

PREVALENCE OF SELF-MEDICATION PRACTICE AMONG THE PEOPLE IN NANGARHAR, AFGHANISTAN

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Abstract: *Self-medication, the practice of using medication without medical supervision, is widespread in many low-income settings, including Afghanistan, where access to healthcare services can be limited. Despite its convenience, self-medication carries significant risks, such as drug resistance and adverse reactions, particularly with the misuse of antibiotics and other prescription medications. Objective:* This study aimed to assess the prevalence and factors influencing self-medication practices among residents of Nangarhar, Afghanistan, focusing on common illnesses and types of medications used. **Methods:** A cross-sectional survey was conducted between January and June 2024 among 1,020 individuals, both male and female, aged 18 years and above, across Nangarhar. Participants were selected through random sampling. Data collection was performed using structured questionnaires, which gathered information on demographics, types of illnesses, medications used, and factors influencing self-medication practices. Descriptive and inferential statistical analyses were performed using SPSS software. **Results:** Of the total respondents, 62.6% reported self-medicating in the past six months. The most commonly reported ailments leading to self-medication were pain relief (45.2%), fever (39.8%), headache (38.7%), and gastrointestinal issues (27.5%). Antibiotics (46.1%) and analgesics (43.3%) were the most frequently used medications without prescriptions. Key reasons for self-medication included easy access to pharmacies (64.7%), high costs of healthcare (57.2%), and previous experiences with similar symptoms (49.8%). Lack of awareness about the dangers of self-medication and a perceived lack of severity of symptoms were also major contributing factors. **Conclusion:** Self-medication is a prevalent practice among residents of Nangarhar, Afghanistan, driven largely by ease of access to medications, economic barriers to healthcare, and low health literacy. Public health interventions, including educational campaigns and stricter regulations on over-the-counter medication sales, are urgently needed to mitigate the potential risks associated with this practice.

Keywords: Self-medication, Antibiotics, Nangarhar, Afghanistan, Public health, Health literacy, Drug resistance.

Introduction

Self-medication, the practice of using pharmaceutical drugs without professional medical advice, is a widespread public health issue, particularly in low- and middle-income countries. This practice is often driven by multiple factors, including the high cost of healthcare, lack of access to healthcare services, and misconceptions about the safety and efficacy of over-the-counter medications. In developing countries, such as Afghanistan, self-medication is becoming increasingly common due to inadequate healthcare infrastructure and a shortage of healthcare professionals (1). This poses significant risks, including the development of drug resistance, adverse drug reactions, and potential misuse of antibiotics, which can contribute to broader public health challenges (2).

Afghanistan's Nangarhar province, like many other regions of the country, faces limited access to quality healthcare services, particularly in rural and underserved areas. This lack of access often leads individuals to self-medicate, especially for common ailments like headaches, gastrointestinal issues, and respiratory infections. Studies have shown that the easy availability of antibiotics and analgesics in pharmacies without proper prescriptions is a major driver of this practice (3). Despite the risks, self-medication continues to be perceived as a convenient and cost-effective option for managing minor health issues, further exacerbated by the country's socio-economic conditions and lack of health literacy (4).

Understanding the prevalence and factors contributing to self-medication in Nangarhar is essential for formulating public health policies aimed at reducing this risky behavior. By assessing the scale of self-medication practices and identifying the most commonly used drugs, policymakers can develop targeted interventions, such as educational campaigns and stricter regulations on drug sales. This study seeks to fill the knowledge gap by exploring the prevalence of self-medication in Nangarhar and identifying the key factors driving this practice among its residents.

Methodology

This study employed a cross-sectional design, integrating both quantitative and qualitative methods to provide a comprehensive understanding of self-medication practices among residents of Nangarhar, Afghanistan. The mixed-method approach allowed for the collection of numerical data on the prevalence and patterns of self-medication, complemented by qualitative insights into the socio-economic and cultural factors influencing these practices. A sample of 1,020 residents from various districts of Nangarhar Province was randomly selected to ensure a representative cross-section of the population. Participants included males and females aged 18 and above, capturing a diverse demographic and socio-economic spread. The sample size was calculated using the formula for estimating proportions with a 95% confidence interval and a margin of

error of 5%, assuming an estimated prevalence of self-medication based on previous studies in similar populations. The target population included adult individuals residing in both rural and urban areas of Nangarhar, Afghanistan, to capture variations in self-medication practices. A multistage random sampling method was employed to select participants from various socio-economic backgrounds. In the first stage, districts were randomly selected, followed by the selection of villages or urban areas. In the final stage, households were randomly chosen, and one eligible adult from each household was invited to participate.

A structured questionnaire was administered to collect quantitative data on the prevalence, types of medications used, reasons for self-medication, and demographic information such as age, gender, education level, and socio-economic status.

In-depth interviews were conducted with a subset of 100 participants to explore the cultural and socio-economic factors influencing self-medication. These interviews provided qualitative insights into individual beliefs, motivations, and experiences related to self-medication practices.

A total of 50 students from the Rokhan Institute of Higher Education were trained as data collectors. The training included familiarization with the structured questionnaire and in-person interview techniques. The questionnaire was pretested and then translated into the local languages (Pashto and Dari) to ensure comprehension by all participants. Data collection was carried out through in-person interviews, with data collectors visiting households and public places across both rural and urban settings in Nangarhar Province.

Inclusion Criteria:

Adult residents (aged 18 and above) of Nangarhar Province. Individuals who provided informed consent to participate in the study.

Exclusion Criteria:

Individuals below the age of 18.

Pregnant women and individuals with diagnosed chronic illnesses who were under regular medical supervision.

Ethical approval for this study was obtained from the Ethics Committee of Rokhan Institute of Higher Education. All participants provided informed consent before participating in the study. Participants were assured of the confidentiality and anonymity of their responses, and the data were stored securely in password-protected files. The study adhered to ethical guidelines for research involving human subjects, including voluntary participation, the right to withdraw at any time, and the protection of personal information.

Quantitative data were analyzed using SPSS version 26. Descriptive statistics, including frequency distributions and percentages, were calculated to determine the prevalence of self-medication and identify the most commonly used medications. Inferential statistics, such as chi-square tests, were used to explore associations between self-medication practices and demographic variables like age, gender, and education level.

For the qualitative data, thematic analysis was employed. Interview transcripts were coded to identify recurring themes and patterns related to cultural beliefs, healthcare access, and socio-economic factors driving self-medication.

Results

The study revealed that 62.6% of the participants engaged in self-medication practices. This percentage was determined through the analysis of participants' responses, with results categorized by age and gender. Among the respondents, the majority were male, making up 84.5% of the sample, while females comprised 15.5%. Detailed demographic distribution is provided in Table, figure 1.

Table 1: Gender Distribution of Participants

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	862	84.5	84.5	84.5
Female	158	15.5	15.5	100.0
Total	1020	100.0	100.0	100.0

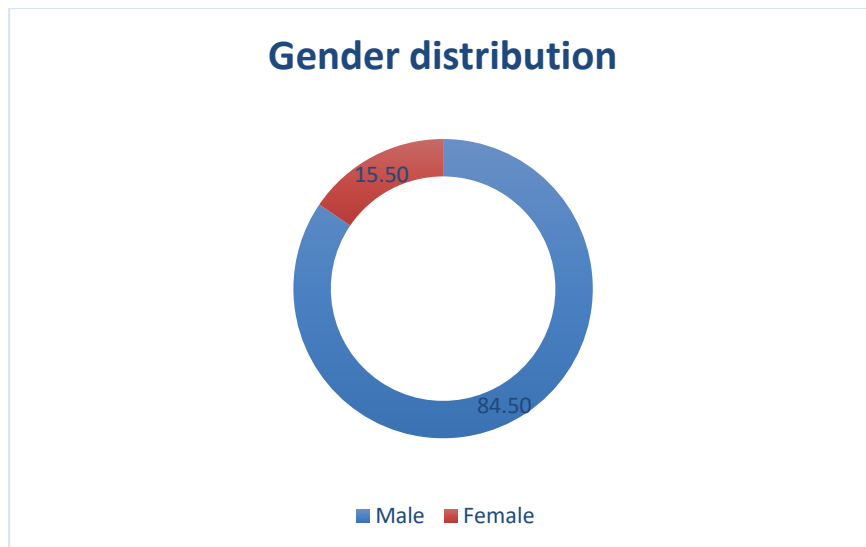


Figure 1: Gender distribution of the study population

Participants were asked whether they obtained medicines directly from pharmacies without a doctor's prescription. The responses indicated that 62.9% of participants

confirmed practicing self-medication by obtaining medications directly from pharmacies, while 37.1% reported otherwise. This distribution is shown in Table 2.

Table 2: Obtaining Medicines Without Doctor's Prescription

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	639	62.6	62.9	62.9
No	377	37.0	37.1	100.0
Total	1016	99.6	100.0	100.0
Missing	4	0.4		
Total	1020	100.0		

Participants were asked about the conditions for which they practiced self-medication. The study showed that 46.8% of participants took medication for sleeping problems, either

occasionally or frequently. This information is presented in Table 3.

Table 3: Frequency of Taking Medications for Sleeping

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Never	543	53.2	53.2	53.2
Sometimes	257	25.2	25.2	78.4
Most times	107	10.5	10.5	88.9
Every time	113	11.1	11.1	100.0
Total	1020	100.0	100.0	100.0

In addition to sleeping problems, participants also reported other common ailments for which they self-medicated, including body pains, headaches, stomach problems, and hypertension. The most frequently cited conditions for self-

medication were stomach problems (25.1%), body pains (22.4%), and headache (17.5%). A comprehensive breakdown is provided in Table 4.

Table 4: Common Health Problems for Self-Medication

Health Problem	Frequency	Percent	Valid Percent	Cumulative Percent
Body pains	228	22.4	22.4	25.7
Diabetes	86	8.4	8.4	34.1
Fever	42	4.1	4.1	38.2
Headache	179	17.5	17.5	55.8
Hypertension	164	16.1	16.1	71.9
Stomach problems	256	25.1	25.1	97.7
Other (Asthma, Tumor)	23	2.3	2.3	100.0
Total	1020	100.0	100.0	100.0

Qualitative analysis revealed several key factors contributing to the widespread practice of self-medication. These included limited access to healthcare, financial constraints, cultural practices, and the influence of community norms. Many participants reported resorting to self-medication due to the convenience and lower cost of purchasing medications directly from pharmacies without a prescription, especially in rural areas where healthcare services are limited. The perceived mildness of symptoms and prior experience with similar illnesses were also significant motivators for self-medication.

Discussion

This study explored the prevalence, patterns, and influencing factors of self-medication among the residents of Nangarhar, Afghanistan, revealing a high prevalence of self-medication (62.6%) among the study population. These findings are consistent with global trends, especially in

developing countries where self-medication is a widespread practice due to barriers to accessing healthcare, including economic, cultural, and logistical constraints.

The prevalence of self-medication in this study aligns with similar research conducted in low- and middle-income countries. For example, a study conducted in Ethiopia reported a self-medication prevalence of 64%, with common reasons being the high cost of healthcare and easy availability of drugs without prescriptions (5). Similarly, a study in Pakistan reported a self-medication prevalence of 55.5%, particularly for treating common ailments like pain and fever (6). These comparisons underscore the global nature of the issue, particularly in countries where access to healthcare services is limited.

The results showed that self-medication was more prevalent among men (84.5%) than women (15.5%). This finding may reflect the greater mobility and autonomy of men in Afghan society, as well as the cultural and social barriers that women face in accessing healthcare. This trend was

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similarly observed in other studies. For instance, a study in Pakistan found that males were more likely to engage in self-medication compared to females (7). Moreover, in a study conducted in Tanzania, male gender was also associated with a higher likelihood of self-medicating (Kayode et al., 2021). These findings emphasize the role of gender in healthcare-seeking behavior and the need for gender-sensitive interventions to address self-medication practices.

The study found that the most common conditions for which people self-medicated included body pains (22.4%), stomach problems (25.1%), and hypertension (16.1%). Similarly, antibiotics and analgesics were the most commonly used medications without a prescription, echoing findings from studies in other countries. For example, a study in Saudi Arabia found that antibiotics and pain relievers were the most commonly self-medicated drugs, particularly for gastrointestinal and respiratory issues (8). The high prevalence of analgesic use is also consistent with findings from Kenya, where people frequently used pain relief medications for headaches and body pain (Ocan et al., 2015).

Qualitative analysis revealed that the primary reasons for self-medication were easy access to pharmacies, high costs of healthcare, and prior experience with similar symptoms. This is in line with findings from a study in Nigeria, where self-medication was driven by the high cost of healthcare services, lack of health insurance, and easy availability of drugs (9). Similarly, a study in Iran highlighted that economic barriers, along with cultural beliefs about the effectiveness of certain medications, contributed to self-medication practices (Zohal et al., 2017). This indicates that economic and structural barriers remain significant drivers of self-medication globally, and tackling these issues requires comprehensive policy interventions.

The high rates of self-medication, particularly the use of antibiotics, raise concerns about antimicrobial resistance (AMR). The easy availability of antibiotics without prescriptions is a major contributor to the development of AMR, which poses a significant public health risk. Several studies have documented the link between self-medication and the rise of AMR, particularly in countries with weak regulatory frameworks for pharmaceutical distribution (10). This issue is particularly pertinent in Afghanistan, where regulatory oversight is limited, and access to healthcare is inconsistent, thereby exacerbating the risks associated with unsupervised drug use.

Our findings align with global studies that indicate self-medication is a widespread issue, particularly in low-resource settings. For instance, a study in India reported a self-medication prevalence of 71%, largely driven by ease of access to over-the-counter medications and financial constraints (Gupta et al., 2015). Similarly, a systematic review of self-medication practices in Latin America found prevalence rates ranging from 42% to 73%, further highlighting the global nature of this issue (Ruiz, 2010). In many developing countries, self-medication is seen as a necessity rather than a choice due to the inaccessibility of healthcare services.

The findings from this study underscore the need for targeted public health interventions to raise awareness about the risks of self-medication, particularly about antibiotics and analgesics. Educational campaigns aimed at improving health literacy and promoting safe medication practices are

critical. Moreover, strengthening the regulatory framework governing the sale of over-the-counter medications is essential to mitigate the risks of self-medication and combat the growing threat of AMR.

Conclusion

In conclusion, the study highlights the widespread practice of self-medication among residents of Nangarhar, Afghanistan, driven by factors such as easy access to medications, high healthcare costs, and prior experience with similar symptoms. These findings are consistent with global literature, particularly in developing countries. Addressing the issue of self-medication requires comprehensive public health interventions, including educational campaigns, stronger regulatory oversight, and improved access to healthcare services.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.

Approved by the department concerned. (IRBEC-RTAF-98/22)

Consent for publication

Approved

Funding

Not applicable

Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

AAMIR KHAN PAMEER

Final Approval of version & Data Analysis

SHAFIQULLAH KAKAR

Revisiting Critically, Drafting, Concept & Design of Study

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