Biomedical & Pharmacology Journal, December 2022. Vol. **15**(4), p. 2193-2201

Patient Satisfaction Level with Self-Medication Services by Pharmacists During The COVID-19 Pandemic in Rembang District, Central Java, Indonesia

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https://dx.doi.org/10.13005/bpj/2556

(Received: 30 April 2022; accepted: 04 November 2022)

Self-medication is a person's effort to treat symptoms of illness or disease that arise independently without consulting and taking treatment to a doctor. The purpose of this study was to determine patient satisfaction with self-medication services by pharmacists at pharmacies during the COVID-19 pandemic in the Rembang District. This research is a quantitative descriptive observational research with a cross sectional research design. To find out satisfaction with service quality, we used the service quality approach with SERVQUAL (service quality) questionnaire. SERVQUAL measures the difference between customer expectations and perceived service quality based on five dimensions of service quality, namely reliability, responsivenes, empathy, assurance, and tangible evidence. The research instrument used was a validated questionnaire and the research respondents were self-medicated patients who met the inclusion criteria of the study. Data collection was carried out in March-May 2021 in Rembang District, Central Java. Obtained 100 patients who have met the inclusion criteria. The results showed that the mean gap score was (-0.15 ± 0.086). The level of dissatisfaction in the five service dimensions were follows assurance (-0.27), reliability (-0.22), tangible (-0.12), empathy (-0.08), and responsiveness (-0.04) with a statistically siginificant difference value is service reliability (0.019) and assurance (0.021) <0.05. The patient satisfaction level with self-medication services by pharmacists at the Rembang District pharmacy as a whole was 96%. The conclusion in this study was the level of patient satisfaction was satisfying.

Keywords: Level of satisfaction; Pharmacy; Self-medication; Servqual.

Based on the authority in laws and regulations, pharmaceutical services have evolved from a focus on drug management (drug orientated) to a broader range of services that include drug services and clinical pharmacy services targeted at enhancing patients' quality of life[1]. The pharmacist's purpose or responsibility in self-medication, according to WHO, is as a communicator, a provider of quality medicine, supervisors and trainers, collaborators, and health promoters[2]. One of the tasks of pharmacists is to provide accurate medication information. The pharmacist should provide information on the drug's dosage form, therapeutic impact, how to administer it, the dose, frequency of use, maximum dose, duration of use, and any adverse effects that may developed and require medical care[2]. Pharmacist also should offer information about other drugs, foods and activities that should be avoided while taking medicine, drugs storage,

what do you do if you forget to take your medicine, disposal of expired medicine, and the goal of using the medicine[2] . If pharmacists perform these tasks and responsibilities appropriately, the community will construct a good perception of pharmacist. One of these evaluations takes the form of satisfaction. As stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 73 of 2016 about Standards of Pharmaceutical Services in Pharmacies[1], the level of satisfaction could also be used as an indicator to evaluate service quality.

Self-medication is becoming popular in both developed and underdeveloped nations. Self-medication is part of the community's attempts to stay healthy[3]. Self-medication has a propensity to expand and become a community-accepted alternative since self-medication is deemed cheaper and more practical with the increasing number of conveniently accessible pharmacies and drug information[4,5]. According to the results of the 2014 National Socio-Economic Survey, 61.05% of the Indonesian population used self-medication. This suggests that the Indonesian populace practices a significant level of self-medication[6]. According to Onchonga et al., 2020 research on the interest in self-medication during the COVID-19 pandemic, there has been a significant surge worldwide after the pandemic was proclaimed. This would indicate a global surge in interest in self-medication[7]. During the COVID-19 pandemic, several approaches were found to fight the viral infection and the pharmaceutical industries is inexplicable, so that people start prevention for a better cure[8,9].

To facilitate the community in preventing health problems, pharmacists need to provide services to support patient self-medication. Pharmacist services must also be in accordance with the patient's expectations of his health problems. Therefore, a study was conducted to analyze the gap between patient's satisfaction and the services of pharmacist must be conducted[10,11]. We used the SERVQUAL service quality technique to determine customer satisfaction with service quality (service quality). SERVQUAL is the discrepancy between what customers anticipate and what they experience as service quality. The SERVQUAL satisfaction paradigm has five dimensions: physical evidence (tangible), reliability, responsiveness, assurance, and empathy[10].

MATERIAL AND METHODS

This study is a quantitative descriptive study using a cross-sectional design. A questionnaire with 21 statement questions is used to measure expectations and performance, which is created using a Likert scale. The data utilised is original data collected through the completion of a verified questionnaire. The research was carried out in the Rembang District between March and May of 2021. The patients in this research were self-medicated at pharmacies in the Rembang District region during the Covid-19 epidemic.

Patients were among the inclusion criteria. Patients who have visited pharmacies in the Rembang District to purchase self-medication medications (free pharmaceuticals and restricted over the counter drugs), patients aged 18-60 years, and patients ready to complete questionnaires. Respondents who did not complete the questionnaire fully were excluded.

Purposive sampling is used as a non-probability sampling strategy. In this case, it was chosen based on specific considerations specified by the study objectives. The Lameshow formula[11] is used to compute the needed sample size, which is as follows:

$$n = \frac{Z^2{}_{(1-\alpha/2)} P(1-P)}{d^2}$$

Description :
n = number of samples
Z^2 1-α/2 = degree of confidence (1.96)
P = proportion of patients, if the proportion is not known, set 50% (0.5)
d = degree of deviation from the desired population (10% = 0.1)

A sample size of 100 patients was collected. The validity and reliability of the questionnaire instrument were tested using the IBM SPSS Statistics 22 computer software. The face validity and content validity were also tested in this study. Bivariate Pearson correlation (product of Pearson's moment) is used to examine the validity of the questionnaire by associating each item's score with a total score, whereas Cronbach's Alpha coefficient is used to test the reliability. Importance Evaluation The SERVQUAL idea, which evaluates the degree of customer expectations (customer

expectations) connected with what the organisation should do to provide high quality products or services, inspired the improved Performance Matrix (Matrix of expectations and performance). The difference between the performance value and the service quality is used to analyse service quality.

The discrepancy between the performance value and the predicted value is used to analyse service quality. The SERVQUAL value for each statement is calculated as the reality value/score less the expected value/score. To determine the mean value of patient satisfaction, compare the mean performance value to the mean of expectation value. It is intended that by employing the idea of degree of importance, we would be able to capture a more accurate sense of the significance of these factors in the prespective of patients. The relevance of this characteristic as perceived by the patient is then related[2,6].

RESULTS AND DISCUSSION

The questionnaire validity test results show that the value of r table for a sample of 30 respondents with a 5% significance level is 0.3061. This signifies that the question is legitimate if the person's bivariate value is greater than 0.3061. The questions given to 30 respondents in this study were deemed genuine. The reliability test findings reveal that the Cronbach's alpha coefficient for items in the statement of level of expectation is 0.897 and for items in the statement of level of performance is 0.928. Whether this value is higher than 0.6, the questionnaire is regarded to be dependable and acceptable to be used as a research tool.

At this study, 100 patients self-medicate in pharmacies in the Rembang sub-district, Rembang Regency, Central Java. According to patient demographic data, 35% were male and 65% female. The largest patient sample's last education level is high school (52%), the gender of the patient who performs self-medication is female (65%), the occupation of the patient who performs self-medication is student/student (41%), and drug purchases during self-medication are served by pharmacy employees (84%). Table 1 displays patient demographic information.

According to the study findings, the majority of the samples with the most recent education level of respondents include senior high (52 respondents), junior high (18 respondents), and higher education (vocational graduate or under graduate school) (16 respondents). This is consistent with a World Self Medication Industry study and research by Onchonga et al., 2020, which found that self-medication behaviour increased in the population with higher education levels both before and after the COVID-19 outbreak[7,11,12]. The majority of patients in this research were female, accounting for 65% of the total. This is consistent with a research done by Ochonga et al., 2020, which found that female patients tended to self-medicate more before and after the COVID-19 outbreaks[12].

According to Pariyana et al., research's students are the most likely to engage in self-medication. This is due to the fact that a high degree of work, stress, and an unhealthy lifestyle can lead to disease and self-medication. During the COVID-19 pandemic, the illness most commonly treated by the population with self-medication

Table 1. Patient Demographic Data

Characteristics	n (%)
Gender	
Man	35 (35%)
Woman	65 (65%)
Age	
18-28	65 (65%)
29-39	12 (12%)
40-50	14 (14%)
51-60	9 (9%)
Level of education	
No school	3 (3%)
Elementary school	11 (11%)
junior high school	19 (19%)
senior High School	52 (52%)
Vocational graduate	5 (5%)
Under graduate	11 (11%)
Magister	0 (0%)
Doctoral	0 (0%)
Work	
Student/student	41 (41%)
entrepreneur	12 (12%)
Private sector employee	20 (20%)
civil servant	0 (0%)
Housewife	17 (17%)
Etc	10 (10%)
Drug buying clerk	
Pharmacist	16 (16%)
Pharmacy Employees	84 (84%)

Table 2. Gap Value of 21 Statements Questionnaire

Dimension	Statement	Hope Score	Performance Score	gap
Reliability	1. The pharmacist will provide information about the name of the drug you need	4.65	4.45	-0.20
	2. The pharmacist will provide information about the strength/dose of the drug you need.	4.44	4.17	-0.27
	3. Pharmacists provide information on how to use the drug.	4.57	4.38	-0.19
	4. Pharmacists provide information on how to store drugs	4.2	3.93	-0.27
	5. There is information about the actions to be taken with the remaining drugs	4.03	3.84	-0.19
	6. The pharmacist conveyed about the side effects that arise after taking the drug.	4.52	4.12	-0.40
	7. Drug information services use language the respondent can understand	4.55	4.39	-0.16
	8. Pharmacists provide information about activities that must be avoided related to drug use	4.53	4.21	-0.32
	9. Pharmacists respond quickly and responsively when serving respondents	4.44	4.36	-0.08
	10. Pharmacists provide written drug information if the respondent does not really understand	4.30	4.17	-0.13
Responsiveness	11. The pharmacist gives a demonstration on how to use the drug without the respondent having to ask	3.72	3.79	0.07
	12. Each respondent's complaint is resolved quickly	4.41	4.25	-0.16
Empathy	13. The clerk at the pharmacy wears neat clothes	4.33	4.41	0.08
	14. Drug information is given without the respondent having to ask	4.40	4.19	-0.21
	15. Pharmacists are friendly and polite in providing drug information	4.58	4.50	-0.08
Tangible	16. There is a special room for drug information services	3.88	3.80	-0.08
	17. Comfortable drug information service room	4.30	4.14	-0.16
Assurance	18. Pharmacists provide easy-to-understand rules of use	4.55	4.44	-0.11
	19. The drug information provided is accurate and can be accounted for	4.64	4.32	-0.32
	20. Pharmacists have sufficient knowledge and ability in providing drug information	4.54	4.35	-0.19
	21. There is a guarantee if an error occurs in the drug information service	4.52	4.07	-0.45

were fever (56%), common cold (54%), and cough (53%). This is due to the prevalence of self-medication in the population for minor conditions such as pain, ulcers, fever, flu, cough, and others[13,14,15].

Questionnaire results was analyzed and table 2 belows displayed the findings of the 21 statement gap values. The findings of the five dimension gap analysis and degree of satisfaction are shown in table 3. The results of the satisfaction analysis with the *important and performance* matrix diagram can be seen in Figure 1.

The first dimension is reliability, or the capacity to perform the promised service in such a rapid, accurate, and pleasant manner[16]. One of the statements on this dimension, "the pharmacist conveys about side effects that occur after taking the drug," has the largest gap value of -0.40, indicating that the patient's expectations are high enough for the pharmacist to provide information about side effects that occur after using the drug when the patient self-medicates at the pharmacy. This is because if the patient does not receive adequate information on the effects of the medicine, it is probable that the patient will

Table 3. Average Gap Analysis Results and Level of Satisfaction

Dimension	Average performance	Average expectations	gap	Satisfaction	*P value*
Reliability	4.20	4.42	-0.22	0.95	0.019*
Responsiveness	4.02	4.06	-0.04	0.99	1,000
Empathy	4.36	4.43	-0.08	0.98	0.897
Tangible	3.97	4.09	-0.12	0.97	0.439
Assurance	4.29	4.56	-0.27	0.94	0.021*
Average	4.16±0.17	4.31±0.22	-0.15±0.086	0.96	

*significance value <0.05

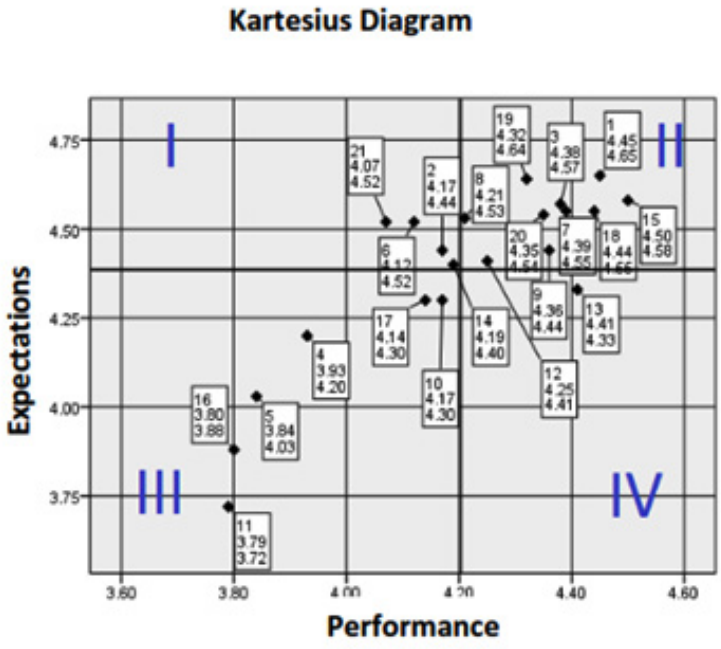

Fig. 1. Diagram of the importance & performance matrix of patients who do self-medication in pharmacies

be concerned about unpleasant side effects while taking the drug, which will result in new health problems for the patient.

The second component is responsiveness, which is defined as pharmacist eagerness to assist customers and offer services in a timely manner[6]. One of the statements on this dimension, "Every respondent's complaint is handled swiftly," has the highest gap value of -0.16, indicating that the patient's expectations are high enough that the pharmacist is able to rapidly give the best answer to the respondent's complaint. In this instance, the function of pharmacist as a communicator while practising self-medication is critical in order to offer direction to patients and help them overcome their concerns[6,16,17].

The third dimension is empathy, the ease in the relationship, personal attention, understanding the needs of its customers[6,17]. One of the statements on this dimension is "Drug information is given without the respondent having to ask" which has the largest gap value of -0.21 indicating that the patient's expectation is that as long as the patient does self-medication, the pharmacist is expected to provide drug information without the respondent having to ask. This is intended so that patients know important information about drugs and increase patient knowledge about drugs that will be consumed by patients.

The fourth dimension is direct evidence *(tangible),* direct evidence can be seen from physical facilities, equipment, and employees[6,18]. One of the statements in this dimension is "Comfortable drug information service room" has the largest gap value, which is -0.16 indicating that patients have high expectations for the drug service room to be made as comfortable as possible so that self-medication takes place properly. This is intended so that patients can easily ask questions and receive explanations about drug information without being disturbed by any discomfort.

The fifth dimension is the guarantee *(Assurance)* , covers the knowledge, skills, politeness and trustworthy attitude which is owned by the employees[6]. One of the statements in this dimension is "There is a guarantee in the event of an error in drug information services" which has the largest gap value of -0.45 indicating that the patient's expectations are high regarding the certainty of guarantees if during self-medication an error occurs in the drug information service. In conveying drug information, it is important for a pharmacist to equip himself with knowledge and skills based on scientific sources so that the drug information conveyed is guaranteed to be valid. This also indicated that patients always expect that the drug information provided by pharmacists when performing self-medication services is accurate, unbiased, and reliable.

According to an evaluation of the five SERVQUAL dimensions, the dimension of the guarantee (assurance) seems to have the highest median gap. This demonstrates that respondents appreciate the availability of self-medication drug information services in pharmacies, and performance on this dimension must be examined in order to achieve results that meet respondents' expectations. This analysis' findings differ from Helni's in that the dimension of dependability has the largest average disparity[16].

The research data was divided into four quadrants, namely Quadrants I, II, III, and IV as illustrated in Figure 1. The first quadrant was quadrant I, which is located in the upper left corner. This quadrant was known as the "top priority" quadrant because it has the expected signs by the patient, but the pharmacy's performance was low, therefore it becomes the priority primary for in repair. The first quadrant group includes statements 2, 6, 14, and 21. The inclusion of these four items in the first quadrant is due to the respondents' high average level of education, which causes a high level of interest about the information supplied to the pharmaceuticals received. However, the patient feels that the supply of this information at pharmacies was currently quite limited.

The second quadrant was quadrant II, which is located in the upper right corner. This quadrant was known as the "maintained" quadrant since it contains indications of patient expectations and service performance pharmacy is high, the indicators in this quadrant must be maintained. This demonstrated that the degree of patient satisfaction was greater than in the first quadrant. This quadrant contains statements 1, 3, 7, 8, 9, 12, 15, 18, 19, and 20. Statements in this quadrant indicate that the pharmacist performed their tasks in accordance with the requirements for pharmaceutical services in pharmacies.

The third quadrant covers variables that patients perceive less significant, and pharmaceutical service performance was poor. This quadrant included statements 4, 5, 10, 11, 16, and 17. These remarks are crucial for pharmacists to make in order to ensure that patients utilise their medications correctly, but patients believe them to be less significant. This demonstrated that what pharmacists believe vital may not be considered important by patients. A lack of drug education may be a contributing factor. As a result, pharmacists must play a role in improving performance on these aspects so that patients can experience the actual advantages of these variables.

The fourth quadrant covers variables that patients deem less significant, and while pharmaceutical service staff performance was high, the indicators mentioned in this quadrant are considered sufficient by the patient. Statement 13 was located in the fourth quarter. In this indication, the patient evaluated the absence of benefit from the pharmacy's services.

According to the data obtained, the assurance dimension has an average performance value and an average expectation of 4.29 and 4.56, respectively, with an average gap value of -0.27, the largest average value of the gap compared to the other dimensions. This demonstrates that respondents believe that assurances in drug information services are required if a mistake occurs when giving medication information. In response, pharmacists must arm themselves and their employees with good drug information and must stay updated on the latest drug information. The average performance and total expectation are 4.16 and 4.31, respectively, with a -0.15 average difference. This demonstrates that the respondent's expectations are higher than the pharmacist's perceived performance, implying that the patient expects a higher level of service than the pharmacist provides. However, only the reliability (0.019) and assurance (0.021) aspects of the Mann Whitney U test statistical test revealed a significant difference between the performance score and the expectation score ($p<0.05$). This demonstrates that patient expectations are much higher on both dimensions than the performance of information service providers at pharmacies where patients self-medicate.

According to Immas' research, patient perceptions in self-medication consultations indicated that pharmacist services were still lacking, with a presentation of 37.88%, whereas patient perceptions in self-medication advice at pharmacies indicated that pharmacist services had been carried out, with as much as 82.25% stating that pharmacist services had been carried out. However, just because a variable isn't significant to the patient doesn't imply it shouldn't be provided by pharmacists as pharmaceutical service providers, such as information on drug side effects and drug interactions[17]. According to Ellya et al research's self-medication pharmacy services in Gresik pharmacies are fairly satisfactory in the opinion of customers[18]. According to Helni research, consumers in Jambi city pharmacies are happy with pharmacy pharmacy services on five dimensions: tangibles (direct proof), responsiveness, dependability, assurance (guarantee), and empathy[16]. According to Nikmatuzaroh et al., some of the patients' expectations for pharmaceutical services at the pharmacy in the Yogyakarta City region were met with an average expectation and performance gap of -0.06 and a reasonably high degree of satisfaction[19]. So the results in this research where the level of patient satisfaction 96% is included in the high criteria, showing results similar to pharmacist services in yogyakarta pharmacies and better conditions than pharmacist services in the Surabaya and Gresik areas.

The compatibility between patient expectations and the reality/performance level of giving information on self-medication services is still lacking in this study. The performance of pharmacies is evaluated, including who offers information in addition to pharmacists. Pharmacists, as the persons in charge of giving information in pharmacies and the best qualified to provide information, must improve their performance in order to provide appropriate drug information services, because this is ultimately the duty of pharmacists, who are governed by WHO and FIP[13,14].

Limitation of Study and Strengths

There are various drawbacks to this study. First, because the study was cross-sectional in design, it was unable to determine the causation of the outcome of interest. Second, the patient satisfaction survey relied on participants' self-

reports and did not measure their reactions to changes in technical quality. It is generally known that self-reporting is susceptible to response bias. Third, because this study only evaluated patients who visited the pharmacy after pandemic and although the number of patients who visit the pharmacy is still limited because many people still buy online medicines, therefore the total number of respondents is indeed 100. It may not accurately reflect the overall quality of service at the pharmacy.

The study's strength is based on the fact that it used SERVQUAL model theory, which has been evaluated in several research on patient / respondents satisfaction and shown substantial results. In addition, the SERVQUAL questionnaire was employed in this study, which is a standardised technique for measuring service quality in a variety of situations.

CONCLUSION

The results showed that the mean gap score was (-0.15 ± 0.086). The level of dissatisfaction in the five service dimensions were follows assurance (-0.27), reliability (-0.22), tangible (-0.12), empathy (-0.08), and responsiveness (-0.04) with a statistically siginificant difference value is service reliability (0.019) and assurance (0.021) <0.05. The patient satisfaction level with self-medication services by pharmacists at the Rembang District pharmacy as a whole was 96%. The conclusion in this study was the level of patient satisfaction was satisfying.

ACKNOWLEDGEMENT

Thank you to all those who have helped to carry out this research. To all respondents who are domiciled in the District of Rembang, who have been pleased to fill out this questionnaire. Thanks are also given to the pharmacy in the Rembang area where our research is located.

Conflict of Interest

There are no conflicts of interest.

Funding Sources

There is no funding source for this project.

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