

Analysis of the Application of the WWHAM Method in Self-Medication Services to Patient Satisfaction at the Healthy Star Pharmacy in Blitar District

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ABSTRACT

Self-medication is the practice of self-medication without a doctor's prescription to treat minor complaints without a doctor's prescription. This study aims to analyse the effect of applying the WWHAM (Who, What, How Long, Action, Medication) method on patient satisfaction in self-medication services in Blitar Regency. The research method used a quantitative approach with a cross-sectional design, this study involved 360 respondents. Data were collected through observations and questionnaires based on the SERVQUAL dimension, and analysed using the Spearman Rank correlation test. The results showed a significant relationship between the implementation of WWHAM and patient satisfaction ($r: 0.272$, $p: 0.000$). Tangible, responsiveness and assurance dimensions obtained the highest level of satisfaction. The conclusion is that there is a correlation between quality and satisfaction. This shows that the more complete and precise the application of the WWHAM method by pharmacists, the level of patient satisfaction with self-medication services will also increase.

KEYWORDS: Self-medication, WWHAM, Patient Satisfaction, Pharmacy

INTRODUCTION

Self-medication is the practice of self-medication without a doctor's prescription that is commonly practiced by the community to treat minor complaints such as fever, cough, dizziness, or indigestion (Warastuti, R.A., 2023). If done properly, self-medication can help improve the efficiency of the national health system and reduce the burden of health service costs (Fadhilla et al., 2021). However, self-medication that is not accompanied by good understanding has the potential to cause misdiagnosis, drug interactions, serious side effects, and delays in medical treatment (Subekti et al., 2024).

The high practice of self-medication in the community is influenced by limited access to health services, high prices for doctor's therapy, and the ease of obtaining drugs at pharmacies (Setiawan, 2020). Therefore, pharmacists play an important role in ensuring that self-medication is carried out safely and effectively, especially through good communication and appropriate information gathering. The main purpose of the practice of self-medication is to provide convenience, efficiency, and reduce the burden on health care facilities, especially for minor complaints (Hadi Sulistyaningrum et al., 2022).



The practice of self-medication is widespread in Indonesia, with data from BPS (2023) showing that 79.74% of people do it, especially young adults and women (Fathnin et al., 2023; Hadi Sulistyaningrum et al., 2022). Self-medication is considered efficient, but still risky if done without adequate knowledge, such as dosage errors or drug interactions (Manihuruk et al., 2024). Based on the figure above, it can be seen that the largest number of independent practices in regencies/cities in East Java were midwifery practices in 2022, with a total of 6,184.

To improve the quality of self-medication services in pharmacies, one effective approach is the application of the WWHAM method (Who, What, How long, Action, Medication) which helps pharmacists make quick and accurate assessments of patient complaints. The application of this method aims to ensure that the drugs given are right on target and improve patient understanding of drug use (Ballo et al., 2024). Several studies have shown that consistent application of WWHAM can improve service quality and patient satisfaction (Dianita et al., 2017; Setiawan, 2020).

Patient satisfaction is an important indicator in assessing the quality of pharmaceutical services. Factors such as the pharmacist's friendly attitude, speed of service, clarity of drug information, and availability of drugs greatly affect the level of satisfaction (Nisa et al., 2022; Yulianto, 2018). The paradigm shift from drug-oriented to patient-oriented requires pharmacies to focus more on patient satisfaction and needs in every aspect of service, including self-medication (Widyaningrum et al., 2022).

The application of the WWHAM method is in line with the Regulation of the Indonesian Minister of Health No. 73 of 2016, which confirms the function of pharmacies as drug information service centres (Widyaningrum et al., 2022). This study aims to analyse the application of the WWHAM method in self-medication services and its relationship with the level of patient satisfaction at Bintang Sehat Pharmacy in Blitar Regency (Fahruichsan et al., 2022).

METHODS

This study used a quantitative approach with a descriptive analytical cross-sectional design, aiming to analyse the application of the WWHAM method in self-medication services and its relationship with patient satisfaction. The study was conducted at the Bintang Sehat Pharmacy in Blitar Regency in April-May 2025. The sample consisted of 360 respondents selected using accidental sampling. The data collection instruments consisted of checklists, observations, and questionnaires based on the SERVQUAL dimensions (tangible, reliability, responsiveness, assurance, empathy). The questionnaire used was in accordance with Permenkes No.74 of 2016 concerning pharmaceutical service standards in Community Health Centres. Data analysis used the Spearman Rank correlation test ($\alpha = 0.05$) to determine the relationship between the implementation of WWHAM and patient satisfaction. The respondents involved were patients who came to the pharmacy for self-medication (without a doctor's prescription), aged ≥ 18 years, willing to be respondents and sign an informed consent form, and able to read and fill out the questionnaire independently.

Before use, the questionnaire was tested for validity and reliability on 30 respondents outside the research sample. The validity test results showed that all questions had an r-count

value $> r$ -table (0.361), so they were declared valid. The reliability test using Cronbach's Alpha produced a value of 0.872, indicating that the instrument was reliable.

The WWHAM implementation variable was measured based on five main indicators, namely Who, What, How Long, Action, and Medication, using a 1-4 Likert scale (1: not implemented, 4: very well implemented). The patient satisfaction variable was measured based on five SERVQUAL dimensions (tangible, reliability, responsiveness, assurance, empathy) using a 1-4 Likert scale (1: not satisfied, 4: very satisfied).

This study has obtained ethical clearance from the Health Research Ethics Committee of Strada Indonesia University with Number: 0523427/EC/KEPK/I/03/2025, as a form of assurance that the research was conducted in accordance with research ethics principles, including the principles of beneficence, non-maleficence, justice, and respect for the rights of research subjects.

RESULTS

This study involved 360 respondents, all of whom returned the questionnaires, which were then processed for further analysis. All respondents met the inclusion criteria, namely patients who came to the pharmacy for self-medication, were at least 18 years old, were willing to be respondents by signing an informed consent form, and were able to read and fill out the questionnaire independently.

The characteristics of the respondents showed that the majority were male (54.4%), while 45.6% were female. In terms of age, most respondents were in the 19-59 age group (70.6%), followed by those aged 18 (17.5%) and >60 (11.9%). Based on educational attainment, the majority of respondents were high school graduates (41.1%), followed by junior high school graduates (31.7%), elementary school graduates (23.3%), and university graduates (3.9%). Educational attainment influenced perceptions of service, with higher levels of education correlating with more critical and selective respondents in assessing service and product quality.

In terms of occupation, the majority of respondents worked as private employees (40.3%), followed by housewives (30.8%), farmers (15.6%), entrepreneurs (8.3%), students (4.4%), and civil servants/military/police (0.6%). This indicates that most respondents are individuals who actively participate in the private sector, which often provides flexible employment opportunities and represents a large portion of the working population in many developing regions. The high percentage of private employees may also reflect the growing dependence of the local economy on non-governmental institutions or small to medium-sized enterprises (SMEs).

The second-largest group, housewives, comprises nearly one-third of all respondents (30.8%). This suggests that a considerable portion of respondents are individuals who may not have formal employment but still play a crucial role in managing household affairs, including decisions related to health care, the purchase of medicines, and self-medication practices. Housewives often have direct contact with community pharmacies and are responsible for caring for family members, making their participation significant in studies involving health behavior or access to medication.

Furthermore, the proportion of farmers (15.6%) reflects the persistence of agriculture as one of the main livelihood sectors in the study area. Farming communities generally have varying levels of income depending on seasonal yields and market conditions, which could affect their ability to seek medical treatment or purchase medicines. Meanwhile, entrepreneurs (8.3%) represent individuals engaged in small-scale or independent businesses, a group that often has irregular income but may have greater autonomy in financial decision-making compared to salaried workers.

Students accounted for 4.4% of the total respondents, indicating the presence of a younger demographic group with higher educational exposure but typically lower economic independence. The smallest category, consisting of civil servants, military, and police personnel (0.6%), suggests that stable government employment is relatively rare in the area or among the surveyed population. This may also indicate limited representation from higher-income and more educated groups, which could influence the overall socioeconomic profile of the respondents.

In terms of monthly family income, the majority of respondents (96.1%) reported earning between IDR 1,000,000 and IDR 5,000,000 per month. This finding shows that most respondents belong to the lower-middle income group. Such income levels may be sufficient to cover basic household needs but leave limited flexibility for additional expenses, including healthcare and medication. Consequently, this group may be more inclined toward self-medication or cost-saving approaches when dealing with minor illnesses.

A smaller proportion of respondents (3.6%) reported a monthly income below IDR 1,000,000, placing them within the low-income category. These individuals are likely to face greater financial constraints that may limit access to professional healthcare services, thereby increasing their reliance on over-the-counter drugs and self-medication practices. Only a very small fraction of respondents (0.3%) had a monthly income exceeding IDR 5,000,000, representing the higher-income population segment. This minimal representation suggests that the study area is dominated by communities with modest to moderate economic conditions, and that wealthier individuals constitute a minority group within the population.

Overall, the occupational and income data indicate that the majority of respondents are economically active individuals with limited financial resources. This socioeconomic structure can have a significant impact on health-related behaviors, particularly in terms of medication purchasing patterns, accessibility to health facilities, and the tendency toward self-medication practices. Understanding the demographic and economic background of the respondents provides valuable context for interpreting subsequent findings in the study.

Visits to pharmacies revealed that most respondents had visited more than once, with 59.7% having visited 2–5 times and 34.7% more than 5 times. The purpose of purchasing medicines was generally for family members (53.6%), followed by for themselves (46.1%), and a small proportion for others (0.3%).

Table 1. Respondents Assesment Based on SERVQUAL Dimensions

Dimension	Veri Satisfied (%)	Satisfied (%)	Dissatisfied (%)
<i>Tangible</i>	42.5	53.3	4.2
<i>Reliability</i>	39.7	54.7	5.6
<i>Responsiveness</i>	41.1	54.2	4.7
<i>Assurance</i>	44.4	51.7	3.9
<i>Empathy</i>	37.8	56.4	5.8

Table 2. Spearman Correlation Test Between WWHAM Implementation and Satisfaction

WWHAM Method			
	N	P-Value	Nilai r
Patient Satisfaction	360	0.000	0.272

DISCUSSION

The results of this study indicate that the majority of respondents were male (54.4%), in contrast to Fathnin's (2023) study, which found a predominance of females. This difference may be due to the location of pharmacies being close to areas where men work. In terms of age, the productive age group dominates, particularly those aged 36-45 years (26.4%), reflecting a high level of awareness of self-medication practices.

Based on educational attainment, most respondents were high school graduates (41.1%), followed by junior high school graduates (31.7%). Educational attainment influenced patients' expectations and assessments, in line with the study by Syapitri et al. (2023), which stated that patients with higher education tended to be more critical of service quality.

In terms of occupation, private sector employees (40.3%) and housewives (30.8%) dominate. This indicates that self-medication is practised by both economically active groups and homemakers. In terms of income, the majority of respondents earn between Rp1 million and Rp5 million (96.1%), which shows that self-medication is an affordable option. Additionally, the high rate of repeat visits (59.7% visited 2-5 times) indicates patient loyalty to pharmacy services. The fact that most purchases were for family members (53.6%) also illustrates that self-medication is practised collectively within households.

The assessment based on the SERVQUAL dimensions shows that most respondents were satisfied with all aspects, especially assurance, where the friendliness and professionalism of pharmacists were well appreciated. The reliability dimension shows fairly high satisfaction with the clarity of information (58.9%) and speed of service (64.4%), although there is still a small amount of dissatisfaction. In terms of responsiveness, the pharmacists' responsiveness was rated very good, with the majority of respondents stating that they were satisfied or very satisfied. The tangible dimension was also appreciated, particularly in relation to pharmacy cleanliness and the availability of information media, although a small number of respondents felt that the information media was still inadequate. Meanwhile, the empathy dimension shows that the pharmacy's attention to patient comfort, for example through a comfortable waiting room, contributes to satisfaction.

Furthermore, the Spearman Rank test results showed a significant relationship between the application of the WWHAM method and patient satisfaction ($r = 0.272$; $p = 0.000$). Although moderate, this relationship confirms that the application of systematic communication through the WWHAM method has a positive impact on service quality. The application of WWHAM improves communication effectiveness, information clarity, interaction quality, trust, and service efficiency.

Overall, the results of this study indicate that the better the implementation of WWHAM, the higher the patient satisfaction. The tangible, responsiveness, and assurance dimensions are the factors that contribute most to satisfaction, emphasising the importance of adequate physical facilities, responsiveness in service, and the professional attitude of pharmacists. These findings are consistent with previous studies that state that the quality of patient-pharmacist interactions plays a major role in increasing patient satisfaction. Thus, the consistent implementation of WWHAM at Bintang Sehat Pharmacy has proven to be effective in improving the quality of self-medication services.

The limitations of this study include the fact that it was only conducted at one pharmacy, so the results cannot be generalised to the entire Blitar Regency. In addition, patient satisfaction was assessed using a subjective questionnaire without direct observation of pharmacist-patient interactions. Further research should involve more pharmacies and use mixed methods to produce more comprehensive results.

Practical implications: the results of this study can be used as a basis for pharmacists to improve the quality of self-medication services through the consistent application of the WWHAM method. The Blitar District Health Office can also use these findings to develop coaching and training programmes in pharmaceutical communication for pharmacists, in order to strengthen pharmaceutical service standards in accordance with Minister of Health Regulation No. 73 of 2016.

CONCLUSION

Based on the results of research on the application of the WWHAM method in self-medication services at Bintang Sehat Pharmacy in Blitar Regency, it can be concluded that the application of the WWHAM method in self-medication practices affects patient satisfaction, with a correlation coefficient value of 0.272 and significance of 0.000 ($p < 0.05$), which means that the relationship is statistically significant, although only moderately so. This indicates that the more complete and accurate the application of the WWHAM method by pharmacists, the higher the level of patient satisfaction with self-medication services.

Based on the results of the study, the application of the WWHAM method in self-medication services at Bintang Sehat Pharmacy in Blitar Regency has a significant relationship with patient satisfaction levels ($r = 0.272$; $p = 0.000$). This shows that the better the application of WWHAM steps by pharmacists, the higher the level of patient satisfaction with the services received.

Practically, the application of the WWHAM method can be used as a standard for pharmacist communication in self-medication services to increase patient trust and satisfaction. Scientifically, these results confirm the importance of a systematic and patient-oriented approach in pharmaceutical practice at pharmacies.

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