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Original Article

Factors Influencing Self-Medication Practices Among Core-Shelter Mothers in Tuguegarao City: Implications for Community Health

Jericho G. Ferrer

Author Information:

University of La Salette, Inc., College of Nursing, Public Health and Midwifery, Santiago City, Philippines

Correspondence:
jrferrer@uls.edu.ph

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Abstract. This study examined the patterns of self-medication and the factors associated with this practice among 84 mothers aged 35–50 years residing in core-shelter barangays in Tuguegarao City. A quantitative, descriptive–correlational research design was employed. Data were gathered using a researcher-developed, self-administered questionnaire with acceptable internal consistency (Cronbach's $\alpha = 0.82$), which assessed respondents' demographic characteristics, common illnesses, self-medication practices, sources of medicines, and influencing factors. Headaches (94.0%), fever and flu (89.3%), and coughs and colds (79.8%) were the most prevalent health complaints. Nonsteroidal anti-inflammatory drugs (NSAIDs) and cough and cold preparations (89.3%) were the most frequently used medications, primarily obtained from local stores (84.5%) and community pharmacies (73.8%). Chi-square analysis revealed significant differences in the distribution of illnesses and medications used ($p < 0.001$). Furthermore, one-sample t-test results indicated that convenience-related factors7 and stigma or fear of seeking professional care significantly influenced self-medication practices (mean = 3.49, $p < 0.05$). Structural Equation Modeling further confirmed that convenience (perceived behavioral control) and stigma/fear (attitude and subjective norms) had direct, significant effects on self-medication practices, supporting the theoretical framework based on the Theory of Planned Behavior. These findings underscore the continued reliance on self-medication among mothers and highlight the need for strengthened health education initiatives, stricter regulation of medicine access, and improved availability and accessibility of primary healthcare services to promote rational drug use and safeguard family health.

Keywords: *Fear; Mothers; Patterns; Self-medication; Stigma.*

Self-medication, particularly with antibiotics, has become a persistent public health concern across both developed and developing countries. Commonly defined as the use of medicines without professional prescription or supervision, self-medication is often influenced by factors such as prior experience with illness, perceived symptom severity, accessibility of medicines, and financial constraints (Pillai & Sivaperumal, 2024). While self-care may provide immediate convenience, inappropriate self-medication—especially involving antibiotics—has been widely associated with adverse drug reactions, treatment failure, and the growing challenge

of antimicrobial resistance (AMR), which poses a serious threat to population health (Gashaw et al., 2025).

Socioeconomic vulnerability plays a central role in sustaining self-medication practices in low- and middle-income settings. Individuals from economically disadvantaged households frequently experience difficulties in initiating treatment or maintaining long-term medication regimens, particularly when prescribed medicines are unaffordable or when healthcare services are not readily accessible. As a result, people in underdeveloped contexts often resort to using both prescription-only and over-the-counter medications without a doctor's supervision, with antibiotics being among the most commonly misused drug classes (Limwado et al., 2024). Such practices undermine the objectives of Sustainable Development Goal 3 (SDG 3), which emphasizes ensuring healthy lives and promoting well-being for all through access to safe, effective, quality, and affordable essential medicines.

Globally, high prevalence rates of antibiotic self-medication have been documented among diverse population groups. Evidence from Africa, Europe, and Asia indicates that adults frequently obtain antibiotics without prescriptions through community pharmacies, leftover medicines, or informal sources (Hackman et al., 2024). The COVID-19 pandemic further intensified these behaviors, as limited access to health facilities, fear of infection, and misinformation led individuals to self-manage symptoms with antibiotics, despite their limited clinical effectiveness for viral illnesses (Limwado et al., 2024). These trends highlight persistent gaps in the rational use of medicines that directly impede progress toward SDG 3, particularly in resource-constrained communities.

In the Philippines, antibiotic self-medication remains a significant concern, with reported prevalence rates ranging from 31% to 66%, which are higher than those observed in several other Southeast Asian countries. This situation reflects ongoing challenges related to healthcare accessibility, regulatory enforcement, and public awareness regarding appropriate antibiotic use. Mothers play a particularly influential role in shaping medication practices within households. As primary caregivers, they are often responsible for deciding when and how to use medicines for themselves and their children, especially in contexts where access to formal healthcare is limited. Research indicates that antibiotic self-medication among children is frequently influenced by parental beliefs, prior treatment experiences, and perceived barriers to healthcare access (Bert et al., 2022).

Evidence from related maternal health studies further underscores how knowledge gaps, social pressures, and limited access to health services influence women's health-related decision-making. For instance, Aldaba et al. (2025) highlighted how teenage mothers navigate pregnancy with limited health knowledge, often relying on personal experiences and informal sources of information when professional guidance is lacking. Similarly, Villarama et al. (2024) demonstrated that even among employed mothers, inadequate institutional support, limited health education, and structural constraints significantly affect compliance with recommended health practices, such as breastfeeding support. These findings suggest that maternal health behaviors—including medication use—are strongly shaped by intersecting social, educational, and systemic factors. In vulnerable communities such as core shelters, these challenges may be further intensified by poverty, displacement-related stress, and inconsistent availability of health services, making self-medication a common, though risky, coping strategy. Studies on self-medication among pregnant women report prevalence rates ranging from 2.2% to 72.4%, with practices driven by the desire to save time and cost, achieve prompt symptom relief, and rely on familiarity with previous experiences (Al-Akour et al., 2021).

Despite existing national policies to regulate antibiotic use, implementation challenges persist at the community level. Antibiotics continue to be obtained without prescriptions from community pharmacies, reflecting gaps in local regulatory enforcement (Garcia & Tugna, 2024). National assessments of antimicrobial resistance initiatives in the Philippines have similarly noted uneven program implementation and limited reach at the community level (Valenzuela et al., 2025). These challenges underscore the need for localized evidence to inform targeted interventions that promote rational antibiotic use and advance the goals of SDG 3.

The practice of self-medication among mothers in urban communities remains a growing public health concern, particularly in areas with limited access to healthcare services and increasing availability of over-the-counter medicines. In core-shelter barangays of Tuguegarao City, mothers often manage common illnesses independently, influenced by socioeconomic conditions, convenience, and psychosocial factors. Therefore, this research intends to examine the patterns of self-medication and the factors influencing this practice among mothers residing in selected core-shelter barangays of Tuguegarao City.

Theoretical Framework

This study is anchored in the Theory of Planned Behavior (TPB) proposed by Ajzen (2005), which posits that human behavior is primarily driven by behavioral intention, itself shaped by attitudes toward the behavior, subjective norms, and perceived behavioral control. TPB has been widely used to explain various health-related behaviors, including medication use and healthcare-seeking practices. However, its application to self-medication behavior has often been limited to partial or fragmented analyses, with many studies examining individual TPB components in isolation rather than within an integrated theoretical structure.

In existing self-medication literature, factors such as convenience, fear, and stigma are frequently treated as descriptive or contextual variables without explicit theoretical positioning within TPB domains. This fragmented approach limits understanding of the psychological mechanisms through which these factors shape behavioral intention and actual self-medication practices. Moreover, psychosocial influences—particularly stigma and fear intensified during public health crises such as the COVID-19 pandemic—are rarely conceptualized as theoretically meaningful constructs within TPB, despite their clear relevance to healthcare avoidance and self-treatment behaviors.

Recent studies further reinforce the relevance of TPB in contemporary health contexts. Panahi and Ghalavand (2024) showed that health literacy plays a mediating role within planned behavior processes, influencing individuals' capacity to translate intentions into protective health actions. Similarly, Tohan et al. (2024), using structural equation modeling, found that knowledge, attitudes, and convenience significantly shaped self-medication practices among university students, aligning closely with TPB assumptions regarding attitudinal and control-related determinants of behavior. Zheng et al. (2024) also emphasized the role of intention in self-medication decisions among older adults, demonstrating how behavioral intentions influence both self-medication patterns and the likelihood of seeking pharmacist guidance.

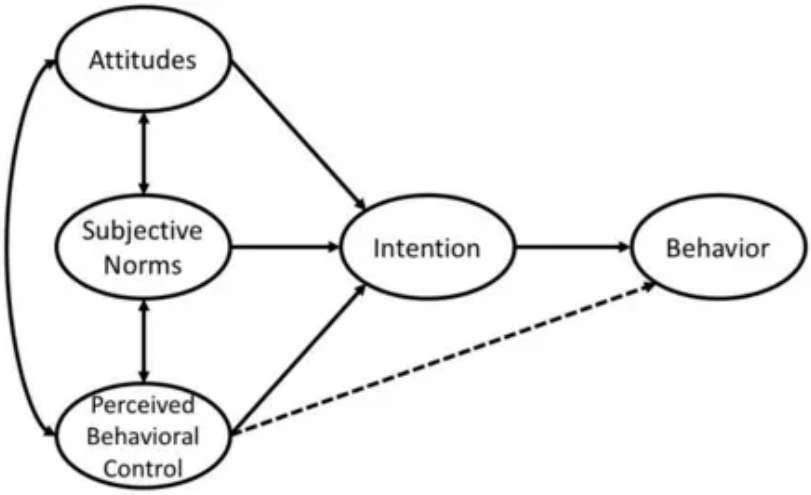


Figure 1. *The Theory of Planned Behavior Model Adapted from Ajzen 2005*

To address this theoretical gap, the present study explicitly maps convenience to perceived behavioral control, reflecting individuals' beliefs about their capacity to manage illness independently through accessible, affordable, and time-efficient self-care. Similarly, stigma and fear are theoretically positioned within attitudes toward the behavior and subjective norms, capturing negative evaluations of formal healthcare and perceived social pressures that discourage professional consultation. By situating these constructs within TPB, the study advances a more coherent theoretical explanation of self-medication behavior. Importantly, this study extends the application of TPB by employing Structural Equation Modeling (SEM), enabling the simultaneous examination of latent constructs, measurement validity, and structural relationships. This theory-driven analytical approach addresses limitations of prior research that relied on descriptive or regression-based methods, thereby strengthening the explanatory power of TPB in understanding self-medication practices.

Conceptual Framework

This study is anchored on the Theory of Planned Behavior (TPB) and is operationalized using Structural Equation Modeling (SEM) as the primary analytical framework. SEM was selected to examine the structural relationships among latent constructs and their observed indicators, enabling a comprehensive assessment of both the measurement and structural components of self-medication behavior.

In the proposed SEM-based conceptual framework (Figure 2), Convenience, Stigma, and Fear are specified as exogenous latent variables, while Self-Medication Practices is modeled as the endogenous latent outcome variable. Convenience represents the TPB construct of perceived behavioral control. It is operationalized through observed indicators such as ease of access to medicines, affordability, time efficiency, and the ability to manage illness without professional consultation. When individuals perceive self-medication as convenient and manageable, their sense of behavioral control increases, strengthening their intention to self-medicate and increasing the likelihood of engaging in the behavior. Empirical evidence supports the role of convenience as a strong predictor of self-medication practices, particularly in low-resource and community-based settings (Tohan et al., 2024).

Stigma and Fear capture TPB elements of attitude toward the behavior and subjective norms. This latent construct is measured through indicators including fear of disease diagnosis, fear of exposure in healthcare facilities, anxiety during medical consultations, and fear of social discrimination. These psychosocial concerns contribute to unfavorable attitudes toward formal healthcare and reinforce perceived social norms that support self-treatment over professional consultation. Prior studies confirm that stigma and fear significantly shape health-related behavioral intentions and healthcare avoidance (Barakat & Mohasseb, 2022; Zheng et al., 2024).

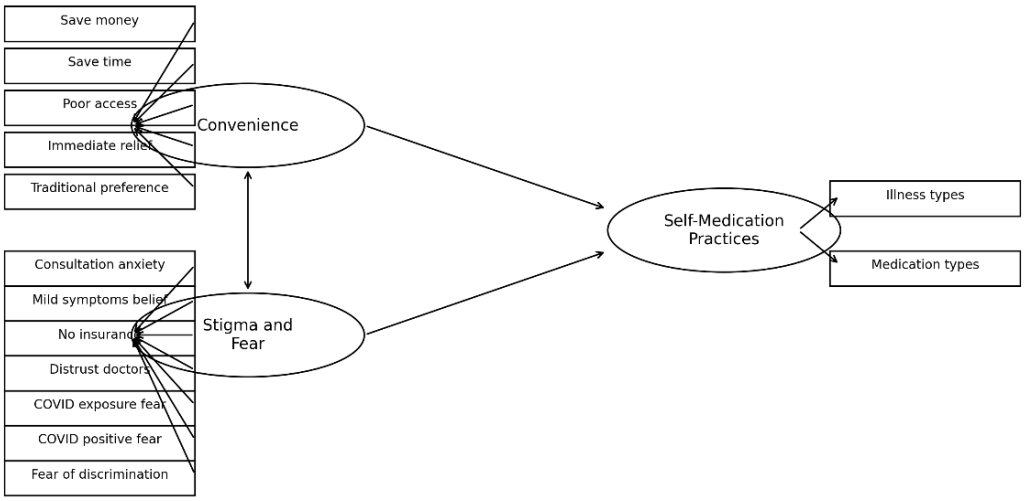


Figure 2. *Structural Equation Model of Self-Medication Practices Showing the Direct Effects of Convenience, Stigma, and Fear on Self-Medication Practices*

*(*Latent variables are represented by ellipses, observed indicators by rectangles, single-headed arrows indicate direct effects, and double-headed arrows represent covariance between exogenous constructs.)*

The dependent construct, Self-Medication Practices, is operationalized as observed patterns of illness self-medication and the types of medications used. Consistent with TPB, the framework assumes that perceived behavioral control (Convenience) and attitudes and subjective norms (Stigma and Fear) exert direct effects on self-medication behavior. SEM enables the estimation of these direct paths while accounting for measurement error and the interrelationship between latent constructs. Health literacy and prior experience are treated as implicit contextual factors that facilitate the translation of intention into behavior, supporting TPB's assumption that informed individuals are more likely to act on their intentions (Panahi & Ghalavand, 2024). Overall, the SEM-based conceptual framework explicitly illustrates how structural (practical) and psychosocial determinants interact to influence self-medication practices, providing a theory-driven and empirically testable model aligned with TPB.

Methodology

Research Design

This study employed a quantitative, non-experimental descriptive–analytical research design, consistent with Creswell's framework for quantitative inquiry. According to Creswell (2018), descriptive research is appropriate for systematically describing characteristics or behaviors as they occur naturally, while correlational designs are used to examine relationships among variables without manipulation or experimental control. In this study, the design enabled the description of self-medication patterns among mothers and the examination of their associations with selected demographic and contextual factors, without attempting to establish causal relationships.

Participants and Sampling Technique

The study participants were mothers residing in three barangays with core-shelter housing in the urban area of Tuguegarao City: Annafunan East, Cataggaman Pardo, and Namabbalan Sur. A total enumeration sampling strategy was employed, in which all eligible individuals in the accessible population were invited to participate. As noted by Creswell (2014), census or total-population sampling is appropriate when the population size is manageable, and the research objective is to maximize representativeness within a clearly defined context. Eligibility criteria required that participants: (a) be mothers aged 35 to 50 years; (b) report engagement in self-medication practices; and (c) have resided in the community for at least one year prior to data collection. Mothers who did not meet these criteria or declined to participate were excluded. A total of 84 respondents met the inclusion criteria, comprising 50 from Barangay Annafunan East, 25 from Barangay Cataggaman Pardo, and 9 from Barangay Namabbalan Sur. Given the use of total enumeration, a formal sample size calculation was not undertaken.

While total enumeration enhanced coverage of the accessible population, the relatively small sample size and uneven distribution of participants across barangays may limit the statistical power of the findings and restrict subgroup comparisons. Furthermore, the study's context-specific focus—on mothers residing in core-shelter housing in an urban setting—limits the generalizability of the results to other populations, such as mothers in rural areas, non–core-shelter communities, or other age groups. These limitations should be considered when interpreting the findings, and future studies may benefit from larger, multi-site samples to improve external validity.

Research Instrument

Data were collected using a researcher-developed, self-administered questionnaire, designed specifically for this study to capture patterns of self-medication and the factors influencing such behavior. The questionnaire consisted of three main sections:

Demographic Characteristics

Items included age, sex, civil status, occupation, educational attainment, and residential zone (purok).

Patterns of Self-Medication

Items assessed the types of illnesses for which respondents self-medicated and the types of medications they used. Respondents indicated frequency or agreement on a five-point Likert scale (5 = Strongly Agree, 1 = Strongly Disagree).

Factors Associated with Self-Medication Practices

Items assessed two constructs derived from the Theory of Planned Behavior (TPB):

Convenience (Perceived Behavioral Control). 5 items measuring how practical considerations influence self-medication. Sample items include "*I self-medicate to reduce expenses on doctor consultations*", "*I self-medicate to save time that would be spent visiting a doctor.*"

Stigma and Fear (Attitudes and Subjective Norms). 7 items measuring psychosocial factors influencing self-medication. Sample items are "*I avoid consulting a doctor because I am afraid of being exposed to COVID-19 in healthcare facilities*", "*I self-medicate because I fear testing positive for COVID-19 when I experience symptoms such as cough or colds.*"

All items were constructed based on TPB, ensuring that they captured the core constructs of attitudes, subjective

norms, and perceived behavioral control, which predict behavioral intentions and actual self-medication behavior (Ajzen, 2005; Pillai & Sivaperumal, 2024; Al-Akour et al., 2021). Content validity was established through expert review by faculty with expertise in public health and research methodology. Pilot testing ensured clarity and relevance of items. Cronbach's alpha demonstrated good internal consistency (ά = 0.82). Revisions were made to improve clarity before administration. The questionnaire was administered on paper, and responses were scored using aggregated mean scores with descriptive interpretations.

Data Gathering Procedure

The data collected in this study were analyzed using descriptive, inferential, and multivariate statistical techniques, with Structural Equation Modeling (SEM) serving as the primary analytical framework. Prior to analysis, the data were screened for completeness, accuracy, and suitability for multivariate procedures to ensure reliable results. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the respondents' demographic profile and to describe patterns in self-medication practices by illness type and medication use. These analyses provided an initial understanding of respondent characteristics and observable self-medication behaviors.

To support the SEM analysis, the reliability of the study instruments was assessed using Cronbach's alpha to establish the internal consistency of the latent constructs, particularly convenience, stigma, and fear. Composite mean scores were computed to represent respondents' perceptions of these factors, which were treated as latent variables influencing self-medication practices. SEM was then used to examine the direct effects of convenience, stigma, and fear on self-medication behavior, allowing simultaneous analysis of relationships among variables. Model adequacy was evaluated using goodness-of-fit indices, and the significance of the hypothesized paths was determined at the 0.05 level.

To further support and contextualize the SEM findings, one-sample t-tests were conducted on the composite mean scores for convenience and stigma and fear, comparing them with the neutral midpoint value of 3.00 on the Likert scale to determine whether these factors were perceived as significantly influential. In addition, the Chi-square goodness-of-fit test was applied to assess whether the distribution of self-medicated illnesses and types of medications used differed significantly from an expected equal distribution. All statistical analyses were conducted at the 0.05 significance level, and the results provided the empirical basis for identifying key determinants of self-medication practices and for formulating recommendations for health education and enhancing community health programs.

Scoring Guide for Interpretation of Composite Means

Range of Mean Score	Descriptive Equivalence	Descriptive Interpretation
4.21 – 5.00	Strongly Agree	Very Highly Influential
3.41 – 4.20	Agree	Highly Influential
2.61 – 3.40	Neutral	Moderately Influential
1.81 – 2.60	Disagree	Slightly Influential
1.00 – 1.80	Strongly Disagree	Not Influential

Ethical Considerations

The study was conducted in accordance with established principles of research ethics and academic integrity, including respect for persons, beneficence, and justice. At the time of the study, the college did not yet have an Institutional Ethics Review Board; therefore, formal ethics board approval was not obtainable. This context is acknowledged as an institutional limitation rather than an omission by the researcher. Nevertheless, the study involved minimal risk to participants, as it did not include clinical interventions, invasive procedures, sensitive personal disclosures, or the collection of identifiable information. In line with ethical best practices for minimal-risk research, alternative safeguards were implemented to protect participants. Participation was entirely voluntary, and informed consent was obtained prior to data collection. Respondents were clearly informed of the study's objectives, the nature of their involvement, and their right to refuse participation or withdraw at any stage without penalty. Strict measures were taken to ensure confidentiality and anonymity. No personally identifiable data were collected, and all responses were anonymized prior to analysis.

Research data were securely stored in password-protected files, accessible only to the researcher and research advisers, and were properly archived and disposed of after the study was completed. The research further adhered to standards of academic integrity, with all analyses and reporting conducted honestly, transparently, and with

appropriate citation to avoid plagiarism or misrepresentation. Through these measures, the study upheld ethical research standards. It adequately protected participants' rights and welfare, despite the absence of a formal institutional ethics review mechanism at the time of data collection.

Results and Discussion

Demographic Profile of the Respondents

Table 1 shows that the majority of respondents were aged 35–40 years (41.7%), followed by 46–50 years (31%) and 41–45 years (27.4%). Most respondents were married (75%) and unemployed (63.1%), with 28.6% self-employed and only 8.3% employed. The respondents were predominantly Roman Catholic (89.3%), and most had no formal education (92.9%). Regarding income, 86.9% earned less than ₱10,957 per month, while 13.1% earned more.

Table 1. *Frequency and Percentage Distribution of Demographic Profile of Respondents*

Variable	Category	Frequency (f)	Percentage (%)
Age	35–40	35	41.7%
	41–45	23	27.4%
	46–50	26	31.0%
Civil Status	Married	63	75.0%
	Others	21	25.0%
Occupation	Employed	7	8.3%
	Self-Employed	24	28.6%
	Unemployed	53	63.1%
Religion	Roman Catholic	75	89.3%
	Others	9	10.7%
Educational Attainment	None	78	92.9%
	Bachelor's Degree Holder	6	7.1%
Monthly Income	< ₱10,957	73	86.9%
	≥ ₱10,957	11	13.1%

The respondents' socioeconomic profile reflects the vulnerable nature of core-shelter communities. Low educational attainment and income, along with unemployment, likely contribute to reliance on self-medication, consistent with TPB: limited resources may increase perceived behavioral control over self-managing illnesses (Ajzen, 2005; Limwado et al., 2024).

Patterns of Self-Medication in Terms of Type of Illness

Table 2 shows that headache was the most frequently self-medicated condition, reported by 94.0% of respondents, followed by fever and flu (89.3%), cough and cold (79.8%), and body ache (76.2%). Stomachache and toothache were each reported by 70.2% of respondents. Less frequently self-medicated conditions included joint pain (42.9%), rashes (39.3%), nausea and vomiting (34.5%), and menstrual cramps (29.8%). As multiple responses were allowed, percentages exceeded 100%.

Table 2. *Patterns of Self-Medication in Terms of Type of Illness*

Variable	Frequency (f)	Percentage (%)
Headache	79	94.05%
Stomachache	59	70.24%
Body ache	64	76.19%
Toothache	59	70.24%
Fever and Flu	75	89.29%
Cough and Cold	67	79.76%
Rashes	33	39.29%
Nausea and Vomiting	29	34.52%
Joint Pain	36	42.86%
Menstrual Cramps	25	29.76%

**Multiple Choices*

The predominance of self-medication for common and non-specific symptoms such as headache, fever, and flu is consistent with earlier studies indicating that individuals are more likely to self-treat conditions perceived as mild and familiar (Pillai & Sivaperumal, 2024). These findings suggest that perceived symptom manageability plays a key role in medication decisions, with formal healthcare more likely to be sought for conditions viewed as severe or unfamiliar. Rather than repeatedly invoking theoretical constructs, this pattern highlights a practical preference

for convenience and immediacy in managing routine health complaints.

Patterns of Self-Medication in Terms of Type of Medication

Table 3 shows that Non-steroidal anti-inflammatory drugs (NSAIDs) and cough and cold medications were the most frequently self-medicated drug classes, each reported by 89.3% of respondents. These were followed by antispasmodic agents (67.9%), herbal medicines (61.9%), antibiotics (57.1%), and antihistamines (33.3%). As multiple responses were permitted, percentages exceeded 100%.

Table 3. *Patterns of Self-Medication in Terms of Type of Medication*

Type of Medication	Frequency	Percentage (%)
Herbal Medicine	52	61.90%
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)	75	89.29%
Coughs and Colds Medications	75	89.29%
Anti-Spasmodic Drugs	57	67.86%
Antibiotic	48	57.14%
Anti-Histamine	28	33.33%

**Multiple Choices*

Although antibiotics were emphasized in the introduction for their public health implications, the findings indicate lower self-medication with antibiotics than with analgesics and respiratory medications. This contrast suggests that respondents may exercise greater caution when using antibiotics, possibly reflecting increased public awareness of antibiotic risks, prior health education, or stricter pharmacy dispensing practices. Nonetheless, the proportion of respondents reporting antibiotic self-medication remains substantial, indicating that inappropriate access and use persist despite existing regulatory measures. The predominance of NSAIDs and cough and cold medications highlights a pattern of selective self-medication for symptoms perceived as common and manageable, where immediate relief is prioritized. While this pattern may indicate some level of risk awareness regarding antibiotics, it also underscores the need for continued community-level education and regulatory enforcement to reduce inappropriate antibiotic use further.

Factors Associated with Self-Medication in Terms of Convenience

Table 4 shows that convenience-related factors significantly influence self-medication practices, with an overall weighted mean of 3.49, indicating that these factors are generally influential. The most highly rated items were obtaining immediate relief from symptoms or emergencies (WM = 4.06) and saving time that would otherwise be spent visiting a doctor (WM = 4.00). Financial considerations, particularly reducing expenses related to medical consultations (WM = 3.74), were also identified as highly influential. In contrast, difficulty in accessing healthcare services (WM = 2.73) and preference for traditional medicine (WM = 2.93) were rated as moderately influential.

Table 4. *Factors Associated with Self-Medication in Terms of Convenience*

Factors	Composite Mean	Descriptive Equivalent	Interpretation
I self-medicate to reduce expenses on doctor consultations.	3.74	Agree	Highly Influential
I self-medicate to save time that would be spent visiting a doctor.	4.00	Agree	Highly Influential
I self-medicate because healthcare services are difficult to access.	2.73	Neutral	Moderately Influential
I self-medicate to get immediate relief from symptoms or emergencies.	4.06	Agree	Highly Influential
I prefer using traditional medicine over modern medicine for treatment.	2.93	Neutral	Moderately Influential
Weighted Mean	**3.49**	**Agree**	**Influential**

These findings indicate that self-medication is primarily driven by practical considerations, especially the need for rapid symptom relief and time efficiency. The prominence of these factors suggests that respondents view self-medication as a manageable and effective response to common health concerns. Consistent with earlier studies, convenience and cost-related motivations remain strong predictors of self-medication behavior in urban and semi-urban settings (Pillai & Sivaperumal, 2024; Tohan et al., 2024; Obhai, 2025). The relatively lower influence of healthcare accessibility suggests that self-medication in this population is not solely a response to barriers in service availability but is also shaped by personal preferences for immediacy and self-reliance. Similarly, the moderate preference rating for traditional medicine indicates that cultural factors play a secondary role compared with pragmatic considerations. This pattern aligns with previous findings that modern medicine remains the primary choice in urban communities where conventional drugs are readily available (Valenzuela et al., 2025).

Factors Associated with Self-Medication in Terms of Convenience

Table 5 shows that the significance test confirmed that convenience factors significantly influence self-medication (composite mean = 3.49, $p < 0.05$). Respondents reported that convenience-related considerations, such as saving time and money or achieving immediate relief, strongly guided their decision to self-medicate. This reinforces the TPB principle that perceived behavioral control is a key determinant of behavioral intention, as individuals are more likely to engage in behaviors they perceive as manageable and accessible.

Table 5. *Significance of Factors Associated with Self-Medication in Terms of Convenience*

Factors	Composite Mean	Test Value (μ)	Interpretation	Statistical Decision	Conclusion
Convenience	3.49	3.00 (Neutral)	Agree/ Influential	Reject H_0	Significant

These findings align with previous studies demonstrating that convenience, affordability, and accessibility strongly influence self-medication behavior, particularly among individuals from low-income households or those with limited access to healthcare services (Obhai, 2025; Limwado et al., 2024). The rejection of the null hypothesis confirms the significant impact of convenience-related factors on self-medication practices, highlighting that greater perceived behavioral control is a critical determinant of mothers' self-care decisions.

Factors Associated with Self-Medication in Terms of Stigma and Fear

Table 6 shows that Stigma- and fear-related factors also influenced self-medication practices, with an overall weighted mean of 3.49, indicating that these factors were generally influential. Fear related to COVID-19 emerged as the most prominent driver, with respondents rating fear of testing positive (WM = 4.21) and fear of exposure in healthcare facilities (WM = 4.15) as highly influential. The belief that symptoms were mild and would resolve without professional care (WM = 3.88) also strongly contributed to self-medication decisions. Anxiety associated with medical consultations (WM = 3.06) and fear of social discrimination (WM = 3.39) were influential to a lesser extent. In contrast, lack of trust in doctors' prescriptions (WM = 2.07) and financial constraints (WM = 2.58) were rated as only slightly influential.

Table 6. *Factors Associated with Self-Medication in Terms of Stigma and Fear*

Factors	Composite Mean	Descriptive Equivalent	Interpretation
I avoid consulting a doctor because I feel anxious that my condition or symptoms may worsen during a medical consultation.	3.06	Agree	Highly Influential
I believe my symptoms are mild and will improve over time, so I choose to self-medicate.	3.88	Agree	Highly Influential
I self-medicate because I do not have health insurance or sufficient financial capacity to consult a doctor.	2.58	Disagree	Slightly Influential
I self-medicate because I lack trust in doctors' prescriptions.	2.07	Disagree	Slightly Influential
I avoid consulting a doctor because I am afraid of being exposed to COVID-19 in healthcare facilities.	4.15	Agree	Highly Influential
I self-medicate because I fear testing positive for COVID-19 when I experience symptoms such as a cough or a cold.	4.21	Strongly Agree	Very Highly Influential
I self-medicate because I fear being discriminated against if others find out about my illness.	3.39	Agree	Highly Influential
Weighted Mean	**3.49**	**Agree**	**Influential**

These findings suggest that psychosocial factors—particularly fear of disease exposure, diagnosis, and social labeling—play a substantial role in shaping self-medication behavior. Rather than reflecting general mistrust of healthcare providers, the results point to situational fears intensified by the COVID-19 context that discouraged formal healthcare-seeking and encouraged self-managed treatment. Similar patterns have been reported in previous studies, where fear, anxiety, and perceived stigma were associated with healthcare avoidance and increased reliance on self-medication (Barakat & Mohasseb, 2022; Hackman et al., 2024; Zheng et al., 2024). Furthermore, the results indicate that stigma and fear function as reinforcing factors that interact with perceived symptom severity and pandemic-related concerns, underscoring the need for public health strategies that address not only access and affordability but also fear reduction, risk communication, and stigma mitigation in promoting appropriate healthcare utilization.

Factors Associated with Self-Medication in Terms of Stigma and Fear Factors

Table 7 presents that the test of significance for stigma- and fear-related factors yielded a composite mean of 3.49, which is higher than the neutral test value of 3.00. This result indicates that stigma and fear significantly influence

self-medication practices among the respondents. Higher levels of agreement were particularly observed for items related to fear of COVID-19 exposure, fear of testing positive, and the perception that symptoms were mild and did not warrant professional consultation.

Table 7. *Significance of Factors Associated with Self-Medication in Terms of Stigma and Fear Factors*

Factors	Composite Mean	Test Value (μ)	Interpretation	Statistical Decision	Conclusion
Stigma and Fear	3.49	3.00 (Neutral)	Agree/ Influential	Reject H_0	Significant

Based on the statistical test, the null hypothesis was rejected, confirming that stigma and fear significantly affect self-medication behavior. This finding demonstrates that psychosocial concerns are not incidental but constitute meaningful determinants of mothers' decisions to self-manage illnesses. Rather than reiterating theoretical constructs extensively, the results suggest that fear-related attitudes and perceived social pressures operate as reinforcing influences that discourage formal healthcare-seeking. These findings highlight the importance of addressing fear, anxiety, and stigma—particularly those intensified during public health crises such as the COVID-19 pandemic—when designing interventions aimed at reducing inappropriate self-medication. Furthermore, the significant influence of stigma and fear underscores the need for health education and community-based strategies that promote accurate risk communication, reduce fear-driven avoidance of healthcare services, and encourage timely professional consultation.

Test of Association on Patterns of Self-Medication

Table 8 presents that the Chi-square goodness-of-fit test revealed a statistically significant difference in the distribution of self-medicated illnesses ($\chi^2 = 87.42$, $df = 9$, $p < 0.001$), indicating that respondents did not self-medicate uniformly across illness categories. Headaches, fever, coughs, and colds were self-medicated significantly more frequently, suggesting that symptom familiarity and perceived severity influence mothers' self-medication choices. Similarly, a significant difference was observed in the distribution of medications used ($\chi^2 = 56.18$, $df = 5$, $p < 0.001$), with NSAIDs and cough and cold preparations disproportionately used compared to other medications.

Table 8. *Chi-Square Test of Association on Patterns of Self-Medication in Terms of Type of Illness and Type of Medications*

Variable	χ^2 Value	*df*	*p*-value	Decision	Interpretation
Types of Illness	87.42	9	<0.001	Reject H_0	The distribution of illnesses self-medicated is significantly different.
Types of Medication	56.18	5	<0.001	Reject H_0	The distribution of medications used is significantly different.

These results indicate that self-medication behaviors are **selective rather than random**, guided by perceptions of symptom severity, prior experience, and medication accessibility. While the Theory of Planned Behavior (TPB) can help interpret these patterns—through attitudes toward self-treatment, perceived behavioral control, and social norms—the findings primarily highlight practical decision-making: mothers preferentially self-medicate for conditions considered minor or familiar, using medications that are easily obtained or socially accepted. Furthermore, the findings suggest that interventions promoting rational drug use should address both structural and behavioral determinants. Strategies could include community health education emphasizing safe medication practices, guidance on recognizing conditions that require professional care, and culturally sensitive messaging that takes into account prevailing social norms around self-treatment.

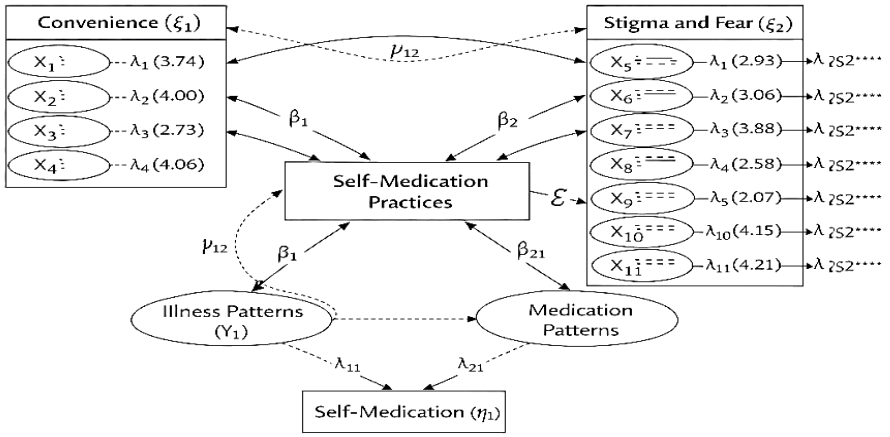
Structural Equation Model on Patterns of Self-Medication

The Structural Equation Model (SEM) assessing the determinants of self-medication practices demonstrated a good fit to the data ($\chi^2(110) = 204.42$, $p < 0.001$; CFI = 0.974; TLI = 0.966; RMSEA = 0.041; SRMR = 0.038), indicating that the hypothesized model adequately represented the observed relationships among variables. These fit indices satisfy conventional criteria for SEM (Hu & Bentler, 1999), confirming that the model provides a robust representation of the underlying constructs. Both latent constructs, Convenience and Stigma and Fear, had positive and significant direct effects on Self-Medication Practices, supporting the conceptual framework grounded in the Theory of Planned Behavior (TPB). Specifically:

Convenience, representing perceived behavioral control, captures respondents' beliefs about the ease of accessing medications, cost savings, time efficiency, and their ability to self-manage illnesses. Higher scores on this construct were associated with increased likelihood of self-medication, consistent with TPB predictions that perceived control enhances behavioral intention and execution.

Stigma and Fear, reflecting elements of attitudes toward the behavior and subjective norms, encompass psychosocial concerns such as fear of disease exposure, social judgment, or discrimination when seeking formal healthcare. Elevated fear and perceived stigma significantly increased the probability of self-medication, illustrating the role of affective and normative beliefs in shaping health behavior.

All observed indicators loaded significantly on their respective latent constructs, confirming that the items effectively measured the intended dimensions of convenience and stigma/fear. The positive correlation between Convenience and Stigma and Fear further suggests that structural (practical) and psychosocial factors interact to influence self-medication behavior, highlighting the multifaceted nature of decision-making among mothers in core-shelter communities. These results provide empirical support for TPB: attitudes (Stigma and Fear), subjective norms (community practices and social influences), and perceived behavioral control (Convenience) collectively explain self-medication behavior. Interventions to promote rational use of medicine should therefore target enhancing perceived control over safe practices, modifying attitudes toward professional care, and addressing social and psychological barriers that encourage self-medication.



χ^2 (110) = 204.42, p < 0.001, CFI = 0.974, TLI = 0.966, RMSEA = 0.041, SRMR = 0.038

Figure 3. *Structural Equation Model of Self-Medication Practices*

Model Fit Indices and Justification

Table 9 presents the adequacy of the Structural Equation Model (SEM), which was evaluated using multiple goodness-of-fit indices, consistent with best practices in SEM reporting, to assess how well the hypothesized model fit the observed data. Given the chi-square (χ^2) statistic's sensitivity to sample size, a combination of absolute, incremental, and parsimonious fit indices was used to provide a more comprehensive evaluation of model fit. The chi-square test of model fit was statistically significant ($\chi^2(110) = 204.42$, $p < 0.001$). Although a significant chi-square traditionally indicates model misfit, this statistic is widely recognized as highly sensitive to sample size and minor deviations in the model. Consequently, reliance solely on the chi-square test is discouraged in SEM evaluation, particularly in behavioral and social science research. To address this limitation, incremental fit indices were examined.

Table 9. *Goodness-of-Fit Indices of the Structural Equation Model*

Fit Index	Value	Recommended Cutoff	Interpretation
χ^2 (df)	204.42 (110)	—	Sensitive to Sample Size
CFI	0.974	≥ 0.95	Excellent Fit
TLI	0.966	≥ 0.95	Excellent Fit
RMSEA	0.041	≤ 0.06	Close Fit
SRMR	0.038	≤ 0.08	Good Fit

The Comparative Fit Index (CFI = 0.974) and Tucker–Lewis Index (TLI = 0.966) both exceeded the recommended threshold of 0.95, indicating an excellent fit between the hypothesized model and the observed data. These indices compare the proposed model to a null (independence) model and are less affected by sample size. Absolute and parsimonious fit indices further supported model adequacy. The Root Mean Square Error of Approximation

(RMSEA = 0.041) was below the commonly accepted cutoff of 0.06, suggesting a close approximation of the model to the population covariance matrix. Additionally, the Standardized Root Mean Square Residual (SRMR = 0.038) was well below the recommended threshold of 0.08, indicating minimal residual discrepancies between observed and predicted correlations.

Conclusion

The study concludes that both Convenience and Stigma and Fear are significant determinants of self-medication practices among respondents. Higher perceived convenience, such as saving money and reducing consultation time, and greater psychosocial concerns, including fear of illness exposure and social stigma, were found to increase the likelihood of self-medication. Respondents predominantly self-medicated for common, non-life-threatening conditions like headaches, fever, and coughs, using primarily NSAIDs and cough and cold preparations. These findings indicate that structural factors (accessibility and convenience) and psychosocial factors (stigma and fear) jointly influence self-medication behaviors, highlighting the multifaceted nature of health decision-making in the community. Based on these findings, it is recommended that community-based health education programs be implemented to raise awareness about the risks of inappropriate self-medication and the safe use of medications, particularly antibiotics. Efforts should also focus on improving access to affordable and timely healthcare services, such as through mobile health clinics or extended consultation hours, and on addressing psychosocial barriers by reducing fear and stigma associated with seeking medical care. Additionally, local health authorities are encouraged to regulate medication dispensing more strictly to prevent misuse, and further research should explore longitudinal changes in convenience and psychosocial perceptions and their impact on self-medication practices.

Contributions of Authors

The author conceptualized the study, designed the research, collected and analyzed the data, and prepared and finalized the manuscript.

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Conflict of Interests

The author declares no conflict of interest regarding the publication of this study.

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