
Evaluation Quality of Information, Education and Communication (IEC) Services at Pharmacy X in Semarang

Andiswara Pramesti¹, Wulan Kartika Sari^{2*}

^{1,2} Sekolah Tinggi Ilmu Farmasi Yayasan Pharmasi Semarang

*Corresponding Author : wulankartika06@gmail.com

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Abstract . Satisfaction is a customer response to services that can meet needs and expectations. Patient satisfaction is a top priority that depends on the quality of pharmaceutical services provided. To increase patient satisfaction and patient understanding of the use of drugs, it is necessary to deliver Information, Education and Communication (IEC) which plays an important role in pharmaceutical services. This study aims to determine the characteristics of respondents who get (IEC) services and to determine the level of patient satisfaction with IEC services at Pharmacy “X” in Semarang. The sampling technique used was purposive sampling. This study uses a crosssectional descriptive quantitative data analysis methods. The results of data analysis of respondent characteristics show that most are female with ages 36-45 years, have a high school education, work as private employees, and are BPJS members. The measurement results on IEC services at Pharmacy “X” in Semarang show that of the five dimensions of service quality the percentage was very satisfied with an average of 84,48%. Pharmaceutical service in pharmacies are supported by pharmaceutical personnel who have information, education and communication on drug use thereby increasing the accuracy of drug use and the success of patient therapy.

Keywords: Pharmacy X, Patient Satisfaction, Semarang City, IEC service

INTRODUCTION

Pharmacy is a service facility used by pharmacists to practice pharmacy. Pharmaceutical services are one form of healthcare provided in pharmacies. These services aim to improve patients' quality of life by ensuring appropriate, safe, and effective treatment. Furthermore, providing high-quality services is crucial to ensuring patient satisfaction. To improve patient satisfaction and understanding of medication use, it is necessary to deliver Information Education and Communication (IEC) is necessary, which plays a crucial role

in pharmaceutical services ensuring that drug information is conveyed correctly, enabling patients to use medications appropriately [1].

IEC is a process of conveying information carried out by pharmacists to patients or patient families to provide opportunities and help increase knowledge, understanding, so that patients or patient families gain confidence in the proper use of drugs, including self-medication. Conveying information about drug use is very important because pharmaceutical services have undergone many changes from previously being drug-centered to patient-centered. This aims to increase the effectiveness of treatment, optimize treatment results, and enable patients to take prescribed medications regularly and correctly to achieve the desired therapeutic results. In addition, providing effective, clear, and appropriate impact can create patient satisfaction with the services provided at the time of drug dispensing [2].

Satisfaction is a customer response to services that meet their needs and expectations. Satisfaction is related to the quality of service. Patient satisfaction is determined by the patient's perception of the quality of service received and its conformity to their expectation. Pharmacist can explain the correct medication usage rules, dosage, and possible side effect through appropriate communication with patients [3]. Therefore, as pharmaceutical personnel, it is necessary to improve and develop knowledge and skills so that they can communicate well directly during Drug Information Services (PIO) delivered to patients [4]. Many studies have been conducted on patient satisfaction with pharmaceutical services, but studies specifically assessing patient satisfaction with information, education and communication services at private pharmacies serving BPJS patient are limited, furthermore, there are differences in the result of previous studies regarding patient satisfaction with IEC implementation, so further research. Previous research at Pharmacy "X" in Bengkulu City found that patient satisfaction with IEC services was 76.13% in terms of reliability, 77.65% in terms of responsiveness, 79.23% in terms of assurance, 78.68% in terms of empathy, and 79.23% in terms of tangible evidence. These percentages indicate that patients are satisfied with IEC services at Pharmacy "X" in Bengkulu City. Based on this background, the researcher is interested in conducting an evaluation of the level of patient satisfaction at Pharmacy "X" in Semarang related to IEC services.

METHODS

This study uses a cross-sectional descriptive quantitative data analysis method to evaluate all collected data, with the results presented in the form of a frequency distribution table. The sample used in this study were patients who received Information, Education, and Communication (IEC) services at Pharmacy "X" in Semarang. The sampling technique used in this study was purposive sampling, a method of selecting samples from among the population based on the objectives and characteristics of the study that have been determined by the researcher [1].

This research was conducted at Pharmacy "X" in Semarang in August 2024. The population at Pharmacy "X" in Semarang was 5,926 patients, representing the number of patient visits over the past three months. This study used a sample of 100 patients, obtained using the Slovin formula with a 10% margin of error due to the limited data collection period at the pharmacy.

The inclusion criteria for this study are : patients aged 17 years and over, patients filling prescriptions with BPJS and general insurance coverage at Pharmacy "X" in Semarang during August 2024, patients who agreed to participate as respondents and completed the questionnaire without coercion by providing Informed Consent (IC). The exclusion criteria for this study are : patients purchasing over-the-counter or non-prescription medications, patients who cannot read or write, patients purchasing disposable medical devices.

The data obtained in this study used primary data distributed directly to respondents in the form of a questionnaire containing questions regarding patient satisfaction levels and IEC services. This study involved respondents with characteristics including gender, age, education, occupation, and membership.

Questionnaire testing included validity and reliability tests to ensure the quality of the questionnaire for each question. Testing was conducted on 30 respondents. Questions were considered valid if the calculated r value $>$ r table (0.463) at a 10% significance level. A questionnaire is considered reliable or consistent if the Cronbach's Alpha value $>$ 0.07. Questionnaire data that had met the validity and reliability test criteria were then processed and analyzed through editing, scoring, and tabulating stages. Editing was done to ensure that the data was complete, scoring to determine the score for each answer, and tabulating to present the data in tabular form.

Data processing was performed by tabulation and analysis using percentages based on a Likert scale for each question indicator. To calculate the number of responses from respondents in measuring patient satisfaction with IEC services for each question indicator, the % index formula was used [2].

% Index Formula:

$$\% = \frac{\sum skor\ perolehan}{\sum skor\ maksimum} \times 100\%$$

Description:

\sum Score obtained = total of all respondents' answers for each question item

\sum Maximum score = highest Likert scale value \times number of respondents

Based on the percentage obtained, the results will then be divided into several categories, as follows :

Table 1. Categorization of IEC Satisfaction

Category	Percentage
Very Satisfied	81%-100%
Satisfied	60%-80%
Quite Satisfied	41%-60%
Dissatisfied	21%-40%
Very Dissatisfied	0%-20%

(Source: [3])

RESULT AND DISCUSSION

This study was conducted to evaluate the level of patient satisfaction with the, Information, Education and Communication (IEC) services provided by pharmaceutical personnel at Pharmacy x to patients by collecting data on the characteristics of respondents who received IEC services at Pharmacy "X" in Semarang in 2024. Respondents in this study were 100 with respondent characteristics including gender, age, last

education, and occupation. and participation. The following are the results of the respondent characteristics test that have been processed in table form:

Table 2. Responden Characteristic

Characteristic	Number
Gender	
Male	28
Female	72
Age (years)	
17-25	13
26-35	30
36-45	40
46-55	11
56-65	5
>65	1
Last Education	
Elementary School	4
Junior High School	4
Senior High School	55
College	37
Occupation	
Student	4
Civil Servant	2
Private Employee	57
Housewife	24
Others	13
Participation	
BPJS	97
General	3

Table 2 of the study shows that women made the most visits to Pharmacy "X" in Semarang, the high number of women using healthcare services is due to women being more susceptible to disease than men. This is because women are at greater risk of reduced endurance and immunity, and women are not only concerned about their own health but also the health of their families [4]. Women are 1,48 times more likely to self-medicate than men [5]. The most common age group is 36-45 years old, which falls into the late adult age category, where people have entered their productive phase and are employed, or are at risk of developing illness. Increasing age can lead to a decline in physical ability and endurance, which can impact health [6].

Most respondents had a high school education as their highest level of education. A higher level of education makes it easier for individuals to obtain and understand drug-related information, including instructions for use and dosage rules. Education plays an important role in shaping a person's perceptions and assessments of the quality of services provided, as it reflects their level of knowledge and abilities [7]. Respondents with private sector jobs were the largest group, occupation is a factor that can influence perceptions and assessments of something. People who have jobs tend to criticize and demand higher quality pharmaceutical services more often. Therefore, people with high-income jobs are more likely to demand services that can affect their level of satisfaction [8].

Most respondents who filled prescriptions at Pharmacy “X” in Semarang were BPJS participants, because BPJS plays an important role in helping to ease the burden of medical costs. BPJS Health patients do not need to pay for health services because every patient who uses a BPJS health card has paid their monthly bills in accordance with applicable policies [9].

Table 3. Results of Measurement of IEC Services at Pharmacy “X” in Semarang

No	Questions	Total Score	Percentage (%)	Category
1	Did the pharmacy staff show a friendly attitude when communicating with the patient?	437	87,4	Very Satisfied
2	Did the pharmacy staff communicate clearly with the patient?	435	87	Very Satisfied
3	Did the pharmacy staff match the patient’s identity with the identity on the prescription?	433	86,6	Very Satisfied
4	Did the pharmacy staff inform the patient of the name of the medication on the prescription?	426	85,2	Very Satisfied
5	Did the pharmacy staff explain the indication or purpose of the medication on the prescription to the patient?	425	85	Very Satisfied
6	Did the pharmacy staff explain the dosage instructions for the medication on the prescription to the patient?	443	88,6	Very Satisfied
7	Did the pharmacy staff provide information on how to use the medication to the patient?	438	87,6	Very Satisfied
8	Did the pharmacy staff explain the method of administering the medication to the patient?	424	84,8	Very Satisfied
9	Did the pharmacy staff explain the side effects of the medication given to the patient?	388	77,6	Satisfied
10	Did the pharmacy staff inform the patient of the duration of medication use?	406	81,2	Very Satisfied
11	Did the pharmacy staff explain possible interactions between the medication and food or other drugs to the patient?	397	79,4	Satisfied
12	Did the pharmacy staff communicate the expected outcomes of the treatment to the patient?	417	83,4	Very Satisfied
Average		422,41	84,48	Very Satisfied

Table 3 shows the results of the measurement of Drug Information and Education services at Pharmacy “X” in Semarang based on 12 indicator questions with result in the very satisfied category. The importance of IEC services regarding medications can serve as a measure of patient satisfaction to assess the success of drug information and education services provided by pharmacists or pharmacy staff at the time of medication dispensing. The highest percentage was found in the indicator assessing whether the pharmacy staff provided an explanations of the dosage instructions listed on the prescription, indicating that the IEC service provided was able to make repondents feel very satisfied. The level of knowledge and family support is very important for patients with chronic diseases such as hypertension because regular use of medication can control blood pressure so that it can prevalent the risk of organ damage and the development of cardiovascular complications [10]. Various factors that have been studied that support medication adherence include: patient, their families, doctor-patient communication, and information and education from pharmacist. There are four indicators of adherence : dosage instructions, correct dosage, correct interval dan correct duration of use [11]

Patient adherence in achieving optimal therapeutic outcomes can be influenced by the provision of clear information regarding the medications to be consumed, as inappropriate medication use may pose risks to patient safety. The lowest percentage related to whether the pharmacy staff provided explanations about medication side effects to patients, falling into the satisfied category, Although the result indicate patient satisfaction, there is still a need for improvement in the delivery of information regarding medication side effects. Information about side effects is intended to enable patients to take appropriate actions when experiencing adverse effects resulting from the medications used [12]. The importance of IEC services regarding medications can be used as a measure of satisfaction to evaluate the success of drug information and education services delivered by pharmacy staff at the time of medication dispensing [13].

Table 4. Patient Satisfaction Level Results

No	Questions	Total Score	Percentage (%)	Category
Dimension Tangibles				
1.	Pharmacy room looks neat and clean.	455	91	Very Satisfied
2.	Pharmacy staff are polite, clean, and neat in appearance.	456	91,2	Very Satisfied
3.	Pharmacy waiting room is comfortable.	452	90,4	Very Satisfied
4.	The arrangement of medicines in the pharmacy looks neat and clean.	448	89,6	Very Satisfied
Average		452,75	90,55	Very Satisfied
Dimension Reliability				
1.	Pharmacy staff serve patients in a friendly manner and with a smile.	446	89,2	Very Satisfied
2.	Pharmacy staff explain the rules and instructions for using the prescribed medication to patients	440	88	Very Satisfied
3.	Prescribed medications are always available at the pharmacy.	432	86,4	Very Satisfied
4.	Medication received is packaged in good condition	448	89,6	Very Satisfied

Average	441,5	88,3	Very Satisfied
Dimension Responsiveness			
1. Prescription services are provided quickly: Compounded prescriptions ≤ 60 minutes, non-compounded prescriptions ≤ 30 minutes.	437	87,4	Very Satisfied
2. The pharmacy staff provide clear, accurate, and easily understandable information to patients.	443	88,6	Very Satisfied
3. Pharmacy staff accurately dispense medication to patients who redeem their prescriptions.	439	87,8	Very Satisfied
4. Pharmacy staff handle patient complaints and provide solutions or resolutions to those complaints.	434	86,8	Very Satisfied
Average	438,25	87,65	Very Satisfied
Dimension Assurance			
1. Pharmacist knowledge of the medications prescribed.	430	86	Very Satisfied
2. Patients feel that the medications prescribed are appropriate and in accordance with the prescription.	439	87,8	Very Satisfied
3. Pharmacists are polite, courteous, and neat in their medication services.	449	89,8	Very Satisfied
4. Pharmacists are accurate in reading the prescriptions given by doctors to patients.	441	88,2	Very Satisfied
Average	439,75	87,95	Very Satisfied
Dimension Empathy			
1. The pharmacy staff give equal and sincere attention to each patient's complaints.	428	85,6	Very Satisfied
2. Pharmacy staff provide services to every patient regardless of social status.	438	87,6	Very Satisfied
3. Patients feel comfortable while waiting for their medication.	441	88,2	Very Satisfied
4. Pharmacy staff are able to communicate well with patients.	442	88,4	Very Satisfied
Average	437,25	87,45	Very Satisfied

Patient satisfaction levels at Pharmacy "X" in Semarang based on real evidence is included in the very satisfied category with the highest total score for the pharmacy staff appearance indicator, namely clean, polite and neat. The tangibles dimension is a service provider that can prove its existence to external parties through physical appearance, equipment, and workforce so that the services provided can build a positive image. This is because the tangible evidence dimension is a major aspect that determines service quality [14]. The availability of supporting facilities that can be adjusted to meet patient needs can create a feeling of comfort when receiving services so that patient needs can be met and patient satisfaction can be achieved. Well-maintained facility quality is a positive key to creating a positive image and increasing satisfaction. In addition to the condition of the waiting room, the appearance of pharmaceutical personnel is one of the tangible dimensions that can have an impact on patient satisfaction [15]. Quality is a comprehensive standard that leads to a level of service excellence. Quality can be seen through patient perception, which is a subjective

assessment. Patient perceptions can change due to various factors such as advertising, product reputation, service delivery, experience [5]. Due to the limited information patients have, they often unable to understand what the pharmacy staff are telling them. In fact, some patients often feel afraid or uncomfortable communicating. Information services are essential for pharmacy staff to prevent medication misuses and unwanted drug interactions. The importance of drug information services in pharmacies is based on drug use information based on information, education and communication (IEC). The number and types of drugs available in most countries exceed what is medically necessary, making it difficult for people to understand drugs, drug information for patients [16].

Patient satisfaction levels at Pharmacy “X” in Semarang in the reliability dimensions were in the very satisfied category (88.3%), and the highest total score was for the indicator of medicine packaging received in good condition, with a percentage of 89.6% in the very satisfied category. Medicine quality is greatly influenced by packaging, so medicine must be in good, undamaged packaging. This dimension describes how satisfied patients are with the ability of pharmaceutical personnel in performing their duties and obligations. This is because if patients feel that the reliability of pharmaceutical personnel at the pharmacy is in line with their expectations, they will be satisfied with the quality of service. The skills and reliability of the service provided to patients are the main factors when patients want to obtain health services. The indicator used to evaluate the level of patient satisfaction in the reliability dimensions is the clarity of the pharmacy staff in explaining information related to the prescribed medication [8].

The level of patient satisfaction at Pharmacy “X” in Semarang in the responsiveness dimension was classified as very satisfied (87.65%), with the highest total score found in the indicator that pharmacy staff delivered information clearly and in a manner that was easy for patients to understand, achieving a percentage of 88.6%, which also fell into the very satisfied category. The large number of respondents who reported being very satisfied reflects that the quality of services provided by pharmacy staff was able to create a high level of patient satisfaction. Responsiveness is the ability of pharmacy staff to respond quickly to complaints experienced by patients related to health care. The responsiveness of a pharmaceutical personnel in providing services will have an impact on the patient's impression in achieving satisfaction after receiving services. Responsiveness in providing services is related to dispensing time which includes preparation, delivery, and Drug Information Services (PIO). If pharmacy staff provide services promptly and quickly, patients will not have to wait too long, which can cause them to feel bored and affect their satisfaction [17].

The level of patient satisfaction at Pharmacy “X” Semarang in the assurance dimension is in the very satisfied category (87.95%) and the highest total score is in the indicator of pharmacists providing drug services politely and neatly with a percentage of 89.8% in the very satisfied category. The assurance dimension describes the patient's assessment of the application of knowledge, skills, and abilities possessed by pharmacy staff in providing services so as to create patient confidence and trust, ensuring patients receive the right medication which can affect the success of treatment. The quality of service will be perceived as poor or not meeting expectations if the assurance regarding the quality of the service received is unsatisfactory. Health insurance for patients must be fulfilled properly to improve the quality of health that has been provided. The

better the service assurance, the higher the level of patient satisfaction. The level of confidence in the service provided is influenced by the assurance through pharmacy staff so that patients feel satisfied and trust [18].

The level of patient satisfaction at Pharmacy "X" Semarang in the empathy dimension is in the very satisfied category (87.45%), and the highest total score is in the indicator that pharmacy staff are able to communicate well with patients with a percentage of 88.4% in the very satisfied category. The empathy dimension is one of the dimensions that can create satisfaction, as patients are able to feel that pharmacy staff listen to and respect all complaints expressed by patients. The presence of empathy in service can be an important factor in increasing patient satisfaction and building trust. The high level of concern shown by pharmacy staff, who do not discriminate against patients based on their socioeconomic status in providing high-quality pharmaceutical services, can be one of the factors influencing patient satisfaction levels.

CONCLUSION AND RECOMMENDATIONS

The results of the study conducted on the level of patient satisfaction with Information, Education and Communication (IEC) services at Pharmacy "X" in Semarang can be summarized. Drug information services at pharmacies depend heavily on accurate communication and information delivery, as well as the friendly and courteous attitude of pharmacy staff in providing information about medication. Furthermore supporting facilities also provide patients with an understanding of the level of comfort they experience while waiting for medication services at the pharmacy, allowing them to assess their satisfaction with the service provided. Recommendations for future research include conducting studies over a longer period and involving a larger number of respondents to allow the findings to be generalized to a wider population.

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