

Prevalence and Risks of Self-Medication Among Syrian Families: A Pharmacist-Based Survey

Abeer Hammoud, Ayat Abboud



Abstract: Self-medication is a widespread practice in Syria, driven by socioeconomic challenges and limited healthcare access. This study assessed self-medication trends among Syrian families using a pharmacist-distributed questionnaire, examining the prevalence, motivations, types of medication, risks, and information sources. The results revealed that 97.6% of participants considered self-medication common, with pain relievers (92.5%) and cold/flu medications (68.8%) being the most frequently used. Key motivations included financial constraints (57.5%), cultural habits (46.3%), and difficulty accessing doctors (41.3%). Despite most participants recognizing potential risks, such as incorrect diagnosis (71.3%) and drug interactions (53.8%), informal sources, including family/friends (79.7%) and the internet (43%), remained the primary information channels. In comparison, physicians played a minimal role (6.3%). Pharmacists reported that self-medication increased pharmacy visits (41.3%), yet only 42.5% felt confident in providing adequate counselling. Nearly all respondents (97.5%) emphasized the need for greater public awareness. These findings underscore the pressing need for interventions to reduce reliance on self-medication, including enhanced access to healthcare, pharmacist training, and targeted educational campaigns. Addressing these issues is critical to mitigating risks and promoting safer healthcare practices in Syria.

Keywords: Self-medication, Survey, Awareness, Syrians, Pharmacists.

Abbreviations:

OTC: Over-The-Counter

NSAIDs: Non-Steroidal Anti-Inflammatory Drugs

WHO: World Health Organization

I. INTRODUCTION

Self-medication has become a widespread phenomenon influenced by various socioeconomic factors [1], cultural [2], and healthcare factors [3]. Recently, both developed [4] and developing countries [5] have seen a sharp increase in individuals self-medicating [6], often using over-the-counter (OTC) drugs or medications they already have, without consulting doctors [7]. This trend offers cost savings [8] and quick symptom relief [9]. However, it raises significant concerns about patient safety [10], public health [11], and the responsible use of medicines [12]. The World Health

Organization (WHO) acknowledges that appropriate self-medication can help manage self-limiting conditions [13], ease the burden on healthcare systems [14], and empower patients to take charge of their health [15]. Unregulated or improper self-medication can pose serious risks and threaten patient health [16], such as delayed diagnoses [17], hiding underlying health issues [18], drug interactions [19], incorrect dosages [20], adverse drug reactions [21], and the rising threat of antimicrobial resistance from antibiotic misuse [22]. In this complex scenario [23], pharmacists are vital healthcare providers uniquely equipped to balance the risks [24] and benefits of self-medication [25]. Their accessibility [26], clinical expertise [27], and a patient-centred approach allows pharmacists to do more than dispense medication [28]. They also act as healthcare educators [29], safety monitors [30], and counselling providers [31]. Through symptom assessment [32], evidence-based counselling [33], distribution of suitable treatments [34], and identifying red flags for referral to physicians [35], pharmacists play a crucial role in promoting safe [36] and effective self-care practices [37]. Where healthcare infrastructure is limited or access to doctors is restricted [38], such as in many developing countries [39], the role of pharmacists becomes even more critical [40]. Pharmacists often serve as the first point of contact for patients [41], filling gaps in the healthcare system with initial assessments [42], drug therapy management [43], and medication safety counselling [44]. They also contribute to public health by raising awareness about the risks of self-medication and drug misuse [45], helping to reduce harmful side effects [46]. This study assesses self-medication trends among Syrian families through a pharmacist-distributed questionnaire. The data highlights demographic characteristics, prevalence, motivations, types of medications used, associated risks, sources of information, and the role of pharmacists in counselling. Understanding these trends is critical for addressing public health risks and improving healthcare interventions.

II. METHODS

This study, conducted in 2024, aimed to investigate pharmacists' attitudes toward family self-medication in Syria. Data were collected through a structured online questionnaire created and distributed via Google Forms. The goal was to assess the prevalence, underlying causes, risks, and the roles of pharmacists in standard self-medication practices observed during daily patient interactions. Recruitment involved convenience sampling from online forums and professional pharmacy networks to broadly share the survey with pharmacists and Syrian pharmacy students. A total of 80 valid responses

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were obtained for analysis. The target population consisted of individuals from diverse academic and professional backgrounds in pharmacy, including both students and practising pharmacists. A self-administered survey thoroughly explored multiple aspects of self-medication, divided into sections covering demographic data, observed behaviours, underlying causes, perceived risks, sources of information, and the roles of pharmacists in public education. Participants provided their age (categories: under 20 years, 21–30 years, 31–40 years, 41–50 years, and over 50 years), gender (male and female), and education level (undergraduate, graduate, or postgraduate). This information enabled researchers to analyse potential relationships between demographic factors and self-medication behaviours. Respondents estimated how often families they encountered practised self-medication, selecting from the following options: very common, ordinary, rare, or very rare. The questionnaire also explored key reasons motivating families to self-medicate, such as financial constraints, cultural beliefs, familiarity with treatments, and lack of access to physicians. Participants identified the most frequently used medications in family self-medication, including analgesics, cold and flu remedies, gastrointestinal antacids, antidepressants, and others. The survey assessed pharmacists' perceptions of risks related to self-medication, such as incorrect diagnoses, drug interactions, health deterioration, and dependence. Respondents reported that the most common sources patients use for self-medication include the internet, family and friends, pharmacists, and physicians. They evaluated whether trends in self-medication influenced the number of patient visits to pharmacies, indicating whether visits increased, decreased, or remained unchanged. Pharmacists also rated their confidence in counselling patients about self-medication, choosing among: yes, no, or sometimes. Additionally, they reflected on the need for greater public awareness, their methods of education (including personal counselling, printed materials, and social media), and their perception of the current level of public knowledge (high, moderate, low, or none). Lastly, participants identified potential future factors of self-medication patterns, such as increased education and awareness, greater use of technology, and changes in patient behaviors. All responses were collected online and analyzed using descriptive statistics. Frequencies and percentages were calculated for all categorical variables to identify prevailing trends and attitudes of Syrian families toward self-medication, as perceived by pharmacists. Most questions were multiple-choice, with results displayed graphically in charts to better illustrate observed trends, perceived risks, and areas for potential future intervention.

III. RESULTS

A. Demographic Data of Participants

Eighty pharmacists and pharmacy students participated in this study. Most participants were female (70.9%), suggesting women may be more involved in healthcare decisions. The largest age group was 21 to 30 years (73.8%), followed by the 31 to 40 years age group (13.7%). Most participants were undergraduate students (53.2%), followed by graduates (36.4%) and postgraduates (10.4%). This

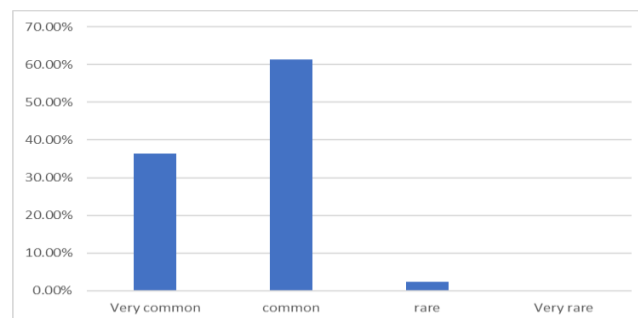
demographic reflects an active, young population primarily involved in pharmacy education or practice. The detailed distribution of participants' demographics is shown in Table 1.

Table 1: Demographic Characteristics of Participants

Characteristics	Percentages % (Number)
Gender	
Female	70.90%
Male	29.10%
Age	
>20	6.30%
30-21	73.80%
40-31	13.70%
>40	2.50%
Educational Level	
Undergraduate student	53.20%
Graduate	36.40%
Postgraduate	10.40%

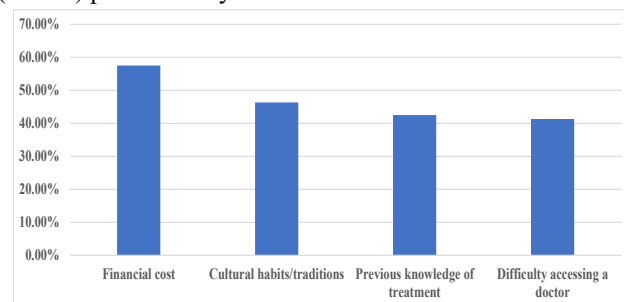
B. Prevalence and Motivation for Self-Medication Among Families

%97.6 of respondents reported self-medication as "very common" (36.3%) or "common" (61.3%), underscoring its widespread use in Syrian households (Figure 1).



[Fig.1: Percentages of Responses to the Following Question: How Common is Self-Medication among the Families through Your Work?]

Financial cost (57.5%) and cultural habits (46.3%) were primary drivers of self-medication, reflecting economic and societal influences (Figure 2). Difficulty accessing doctors (41.3%) points to a systemic healthcare barrier.



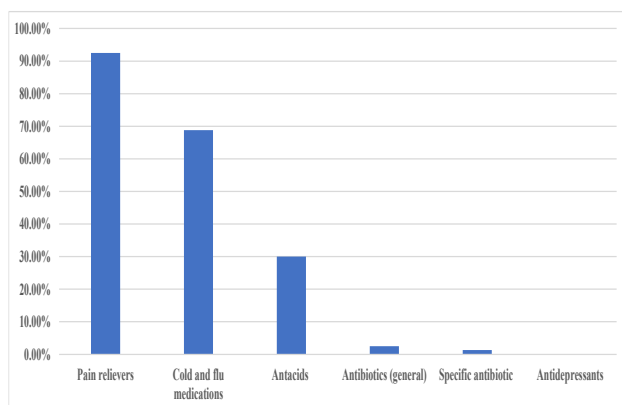
[Fig.2: Percentages of Responses to the Following Question about the Reasons for Self-Medication Among Syrian Families]

C. Types of Medications Used in Self-Medication

Families typically use a variety of drugs for self-medication. Among Syrian families, pain relievers (92.5%) and cold/flu medications (68.8%) dominated, while antibiotics



and antidepressants were rarely used, indicating a focus on symptomatic relief. These results suggest that self-medication is mainly limited to over-the-counter medicines for minor and non-chronic ailments, with high-risk drugs being rarely used. The full distribution of drug forms is shown in Figure 3.



[Fig.3: Percentages of Responses to the Following Question: The Most Common Types of Medications Used for Self-Medication]

D. Perceived Risks Associated with Self-Medication

72.5% acknowledged adverse effects of self-medication, with incorrect diagnosis (71.3%) and drug interactions (53.8%) as top concerns. Drug dependency (42.5%) was also noted, revealing awareness of long-term risks of self-medication. The overall perception and individual risks are summarized in Table 2.

Table II: General and Specific Perceived Risks of Self-Medication

Item	Percentage (%)
General Perception of Negative Effects	
Yes	72.50%
Maybe	25%
No	2.50%
Specific Risks Identified	
Incorrect diagnosis	71.30%
Drug interactions	53.80%
Health deterioration	42.50%
Drug dependency	42.50%

E. Sources of Information and Motivations Behind Self-Medication

Family/friends (79.7%) were the primary source of self-medication, followed by the internet (43%), while physicians (6.3%) played a minimal role (Table 3). Doctors were the least consulted source (6.3%). Regarding the reasons for self-medication, cost was the most important reason (57.5%), followed by customs and tradition (46.3%), prior experience with the treatment (42.5%), and finally, inability to visit the doctor (41%). Social influences are the most significant driving force to get patients to self-medicate, with patients relying more on their knowledge as opposed to professional medical sources. The conclusion also brings economic expenses as one of the most significant forces that lead families to frequently self-medicate, in addition to the driving force from social norms and the existence of an unregulated medical community.

Table III: Sources of Information and Motivations for Self-Medication

Item	Percentage (%)
Sources of Information	
Family and friends	79.70%
Internet	43%
Pharmacist	31.60%
Physician	6.30%
Motivations for Self-Medication	
Financial cost	57.50%
Traditions and customs	46.30%
Previous knowledge of treatment	42.50%
Inability to visit a doctor	41%

F. The Impact of Self-Medication on Pharmacy Visits and Pharmacists' Counselling Role

41.3% stated that self-medication increases the frequency of pharmacy visits (Table 4). 97.5% agree on the need for more public awareness. Pharmacists' confidence in counselling was split (42.5% "Yes" vs. 41.3% "Sometimes"), suggesting room for improvement in training.

Table IV: Impact of Self-Medication on Pharmacy Visits and Pharmacists' Counselling Role

Item	Percentage (%)
Effect on Pharmacy Visits	
Increases visits	41.30%
Shifts visits	26.20%
No effect	20%
Unsure	12.50%
Confidence in Providing Counselling	
Yes	42.50%
Sometimes	41.30%
No	16.30%
Need for Increased Awareness	
Yes	97.50%
Unsure	1.30%
No	1.30%

IV. DISCUSSION

The data reveals self-medication as a deeply ingrained practice in Syrian families, driven by cost, cultural norms, and healthcare access challenges. The high use of pain relievers and reliance on informal information sources (e.g., family, internet) raise concerns about misdiagnosis and drug interactions [47]. Pharmacists play a pivotal role in mitigating harm [48], but their inconsistent confidence in counselling highlights a need for improved support and public education campaigns [49]. Various economic [50], social [51], and cultural factors were identified as significant underlying drivers of this phenomenon [52]. Financial concerns primarily motivate households to skip doctor visits [53], followed by cultural traditions [54] and previous personal experience with prescribed medications [55]. These findings highlight global issues related to limited healthcare access and socioeconomic factors that promote unsupervised drug use [56]. Additionally, the study found that most patients who self-medicate depend mainly on informal sources like family [57], friends [58], or the internet [59]. Overall, the study's findings align with existing literature, monitoring the dual role of pharmacists as both medication dispensers and

accessible providers of evidence-based advice [60].

V. CONCLUSION

This study highlighted the importance of pharmacists' roles in monitoring, counselling, and educating patients about self-medication practices among Syrian families. The study showed that self-medication is highly common due to economic factors, cultural beliefs, personal past experiences, and limited access to medical professionals. Despite its high prevalence, most pharmacists are aware of the health risks associated with uncontrolled self-medication, such as misdiagnosis, drug interactions, and health decline. Patients' use of informal sources such as the internet, family, and friends reveals significant concerns in public health education and a lack of well-designed health education programs. Although most pharmacists are confident in their counselling abilities, some remain uncertain, underscoring the need for ongoing professional development. The study highlights the central role of pharmacists.

DECLARATION STATEMENT

After aggregating input from all authors, I must verify the accuracy of the following information as the article's author.

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