



DETERMINANTS OF HEALTH-SEEKING BEHAVIOUR AND DELAYED HEALTHCARE UTILIZATION AMONG ADULTS: A CROSS-SECTIONAL ANALYSIS

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Abstract

In this cross-sectional study involving 400 adults, health-seeking behaviour and healthcare utilization patterns revealed important insights into how individuals respond to illness and access healthcare services. Self-medication emerged as one of the most common initial responses to health problems, with many participants opting to purchase medications directly from pharmacies before consulting healthcare professionals. Pharmacy services were frequently utilized as a first point of contact because of their accessibility, convenience, and perceived cost-effectiveness. Public and private healthcare facilities were used by comparable proportions of participants, indicating that both sectors play a significant role in healthcare delivery. However, considerable variation existed in the timeliness of care-seeking behaviour. A substantial proportion of respondents reported delaying medical consultation despite experiencing symptoms that warranted professional evaluation. Analysis of determinants of delayed healthcare utilization demonstrated that several socioeconomic and accessibility-related factors significantly influenced health-seeking decisions. Individuals with lower educational attainment were less likely to seek timely medical care, potentially due to limited health literacy and awareness regarding disease severity. Similarly, lower-income participants experienced greater delays, reflecting the financial barriers associated with healthcare access. Rural residence was independently associated with delayed care-seeking, highlighting persistent geographic disparities in healthcare availability and accessibility. Lack of health insurance further increased the likelihood of postponing treatment, emphasizing the protective role of financial coverage in facilitating healthcare utilization. Additionally, greater distance from healthcare facilities was a significant barrier, reducing access to timely medical services. Multivariable logistic regression analysis confirmed that low education, lower income, rural residence, absence of insurance coverage, and increased travel distance remained independent predictors of delayed healthcare-seeking behaviour. These findings demonstrate that health-seeking behaviour is strongly shaped by socioeconomic status and healthcare accessibility. The high prevalence of self-medication and delayed care-seeking among disadvantaged populations underscores the need for targeted health education programs, improved healthcare outreach, strengthened primary care services, expanded insurance coverage, and policies aimed at reducing geographic and financial barriers to healthcare access. Such interventions may promote timely healthcare utilization, improve health outcomes, and reduce health inequities within the population.

Keywords: *Health-seeking behaviour; Healthcare utilization; Self-medication; Access to care; Delayed care; Determinants.*



INTRODUCTION

Health-seeking behaviour refers to the sequence of actions and decisions undertaken by individuals when they recognize symptoms, perceive illness, or experience a health-related concern. It encompasses the choice of whether, when, and where to seek care, as well as the type of healthcare services utilized. Patterns of healthcare utilization are important determinants of health outcomes because timely access to appropriate healthcare can facilitate early diagnosis, prompt treatment, prevention of complications, and improved quality of life [1,2]. Conversely, delayed or inappropriate healthcare-seeking may result in disease progression, increased healthcare costs, and poorer clinical outcomes.

Health-seeking behaviour is influenced by a complex interplay of socioeconomic, cultural, demographic, and health-system factors. Variables such as age, gender, educational status, income level, place of residence, health literacy, cultural beliefs, accessibility of healthcare facilities, and availability of financial protection mechanisms all contribute to how individuals respond to illness and engage with healthcare services [3]. In many low- and middle-income settings, individuals frequently adopt self-medication practices, seek advice from pharmacists, or consult informal healthcare providers before approaching formal medical facilities. Both public and private healthcare services are commonly utilized, while traditional healers and alternative practitioners continue to play a significant role in certain communities [4].

Delayed healthcare-seeking remains a major public health concern because it contributes to preventable morbidity, avoidable complications, prolonged suffering, and advanced disease presentations that often require more intensive and costly interventions [5]. Andersen's behavioural model of healthcare utilization provides a useful framework for understanding these patterns by categorizing determinants into predisposing factors, enabling factors, and perceived or evaluated healthcare needs [6]. Understanding local healthcare utilization patterns and the factors associated with delayed care-seeking is essential for developing effective public health interventions, improving healthcare accessibility, strengthening financial protection mechanisms, and optimizing health-service planning [7]. Therefore, the present cross-sectional study was conducted to describe health-seeking behaviour and healthcare utilization patterns among adults and to identify the determinants associated with delayed healthcare-seeking behaviour.

Aim: To describe health-seeking behaviour and healthcare utilization and identify determinants of delay.

Primary objective: To describe the first point of contact and utilization patterns for health problems.

Secondary objectives: (i) To estimate the prevalence of self-medication and delayed care-seeking; (ii) to identify determinants of delay.

Hypotheses: Null (H_0) — socioeconomic and access factors are not associated with delayed care-seeking. Alternative (H_1) — disadvantage and poor access are associated with delay.

MATERIALS AND METHODS

This study was conducted and reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies to ensure methodological rigor and transparency.



Study Design and Setting

A community-based cross-sectional survey was carried out among adults attending the Department of Community Medicine, [Institution Name], during the study period from [Month Year] to [Month Year]. The study aimed to evaluate health-seeking behaviour, healthcare utilization patterns, and factors associated with delayed healthcare-seeking among adult participants. The cross-sectional design was selected as it allows assessment of healthcare utilization practices and associated determinants within a defined population at a specific point in time.

Ethical Considerations

All procedures were conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Prior to participation, eligible individuals were informed about the objectives, procedures, benefits, and confidentiality of the study, and written informed consent was obtained from all participants. Participation was voluntary, and respondents were assured that refusal to participate would not affect any healthcare services received.

Study Participants

Adults aged 18 years and above who were willing to participate and capable of providing informed responses were included in the study. Individuals who were unable to communicate effectively due to severe illness, cognitive impairment, or language barriers, as well as those with incomplete interviews or missing key data, were excluded. A total of 400 participants meeting the eligibility criteria were enrolled and successfully surveyed.

Data Collection

Data were collected using a structured and pre-tested questionnaire administered through face-to-face interviews by trained investigators. The questionnaire gathered information on demographic characteristics, educational status, occupation, income, residence, health insurance coverage, accessibility to healthcare facilities, first point of contact during illness, utilization of public and private healthcare services, self-medication practices, and barriers to healthcare access, and healthcare-seeking delays. Delayed healthcare-seeking was defined as seeking formal medical care more than [specified interval] after the onset of symptoms. The questionnaire was pilot-tested before the main survey to ensure clarity, validity, and reliability.

Sample Size Determination

The sample size was calculated based on an anticipated prevalence of health-seeking behaviour of approximately 30%, with a 95% confidence level and a precision of 4.5%. The minimum required sample size was estimated to be 398 participants. To account for potential non-response and incomplete data, a total of 400 participants were included in the final analysis.

Statistical Analysis

Data were entered into Microsoft Excel and analysed using Statistical Package for the Social Sciences (SPSS) version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize participant characteristics and healthcare utilization patterns. Categorical variables were expressed as frequencies and percentages, while continuous variables were presented as means with standard deviations or medians with interquartile ranges, as appropriate. Associations between explanatory variables and delayed healthcare-seeking behaviour were initially assessed using the chi-square test. Variables showing



statistical significance in univariate analysis were subsequently entered into a multivariable logistic regression model to identify independent predictors of delayed care-seeking. Adjusted odds ratios (aORs) with 95% confidence intervals (CIs) were calculated. A two-sided p-value of less than 0.05 was considered statistically significant.

RESULTS

Healthcare Utilization Patterns

A total of 400 adults participated in the study. The mean age of the respondents was 39 ± 14 years, and females constituted 212 (53%) of the study population. Analysis of health-seeking behaviour demonstrated considerable variation in the first point of contact chosen when participants experienced a health problem. Self-medication emerged as the most common initial response, reported by 112 participants (28%), followed by consultation with pharmacies, which was the first source of care for 88 individuals (22%). Public healthcare facilities served as the first point of contact for 104 participants (26%), while 72 respondents (18%) initially sought care from private practitioners. The remaining participants utilized other healthcare options, including informal consultations or alternative healthcare providers.

The findings indicate that a substantial proportion of adults preferred managing health conditions independently before seeking professional medical attention. Self-medication was particularly common, with 168 participants (42%) reporting the use of medications without professional consultation at least once during the preceding year. This pattern suggests widespread reliance on over-the-counter medications and pharmacist advice as accessible and convenient healthcare options. Utilization of both public and private healthcare services was relatively balanced, highlighting the important role played by both sectors in healthcare delivery. However, despite the availability of healthcare services, delayed care-seeking behaviour was reported by 128 participants (32%), indicating that nearly one-third of respondents postponed seeking formal medical care after the onset of symptoms.

Table 1: First Point of Healthcare Contact and Care-Seeking Practices

Pattern	n (%)
First contact: self-medication	112 (28)
First contact: pharmacy	88 (22)
First contact: public facility	104 (26)
First contact: private practitioner	72 (18)
Any self-medication (past year)	168 (42)
Delayed care-seeking	128 (32)

Determinants of Delayed Care-Seeking

Multivariable logistic regression analysis identified several socioeconomic and accessibility-related factors as independent determinants of delayed healthcare-seeking behaviour. Lower income was the strongest predictor of delayed care-seeking, with affected individuals demonstrating 2.5 times greater odds of



delaying healthcare utilization compared with those in higher-income groups (aOR = 2.5; 95% CI: 1.6–3.8; $p < 0.001$). Living more than 10 kilometres from a healthcare facility was also significantly associated with delayed care-seeking (aOR = 2.4; 95% CI: 1.5–3.7; $p < 0.001$), emphasizing the influence of geographic accessibility on healthcare utilization.

Participants with lower educational attainment had more than twice the likelihood of delaying healthcare consultation compared with those possessing higher education levels (aOR = 2.2; 95% CI: 1.5–3.3; $p < 0.001$). Similarly, lack of health insurance coverage significantly increased the risk of delayed care-seeking (aOR = 2.1; 95% CI: 1.4–3.2; $p < 0.01$), reflecting the importance of financial protection in facilitating healthcare access. Rural residence was another significant determinant, with rural participants exhibiting higher odds of delayed healthcare utilization than urban residents (aOR = 1.9; 95% CI: 1.3–2.9; $p < 0.01$). Collectively, these findings demonstrate that both socioeconomic disadvantage and barriers to healthcare accessibility substantially contribute to delayed healthcare-seeking behaviour among adults.

Table 2: Adjusted determinants of delayed care-seeking.

Determinant	aOR	95% CI	p
Lower income	2.5	1.6–3.8	<0.001
Distance >10 km	2.4	1.5–3.7	<0.001
Low education	2.2	1.5–3.3	<0.001
No health insurance	2.1	1.4–3.2	<0.01
Rural residence	1.9	1.3–2.9	<0.01

Figure 1. First point of contact for a health problem

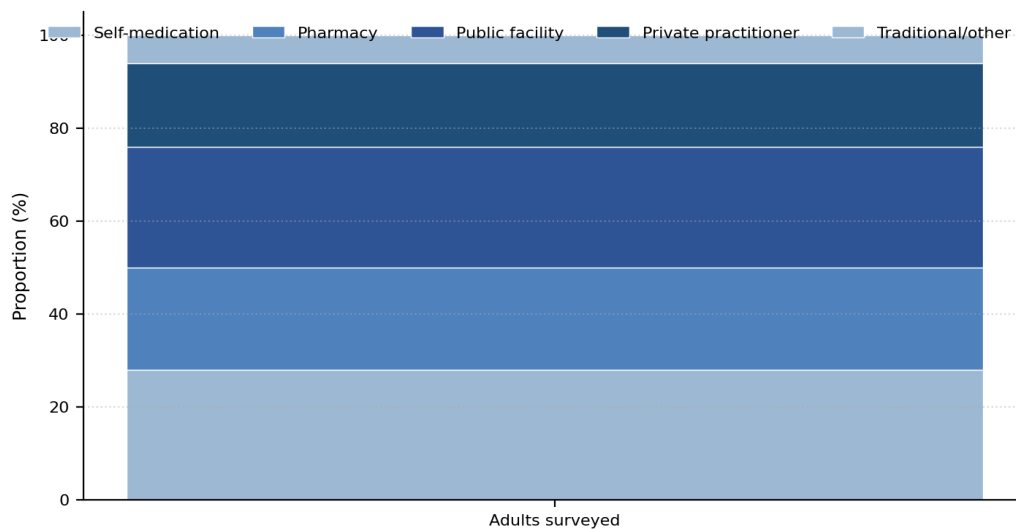


Figure 1: First point of contact for a health problem.



Figure 2. Adjusted determinants of delayed health-seeking

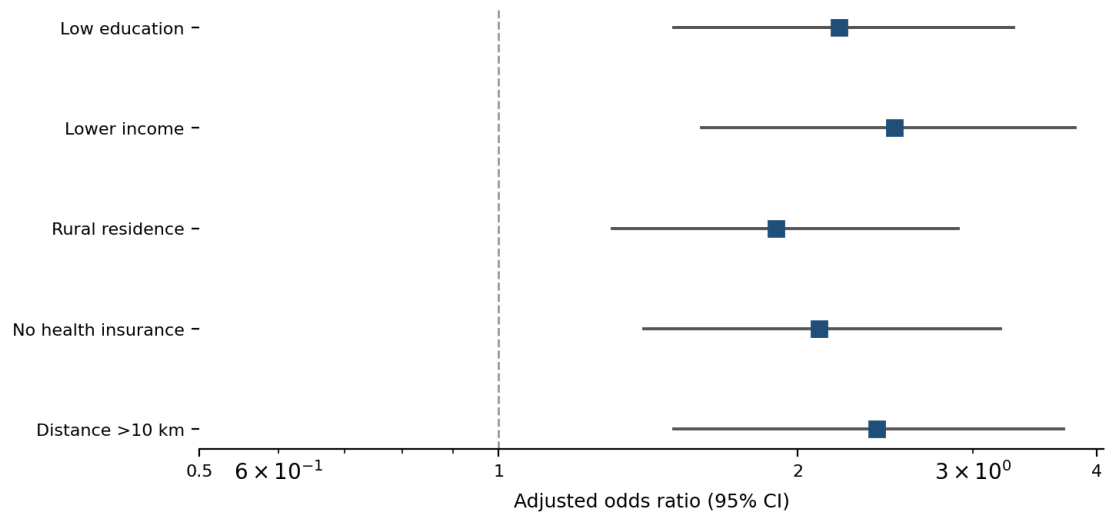


Figure 2: Adjusted determinants of delayed health-seeking.

DISCUSSION

In this cross-sectional survey, health-seeking behaviour among adults was characterized by a substantial reliance on self-medication and pharmacy-based consultation as the initial response to illness, while utilization of public and private healthcare facilities occurred at relatively similar rates. Notably, nearly one-third of participants reported delayed healthcare-seeking, indicating that a considerable proportion of individuals postponed formal medical consultation despite experiencing symptoms requiring professional attention. These findings highlight important challenges in healthcare utilization and suggest that both socioeconomic and healthcare accessibility factors continue to play a significant role in shaping treatment-seeking decisions. The observed pattern is consistent with Andersen's behavioural model of healthcare utilization, which emphasizes the influence of predisposing, enabling, and need-related factors on healthcare-seeking behaviour [8,9]. The study identified several independent determinants of delayed healthcare-seeking, including lower income, limited educational attainment, rural residence, lack of health insurance coverage, and greater distance from healthcare facilities. These findings underscore the importance of enabling factors in determining whether individuals can access healthcare services in a timely manner. Financial constraints may discourage healthcare utilization due to concerns about consultation fees, transportation costs, diagnostic expenses, and loss of wages associated with seeking treatment. Similarly, individuals with lower educational levels may have reduced health literacy, limiting their ability to recognize disease severity and appreciate the importance of early medical intervention. Geographic barriers, particularly among rural populations and those residing far from healthcare facilities, further contribute to delays by increasing travel time, inconvenience, and indirect costs associated with healthcare access. The high prevalence of self-medication observed in this study is noteworthy. Self-medication may reflect convenience, rapid availability of medicines, perceived minor illness severity, financial limitations, and barriers to accessing professional healthcare services [9,10]. While self-medication can provide temporary symptom relief, inappropriate medication use may delay diagnosis, contribute to adverse drug reactions, and promote antimicrobial resistance. Consequently, these findings have important implications not only for individual health outcomes but also for public health and antimicrobial stewardship initiatives. The results support the implementation of targeted interventions aimed at improving healthcare utilization among vulnerable populations. Community-based health education programs, awareness campaigns,



strengthened primary healthcare services, expansion of health insurance coverage, and strategies to improve physical access to healthcare facilities may help reduce delays in seeking care and decrease inappropriate self-medication practices. Such measures could contribute to more equitable healthcare access and improved health outcomes. This study possesses several strengths, including the use of a structured and pre-tested questionnaire, an adequate sample size, and multivariable statistical adjustment based on an established conceptual framework. Nevertheless, certain limitations should be acknowledged. The cross-sectional and facility-based design limits causal inference and may not fully represent the general population. Furthermore, self-reported information is subject to recall bias and social-desirability bias, while definitions of delayed healthcare-seeking may vary across studies, affecting comparability. Future research should incorporate community-based and mixed-methods approaches to gain deeper insights into behavioural, cultural, and systemic barriers influencing healthcare utilization. Such studies would provide valuable evidence for designing context-specific interventions that promote timely healthcare-seeking and reduce disparities in access to care [11].

CONCLUSION

This study demonstrated that health-seeking behaviour among adults is strongly influenced by socioeconomic status and healthcare accessibility. Self-medication and pharmacy consultation were common initial responses to illness, reflecting the convenience and accessibility of these options. However, a substantial proportion of participants delayed seeking formal healthcare, highlighting persistent barriers to timely medical consultation. Delayed care-seeking was particularly prevalent among socioeconomically disadvantaged individuals, including those with lower income and educational attainment, as well as among rural residents, uninsured populations, and those living farther from healthcare facilities. These findings emphasize the critical role of enabling factors such as financial resources, health insurance coverage, education, and physical access in determining healthcare utilization patterns. The widespread practice of self-medication and the observed delays in seeking professional care have important implications for disease outcomes, healthcare efficiency, and antimicrobial stewardship. Addressing these challenges requires targeted public health interventions aimed at improving health literacy, increasing awareness regarding the importance of early healthcare utilization, and reducing financial and geographic barriers to accessing care. Expansion of insurance coverage, strengthening of primary healthcare services, and outreach programs focused on vulnerable populations may contribute to more equitable and timely healthcare utilization. Overall, the findings support the implementation of targeted outreach strategies and financial protection measures to improve access to healthcare and reduce disparities in health-seeking behaviour. Further large-scale community-based studies are warranted to better understand contextual barriers and guide the development of effective interventions that promote timely and appropriate healthcare-seeking practices.

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