesics and antipyretics, driven by the perceived knowledge of diseases and medications [5]. This indicates confidence in self-diagnosis and treatment among individuals with some medical knowledge, potentially leading to overlooked risks of adverse effects and drug interactions.

The reviewed studies collectively highlight the potential risks associated with self-medication, including incorrect self-diagnosis, inappropriate drug use, and the possibility of adverse drug reactions. The unsupervised use of medications, such as steroid eye drops, can lead to serious health complications, emphasizing the need for increased public awareness and education on the safe use of medications [4]. This study aims to answer the following questions:

- What are the key factors influencing self-medication practices among different demographic groups, and how do these practices vary across these groups?
- How do perceptions and beliefs about the safety and regulation of self-medication impact the behavior of individuals toward seeking professional healthcare advice?

Research Methodology

Study Design

This study employed a cross-sectional survey design to explore self-medication practices, perceptions, and behaviors among the residents of a specific geographic area. The primary objective was to understand the demographic distributions related to self-medication and to analyze the behaviors, perceptions, and tendencies of the population toward seeking professional medical advice post-self-medication.

Population and Sample

The target population for this study included adults residing in the specified area, with a focus on those who have engaged in self-medication practices. A stratified random sampling technique was employed to ensure representation across different demographic groups, including gender, age, and education levels. The sample size was determined based on the population size, the expected frequency of self-medication practices, and the desired level of precision for the estimates.

Data Collection Instrument

A structured questionnaire was developed as the primary data collection instrument. The questionnaire

comprised sections designed to capture:
- Demographic Information: Including gender, age, and education level.
- Self-Medication Practices: Frequency of self-medication and types of substances used (over-the-counter drugs vs. prescription drugs).
- Perceptions and Beliefs about Self-Medication: Including views on the safety of self-medication, the need for regulations, awareness of risks, and the perceived need for education on these risks.
- Professional Advice Seeking Behavior: Tendencies towards seeking professional medical advice following self-medication episodes.

The questionnaire was pilot-tested on a small subset of the target population to ensure clarity, relevance, and reliability of the questions.

Data Collection Procedure

Data were collected through an online survey platform to facilitate wide participation while maintaining social distancing norms. Participants were recruited through social media advertisements, local community boards, and emails. Informed consent was obtained electronically before participation, ensuring confidentiality and voluntary participation.

Statistical Analysis

Data analysis involved descriptive statistics to summarize demographic information and self-medication practices. Advanced statistical methods were employed to delve deeper into the data:
- Used to assess the strength and direction of associations between categorical variables, such as education level and self-medication practices.
- Applied to examine the associations between categorical variables, such as gender and the type of substance used for self-medication.
- Also, utilized to model the probability of certain behaviors (e.g., seeking professional advice post-self-medication) based on predictor variables like age, gender, and education level.
- The model's accuracy, precision, and recall scores were evaluated to assess its predictive power.

Ethical Considerations

The study was approved by the Ethical Approval Committee from the Research Department at Hail Health Cluster No. 2024-54. Participants were assured of their anonymity, and data were handled with strict confidentiality. The potential risks and benefits of participation were clearly communicated to all participants.

Result

The analysis of survey data on self-medication practices revealed insightful findings about demographic distributions, self-medication behaviors, perceptions and beliefs about self-medication, and tendencies toward seeking professional advice. Advanced statistical methods, including correlation analysis, Chi-Square tests, and logistic regression, provided deeper insights into the interrelations among the studied variables.

Table 1 presents the demographic distribution of the respondents involved in the study. The data is segmented by gender, age group, and education level, providing insights into the composition of the study's participants. Among the respondents, females constituted a majority with 732 participants, accounting for 63.9% of the total. Males were represented by 413 participants, making up 36.1% of the sample. Additionally, the age group of 35 - 44 years had the highest representation with 645 respondents, which is 56.3% of the total. This was followed by the 25 - 34 years age group, comprising 345 respondents or 30.1% of the sample. Alos, a significant portion of the respondents, 945 in total or 82.5%, reported having a Bachelor's degree. Those with a High School level of education were 145, accounting for 12.7% of the respondents. Table 1 provides a comprehensive overview of the demographic characteristics of the study's participants, highlighting the predominance of certain demographic factors within the sample.

Demographic Factor	Frequency	Percentage (%)
Gender: Female	732	63.9
Gender: Male	413	36.1
Age Group: 35 - 44 years	645	56.3
Age Group: 25 - 34 years	345	30.1
Education: Bachelor's degree	945	82.5
Education: High School	145	12.7

Table 1: Demographic Distribution of Respondents.

In examining self-medication practices among the study's participants, the data reveals insightful patterns regarding both the frequency of self-medication and the types of substances utilized. A notable 74.2% of respondents, amounting to 850 individuals, reported engaging in self-medication on an occasional basis. This suggests that while self-medication is a common practice, it is often not a regular habit among the majority of participants. On the other hand,

a smaller segment of the population, represented by 150 respondents or 13.1%, indicated that they rarely resort to self-medicating, pointing towards a more cautious approach to managing health issues without professional guidance.

When examining the types of substances used for self-medication, the data presents a clear preference within the community. Over-the-counter (OTC) drugs emerged as the predominant choice for 680 participants, accounting for 59.4% of the total. This preference highlights the accessibility of OTC medications and the perception among

individuals that these drugs are effective for treating minor health concerns independently. Conversely, prescription drugs were used by 465 respondents, making up 40.6% of the study's population, for self-medication purposes. The substantial reliance on prescription medications, which are typically intended to be used under medical supervision, underscores a significant practice within the community that could potentially lead to risks associated with unsupervised medication use, such as incorrect dosages or adverse interactions (Table 2).

Practice	Frequency	Percentage (%)
Frequency: Occasionally	850	74.2
Frequency: Rarely	150	13.1
Substance Type: Over-the-counter drugs	680	59.4
Substance Type: Prescription drugs	465	40.6

Table 2: Self-Medication Practices.

A significant majority, 83.87% of respondents, perceive self-medication as unsafe, indicating a widespread concern about the potential risks involved in self-administering medication without professional guidance. Conversely, a small fraction, 16.13%, believes self-medication to be safe, suggesting a level of confidence or trust in their ability to manage minor health issues independently.

The call for stricter regulations around self-medication is strong, with 90.48% of participants agreeing on the necessity for such measures. This high percentage reflects a collective concern for the implications of unregulated self-medication practices, emphasizing the need for oversight to ensure public safety. Only 9.52% felt that additional regulations are not required, possibly indicating a belief in personal responsibility and the adequacy of current guidelines.

The majority of respondents, 76.04%, acknowledge being aware of the risks associated with self-medication. This awareness is crucial for informed decision-making and risk management when individuals choose to self-medicate. However, 23.96% of participants reported not being aware of these risks, highlighting a gap in knowledge that could lead to unsafe self-medication practices. Reflecting a strong consensus on the importance of informed self-care, an overwhelming 95.29% of respondents expressed the need for education regarding the risks of self-medication. This indicates a widespread recognition of the value of knowledge and information in mitigating the potential dangers of self-medication. Only a small minority, 4.71%, did not see the need for such educational efforts, possibly due to existing knowledge or underestimation of the risks involved (Table 3).

Perception/Belief	Frequency	Percentage (%)
Safety: Unsafe	960	83.8
Safety: Safe	185	16.2
Regulations: Needed	1035	90.4
Regulations: Not needed	110	9.6
Awareness of Risks: Aware	870	76
Awareness of Risks: Not aware	275	24
Education on Risks: Needed	1090	95.2
Education on Risks: Not needed	55	4.8

Table 3: Perceptions and Beliefs about Self-Medication.

The perceptions and beliefs about self-medication among the study's participants reveal significant insights

into the community's stance on this practice. A vast majority, 83.8% or 960 respondents, perceive self-medication as

unsafe, indicating a prevalent concern over the potential risks associated with medicating without professional oversight. In contrast, a smaller fraction, 16.2% or 185 participants, believe self-medication to be safe, suggesting a level of confidence or trust in their ability to manage minor health issues independently.

Regarding the regulatory aspect of self-medication, an overwhelming 90.4% of respondents, totaling 1035 individuals, express the need for stricter regulations. This perspective underscores a collective call for enhanced oversight to ensure public safety in the context of self-medication practices. Conversely, a minority of 9.6% or 110 participants feel that additional regulation are unnecessary, possibly reflecting a belief in personal responsibility and the adequacy of existing guidelines.

Awareness of the risks associated with self-medication is another critical area explored in the study. A significant 76% of the respondents, amounting to 870 individuals, acknowledge being aware of these risks, highlighting the importance of informed decision-making in self-medication practices. However, 24% or 275 participants report a lack of awareness regarding these risks, pointing to a gap in knowledge that could potentially lead to unsafe self-medication behaviors.

The need for education on the risks of self-medication is nearly unanimous among the participants, with 95.2% or 1090 respondents advocating for increased educational efforts in this area. This overwhelming consensus reflects a widespread recognition of the value of knowledge and information in mitigating the potential dangers associated with self-medication. Only a small minority, 4.8% or 55 individuals, do not see the necessity for such educational initiatives, possibly due to existing knowledge or an underestimation of the associated risks (Table 4).

Action	Frequency	Percentage (%)
Sought Advice: Yes	585	51.1
Sought Advice: No	560	48.9

Table 4: Professional Advice Seeking After Self-Medication.

The correlation analysis revealed weak to moderate correlations among various variable pairs within the dataset. Notably, the strongest correlation observed was between the level of education and self-medication practices. This suggests that educational attainment may influence how individuals approach self-medication, potentially affecting their decision-making process and the likelihood of engaging in such practices.

A significant association was found between gender and the type of substance used for self-medication, with a p-value of less than 0.001. This indicates a statistically significant difference in the choice of self-medication substances between males and females. However, the analysis did not find a significant association between the level of education and beliefs about the safety of self-medication, with a p-value of 0.198. This suggests that educational background does not significantly influence perceptions of self-medication safety among the respondents.

The logistic regression model, designed to predict the likelihood of seeking professional advice post self-medication, achieved a model accuracy of 64.48%. The predictive power of the model was considered moderate, with precision and recall scores ranging between 0.61 to 0.68. These metrics indicate the model's ability to correctly identify individuals who would seek professional advice after self-medicating and its reliability in minimizing false predictions (Table 5).

Analysis Type	Result
Correlation (Cramer's V)	Variable pairs showed weak to moderate correlations, with the highest being between education level and self-medication practice.
Chi-Square Test	Significant association between gender and substance type used for self-medication (p < 0.001); No significant association between education level and belief in safety of self-medication (p = 0.198).
Logistic Regression	Model accuracy: 64.48%; Predictive power was moderate, with precision and recall scores ranging between 0.61 to 0.68.

Table 5: Advanced Statistical Analysis Results.

Discussion

The exploration of self-medication practices within our study, alongside insights from recent literature, underscores the multifaceted nature of self-medication behaviors, influenced by demographic factors, the ongoing COVID-19 pandemic, and the educational background of individuals, including healthcare professionals.

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Our study revealed a slight female predominance in self-medication practices, aligning with findings from Mangalore, India, during the COVID-19 pandemic, which also noted a significant engagement in self-medication for symptoms like the common cold, primarily using paracetamol [6]. This suggests a gender-related difference in health-seeking behaviors, potentially influenced by societal roles and healthcare accessibility. The significant representation of middle-aged adults (35 - 44 years) in our study suggests an age group more likely to engage in self-medication, possibly due to increased health awareness or the prevalence of minor health issues. This demographic insight is crucial for tailoring public health interventions aimed at promoting safe medication practices. The COVID-19 pandemic has evidently exacerbated self-medication practices, as highlighted by Joseph, et al. [6], with individuals opting for self-medication to avoid the risk of contracting the virus at healthcare facilities. This pandemic-induced shift demonstrates the need for clear guidelines and public education on self-medication, especially during health crises.

Our study's finding of a high percentage of respondents with a Bachelor's degree engaging in self-medication resonates with the study from North Karnataka, which found a significant association between self-medication practices and factors such as education and socio-economic status [7]. This suggests that higher education does not necessarily equate to safer health practices, highlighting the gap between knowledge and its application in health behaviors.

The high rate of self-medication among healthcare professional students, as observed in our study and further supported by the findings from Pune, India [8], raises concerns about the adequacy of health education curricula. The assumption that professional knowledge justifies self-medication practices, especially among medical students, calls for a reevaluation of health education, emphasizing ethical considerations and the risks associated with unsupervised medication use.

Alhur's multiple studies further enrich our understanding of self-medication practices. Alhur AA, et al. [9] provided insights into the patterns and prevalence of self-medication in Saudi Arabia, highlighting the widespread nature of this practice among various demographic groups. Additionally, Alhur's work on the effectiveness of clinical nutrition internships Alhur A, et al. [10] and the awareness of diabetic patients regarding their conditions Alhur A, et al. [11] contributes to a broader perspective on health literacy and its impact on self-medication behaviors.

The study presented valuable insights into self-medication practices, yet it was subject to several limitations that warrant consideration. One primary limitation was the reliance on self-reported data, which inherently carries the risk of recall bias and social desirability bias. Participants might not accurately remember their self-medication practices or may alter their responses to align with perceived social norms. Additionally, the cross-sectional design of the study limits the ability to infer causality from the observed associations, as it captures only a snapshot in time without tracking changes or developments in behaviors. The sample, while diverse, may not fully represent the broader population, particularly in regions with differing healthcare systems and cultural practices, thus limiting the generalizability of the findings. The study's quantitative focus also meant that the nuanced motivations and perceptions surrounding self-medication were not deeply explored, which could be addressed through qualitative methods such as interviews or focus groups. Furthermore, there might be other influential factors not accounted for in the study, such as socioeconomic status or health literacy, which could confound the relationships between self-medication practices and the examined variables.

In light of these limitations, several recommendations emerge. There is a clear need for targeted public health education campaigns to raise awareness about the risks associated with self-medication and to emphasize the importance of professional medical consultation. Strengthening regulations around the sale of medications, particularly for antibiotics and other drugs with high misuse potential, could help mitigate the prevalence of self-medication. Improving access to healthcare services, especially in underserved areas, could reduce the reliance on self-medication, potentially through the expansion of telemedicine and community health initiatives. Future research should consider longitudinal designs to elucidate the causal relationships between self-medication practices and their determinants and to monitor changes in these behaviors over time [12]. Incorporating qualitative research methods could provide richer insights into the complex motivations and contexts driving self-medication. Lastly, for healthcare professional students, integrating comprehensive modules on the ethical, responsible use of medications and the risks of self-medication into educational curricula could foster safer medication practices among future healthcare providers. Addressing these limitations and implementing the suggested recommendations could significantly enhance our understanding of self-medication practices and inform more effective public health strategies and interventions.

Conclusion

The findings from our study, in conjunction with the reviewed literature, paint a comprehensive picture of the prevailing self-medication practices across different populations and under varying circumstances, such as the

COVID-19 pandemic. These insights highlight the critical need for multifaceted public health strategies that not only focus on regulatory measures and public awareness but also address the underlying socio-demographic and educational factors influencing self-medication behaviors. Tailored interventions, especially in the context of a global health crisis, are imperative to mitigate the risks associated with unsupervised self-medication and to promote safe medication practices across the board.

References

1. Alghamdi SMS, Alzahrani RA, Alghamdi SS, Alghamdi HAA, Alghamdi D, et al. (2023) Self-Medication Practices Among the General Population in Al-Baha City, Saudi Arabia: A Cross-Sectional Study. Cureus 15(12): e50810.

2. Alshammari FF, Alobaida A, Alshammari A, Alharbi A, Alrashidi A, et al. (2021) University Students' Self-Medication Practices and Pharmacists' Role: A Cross-Sectional Survey in Hail, Saudi Arabia. Front Public Health 9: 1-6.

3. Adhikari P, Marasini NP (2023) Perceptions and Practices of Self-Medication among the Residents of Western, Nepal. Journal of Manmohan Memorial Institute of Health Sciences 8(2): 125-134.

4. Alamer SS, Alazzam S, Alanazi AK, Sankari MA, Sendy J, et al. (2023) Ophthalmic Self-Medication Practices and Associated Factors of Using Steroid Eye Drops Among Adult Ophthalmic Patients. Cureus 15(8): e43110.

5. Begum N, Butul M, Dulam S (2023) Perceptions and practices of self-medication among interns at Shadan Institute of Medical Sciences, Hyderabad, India. Natl J Physiol Pharm Pharmacol 13(9): 1816-1820.

6. Joseph N, Colaco SM, Fernandes RV, Krishna SG, Veetil SI, et al. (2022) Perception and self-medication practices among the general population during the ongoing COVID-19 pandemic in Mangalore, India. Current Drug safety 18(2): 233-245.

7. Fathima F, Arpitha VS, Nayak R (2022) Self-medication practices among adults of north Karnataka. International Journal of Community Medicine and Public Health 9(2): 4588-4594.

8. Sajith M, Suresh S, Roy N, Pawar A (2017) Self-Medication Practices Among Health Care Professional Students in a Tertiary Care Hospital, Pune. The Open Public Health Journal 10: 63-68.

9. Alhur AA, Aldhafeeri MD, Alghamdi SE, Bazuhair WS, Alharthi KM, et al. (2023) Telemental health and artificial intelligence: knowledge and attitudes of Saudi Arabian individuals towards AI-integrated telemental health. Journal of Population Therapeutics and Clinical Pharmacology 30(17): 1993-2009.

10. Alhur A, Alhur A, Alanazi DN (2022) Examining the Clinical Nutrition Internship Effectiveness from Interns' Perceptions. International Journal of Education Teaching and Social Sciences 2(2): 52-61.

11. Alhur A, Alhur A, Alfayiz A, Alotaibi A, Hansh B, et al. (2023) Patterns and Prevalence of Self-Medication in Saudi Arabia: Insights From a Nationwide Survey. Cureus 15(12): e51281.

12. Alhur A, Alshamri AS, Alhur A, Alanazi DN, Zaid MM (2023) Examining The Diabetic Patient's Awareness of Their Conditions and Physical Activity Level in Saudi Arabia. Journal of Public Health Sciences 2(03): 116-127.