



ORIGINAL ARTICLE

Knowledge, Patterns, and Therapeutic Factors Associated with Self-Medication Practices among Adult Patients Attending Outpatient Healthcare Facilities

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ABSTRACT

Background: Self-medication occurs throughout the world and defined as the use of medicines without medical advice. The aim was to regulate the extent of self-medication and the therapeutic factors associated with the use of medication among adult patients. **Methods:** A cross sectional study was undertaken with 200 adult patients who visited outpatient healthcare units. A convenience sampling method was utilized for participant selection. The data were gathered from a pre-designed questionnaire that included the following sections: Socio-demographic data, self-medication frequency, self-medication drugs used, self-medication aims, bases of drug information, understanding the potential risks of self-medication, and utilization of health services. Data were analyzed by descriptive statistics, Pearson correlation, chi-square tests and multiple logistic regression, with the SPSS 26.0 software. Statistical significance was defined as p value <0.05. **Results:** Of the 200 participants, 128 (64.0%) said that they used self-medication over the last six months. The most commonly used medicines were analgesics (72.7%), antipyretics (61.7%), antibiotics (42.2%) and gastrointestinal (GI) medicines (38.3%). Past experience with similar symptoms (68.8%), thinking the problem was minor (61.7%), convenience (56.3%) and cost-saving (43.8%) were frequent reasons for self-medication. Educational status was considerably linked with self-medication ($p = 0.012$), previous medication use ($p = 0.001$), accessibility of pharmacies ($p = 0.004$) and awareness about the risks of drugs ($p = 0.018$). Logistic regression analysis identified prior successful medication experience (OR = 3.21, 95% CI: 1.74–5.92, $p < 0.001$), easy pharmacy access (OR = 2.46, 95% CI: 1.31–4.63, $p = 0.005$), and lower healthcare consultation frequency (OR = 1.98, 95% CI: 1.09–3.61, $p = 0.024$) as significant predictors of self-medication. **Conclusions:** Self-medication was very frequent among adult patients and several therapeutic and healthcare factors were identified as influencing self-medication.

Keywords: Self-medication, drug utilization, therapeutic factors, medication safety, rational drug use, adult patients, healthcare behavior.

Self-medication is a practice in healthcare around the world that involves people consuming drugs to treat self-diagnosed settings or symptoms without referring a doctor or being prescribed by one ¹. While proper self-medications may help manage minor illnesses and ease the strain on health systems, improper self-medications can lead to drug interactions, adverse drug reactions, antimicrobial resistance, delayed diagnosis, and increased healthcare complications ². Self-medication is also becoming common among adults in both developed and developing nations, due to the accessibility of over-the-counter drugs, easy access to pharmacies and easy availability of health information online ³.

Many therapeutic, social and health-related factors may lead to self-medication. Factors such as previous experience with drugs, self-perceived seriousness of illness, convenience, drug cost and access to health services often influence whether someone will consult a professional or treat their symptoms themselves ⁴. In addition, education level, health literacy, knowledge about drug safety and confidence in health-care professionals have been reported to impact medication-related behaviors ^{5,6}. Self-medication can offer quick symptom control for minor health issues and therefore can be harmful for people when they use medicines (such as antibiotics) without medical supervision ⁷. Self-medication has been reported as low, moderate or very high in previous studies in different populations ⁸. Analgesic, antipyretic, antibiotic, gastrointestinal and cough remedies are regularly cited as the top five most self-administered medications ⁹. Previous successful treatment experiences, easy access to medicines, and the less frequent use of health care facilities have also been documented as key factors to predict self-medication behavior ^{10,11}. Furthermore, a few studies have shown that self-medication can be more likely for individuals with higher education and those living in cities

due to their greater access to health information and pharmaceutical services ¹². In contrast, medication-risk awareness has been linked to more conservative medication practices and lower levels of inappropriate medication use ¹³.

Although some self-medication has become an important public health problem, there is little evidence about the therapeutic and health care dimensions which affect self-medication in adult patients in outpatient health care services. Knowledge of these factors is crucial to designing educational interventions and encouraging rational medication use. The present study was therefore aimed at finding out the prevalence and patterns of self-medication among adult patients and also to identify the therapeutic factors associated with self-medication practices in outpatient healthcare settings.

METHODOLOGY

This cross-sectional study was done for the assessment of self-medication practices and to determine the therapeutic factors associated with self-medication among adult patients attending the outpatient health care facilities (June 2024 to December 2024) The target population were adult patients who had sought healthcare for multiple health conditions. The number of participants was 200 who were recruited through non-probability sampling technique convenience sampling. Eligible for inclusion in the study were adults (18 years and older) capable of reading and understanding the study questionnaire and of responding. Patients with severe cognitive impairment, serious psychiatric illness, communication difficulties and those unwilling to give informed consent were excluded from the study. Prior to the data collection, ethical approval for the study was obtained from the respective institutional ethics committee. Informed consent was obtained in writing from all participants, after the study's aims and processes explained. All information collected was kept confidential and anonymous throughout the research process and participation was voluntary.

A structured and pretested questionnaire was developed based upon literature published on self-medication and medication utilization practices and data were obtained from these questionnaires. The questionnaire included questions on socio-demographic factors, self-medication history and habits, self-medication type, motivations, information sources, self-medication procurement methods, medication utilization, and awareness of medication-related risks. Participants were queried about their self-medication practice in the last six months and asked for information about their medication use behaviors. Self-medication was used to describe the use of medicine without a consultation or prescription from a trained health professional to treat self-recognized symptoms or illness. Previous medication experience, ease of access to pharmacists, number of healthcare consultations, and knowledge of medication and awareness of potential negative effects of taking medication were among the therapeutic factors evaluated in the study.

The data were entered and analyzed using the IBM SPSS version 22.0. The participant characteristics and patterns of self-medication were summarized using descriptive statistics, which were frequencies, percentages, means, and standard deviations. Chi-square tests were used to determine relationships between categorical variables. Pearson correlation was used to assess the relationships between self-medication score and therapeutic factors. Multiple logistic regression analysis was performed to show independent predictors of self-medication practices. The significance of the data was determined by the p-value < 0.05.

RESULTS

Two hundred adult patients were involved in the study. The average age of the participants was 37.8 ± 12.4 years, with 54.0% of the participants being female. A total of 64.0% of the respondents had engaged in self-medication during the last six months. The most commonly used medications were antipyretics, analgesics, and antibiotics. There were a number of demographic, health and treatment-related factors which were significantly related to self-medication practices. **Table I** shows that the study population was predominantly female, with most participants aged between 30 and 44 years. Graduates constituted the largest educational group, and a majority of respondents were employed and resided in urban areas. These findings indicate that the sample largely represented economically active adults with relatively higher educational attainment.

Table I: Socio-Demographic Characteristics of Participants (n = 200)

Variable	Category	n (%)
Gender	Male	92 (46.0)
	Female	108 (54.0)
Age (years)	18–29	58 (29.0)
	30–44	84 (42.0)
	45–59	39 (19.5)
	≥60	19 (9.5)
	Primary or Less	36 (18.0)
Education	Secondary	68 (34.0)
	Graduate	74 (37.0)
	Postgraduate	22 (11.0)
Employment Status	Employed	118 (59.0)
	Unemployed	82 (41.0)
Residence	Urban	126 (63.0)
	Rural	74 (37.0)

Table II demonstrates that self-medication was highly prevalent, being reported by nearly two-thirds of participants. Among those practicing self-medication, the majority reported engaging in the behavior two to three times during the previous six months. The findings suggest that self-medication is a frequent healthcare behavior among adults.

Table II: Prevalence and Frequency of Self-Medication Practices (n = 200)

Variable	Category	n (%)
Self-Medication Practice	Yes	128 (64.0)
	No	72 (36.0)
Frequency of Self-Medication (n=128)	Once	29 (22.7)
	2–3 Times	56 (43.8)
	4–5 Times	28 (21.9)
	>5 Times	15 (11.7)
Mean Number of Episodes	Mean ± SD	3.2 ± 1.8

Table III reveals that analgesics and antipyretics were the most commonly used medications for self-treatment. A considerable proportion of participants also reported using antibiotics without professional consultation. The widespread use of prescription-related medications highlights concerns regarding inappropriate drug utilization and potential medication-related risks.

Table III: Commonly Used Medications for Self-Medication (n = 128)

Medication Category*	n (%)
Analgesics	93 (72.7)
Antipyretics	79 (61.7)
Antibiotics	54 (42.2)
Gastrointestinal Medications	49 (38.3)
Antihistamines	38 (29.7)
Vitamins/Supplements	44 (34.4)
Cough and Cold Medicines	52 (40.6)
Analgesics	93 (72.7)

*Multiple responses allowed.

In **Table IV**, the common cause for self-medication was having been sick, or having suffered from similar illnesses before. The minor nature of the illness, convenience and easy access to medicines were also often reported. These results indicate a high level of personal experience and accessibility to healthcare and their impact on self-medication behaviors.

Table IV: Reasons for Self-Medication among Participants (n = 128)

Reason*	n (%)
Previous Experience with Similar Illness	88 (68.8)
Illness Considered Minor	79 (61.7)
Convenience	72 (56.3)
Cost Saving	56 (43.8)
Lack of Time for Consultation	49 (38.3)
Easy Availability of Medicines	64 (50.0)
Advice from Family/Friends	41 (32.0)

*Multiple responses allowed.

Table V shows the most frequent information source about medications was previous prescriptions, followed by pharmacists as seen in this table. The majority of participants were able to get medicines directly from community pharmacies. The results highlight the role of pharmacists and previous experiences of patients with medications in influencing self-medication behaviors.

Table V: Sources of Drug Information and Medication Procurement (n = 128)

Variable	Category	n (%)
Source of Information	Previous Prescription	52 (40.6)
	Pharmacist	34 (26.6)
	Family/Friends	24 (18.8)
	Internet/Social Media	18 (14.1)
Source of Medicines	Community Pharmacy	95 (74.2)
	Home Medicine Storage	21 (16.4)
	Relatives/Friends	12 (9.4)

Table VI illustrates some strong relationships between some participant characteristics and self-medication. The prevalence of self-medication was significantly associated with higher educational status, urban residence, easy access to pharmacies and previous successful experience with medications. Awareness of medication risks was associated with the lower self-medication rates suggesting that the knowledge on medication risk was protective.

Table VI: Association between Participant Characteristics and Self-Medication

Variable	Self-Medication (%)	p-value
Graduate/Postgraduate Education	74.0	0.012
Urban Residence	69.0	0.028
Easy Pharmacy Access	78.0	0.004
Previous Successful Medication Experience	82.0	0.001
Awareness of Medication Risks	55.0	0.018

Table VII presents the positive correlation between the Self-Medication Score and the therapeutic factors. The therapeutic factors were positively correlated with the Self-Medication Score. The correlation between self-medication behavior with previous medication experience and to the accessibility of pharmacies is seen to be strong positive correlation. Significant negative correlations were seen between medication risks and self-medication as well as between frequent healthcare visits and self-medication. It is inferred from these results that therapeutic experiences and health care seeking behaviors have an effect on self-medication practices.

Table VII: Correlation between Self-Medication Score and Therapeutic Factors

Variable	Correlation Coefficient (r)	p-value
Previous Medication Experience	0.52	<0.001
Pharmacy Accessibility	0.44	<0.001
Awareness of Medication Risks	-0.29	0.002
Frequency of Healthcare Visits	-0.26	0.006
Age	-0.11	0.124

Table VIII shows the logistic Regression Analysis for prediction of self-medication. The most significant independent predictor of self-medication is previous successful medication experience according to this table. Low frequency of healthcare consultations, high educational level, and easy access to pharmacies were also significant factors with regards to self-medication. However, higher knowledge about the risks of medicine decreased the likelihood of self-medication, underscoring the significance of educating patients.

Table VIII: Logistic Regression Analysis for Predictors of Self-Medication

Predictor	Odds Ratio (OR)	95% CI	p-value
Previous Successful Medication Experience	3.21	1.74–5.92	<0.001
Easy Pharmacy Access	2.46	1.31–4.63	0.005
Lower Healthcare Consultation Frequency	1.98	1.09–3.61	0.024
Graduate/Postgraduate Education	1.82	1.01–3.28	0.046
Awareness of Medication Risks	0.68	0.49–0.94	0.021

DISCUSSION

This study aimed to assess the prevalence, patterns and therapeutic factors of self-medication by adult patients attending outpatient health care centers. The results showed that self-medication practices were very common and nearly two thirds of the respondents reported self-medication in the last six months. The most commonly used medications were analgesics, antipyretics, and antibiotics. Self-medication was often due to previous successful use of medication, access to pharmacies, convenience and a perception of the illness as minor. Moreover, level of education, availability of pharmacies, prior experiences with medicines, and knowledge of risks associated with medicines were significantly related to self-medication practices. Logistic regression analysis shown that previous successful experience with a medication, ease of access to pharmacy, and fewer healthcare consultations are independent factors associated with self-medication. This linked with the previous study that have shown that self-medication is a common health-care practice with several factors being involved in it ^{14,15}.

The extent of self-medication recorded in this study is consistent with previous studies of adults in developed and developing countries ¹⁶. Self-medication rates above 50% have been reported in many studies, indicating the increasing trend for people to attempt to treat minor ailments at home without consulting a health professional for advice ¹⁷. As in the present study, analgesics and antipyretics have been identified as the most commonly used medications as they are easily accessible and often used for self-limiting ailments like headache, fever and musculoskeletal pain ¹⁸. This study found that antibiotics were used without a prescription, which is particularly concerning, and this has been reported by other researchers as a large contributing factor to non-prescribed antibiotic use and antimicrobial resistance ^{19,20}. The results highlight the ongoing importance of public awareness about the appropriate and safe medicines' use.

The current study's self-medication motives are similar to those reported in previous studies ²¹. Previous successful treatment with similar illnesses was the most frequently reported factor, indicating that people are likely to use past treatment experiences in their decision-making process when choosing to take the drug ²². This is in line with research showing that personal experience is a strong determinant of health-seeking behaviour and the decision to take medicines ²³. Self-medication was also motivated by convenience, the perceived severity of the illness, cost saving and the easy availability of the medicines. Previous studies have found that barriers to health care access, such as consultation fees, waiting times, and limited availability of health care workers, often lead people to self-treat their health issues instead of going to a health care provider ²⁴. In addition, the key role of previous prescriptions and pharmacists as information sources revealed in the current study is supported by other studies which showed that previous health encounters and pharmacy-based advice have a significant influence on self-medication behavior ²⁵.

The results of this study are limited by some assumptions. Because of the cross-sectional design used, fundamental relationships between therapeutic factors and self-medication rehearses cannot be drawn. Self-reported information also may contain recall and reporting bias. Furthermore, the participants were recruited from selected OPD healthcare facilities which might not enhance generalizability of the results. More multi-center studies with wider population and longitudinal designs are recommended to further explore self-medication factors and determine the effectiveness of interventions to promote rational medication use and medication safety in adults.

CONCLUSION

This study confirmed that self-medication is common among adult patients visiting outpatient health care institutions and the most popular medicines are analgesics, anti-pyretics and antibiotics. The significant predictors of self-medication behavior were identified as previous

successful experience with medication and ease of access to pharmacies, whereas increased awareness of some of the risks that come with using medication was linked with decreased self-medication behavior.

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Conflict of Interest

None

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Use of Artificial Intelligence

The corresponding author declared that no other artificial intelligence or AI-assisted tools were used anywhere in this manuscript.

Authors' Contribution

Both authors contributed significantly in the study as per ICMJE.

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