



The Relationship between the Level of Satisfaction of Blood Delivery Workers with Five Dimensions of Service Quality at UDD PMI Bekasi Regency in 2023

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Abstract

(1) Hospital Blood Bank (BDRS) is one of the health service facilities to meet the needs of blood transfusions of patients but does not rule out the possibility that blood stocks in BDRS are not available so they require assistance from the Indonesian Red Cross Blood Donor Unit (UDD PMI) in meeting the blood needs of patients. UDD PMI Bekasi Regency is carried out almost every time, regardless of the time and weather at that time. Blood collection is usually done by special officers from the hospital. This officer is what connects the chain of blood requests BDRS to UDD PMI Bekasi Regency, where later the officer will carry out blood retention and memory. (2) This research aims to determine the level of ability to use five dimensions quality services to have reliability, response, empathy, and blood transmission in UDD PMI District Bekasi. (3) Methodology This study by distributing questionnaires to 52 blood delivery officer respondents, data processing using data analysis of satisfaction index and ordinal logistic regression, namely simultaneous tests, partial tests, and model conformity tests (Hosmer-Lemeshow Goodness-of-fit Test). (4) The results of this study show that the level of satisfaction of blood delivery officers is based on five dimensions of satisfaction with UDD PMI district services. Bekasi has very satisfactory criteria.

Keywords: Blood Delivery, Blood Service, Blood Distribution.

INTRODUCTION

Blood services are very important and are not far from the life of the community, especially in providing blood donation services while maintaining the availability of blood stocks for patients who provide blood transfusion services including blood donation planning, direction, and preservation of blood donation, donation, blood distribution, and medical procedures for giving blood to patients to cure disease health (Gustaman, 2013).

The implementation of blood services in Indonesia is carried out by a health facility, namely the Blood Donation Unit under the auspices of the Indonesian Red Cross. One of the blood services in PMI is patient services. UDD PMI is required to provide quality services to increase blood stocks, blood product quality, patient safety, and improve public health status.

Quality, safe, and reliable blood service can be achieved if the service is carried out in a sympathetic way where the sick family no longer gives up the blood transfusion to the patient, but in the course of the service is carried out by the patient. This can be implemented if the hospital as a blood transfusion user has a BDRS as a blood transfusion service implementing unit that collaborates with the local district/city/province UDD.

The BDRS supply chain system is in line with the beisar line starting from the request of the patient through the nurse who wants the BDRS to accept the requested stock. If the requested stock

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is available, it will be carried out registration, recording, and crossmatch, until the request for a blood bag is carried out. If the requested stock is not available, BDRS will request PMI. (Daradjatun, 2007). UDD PMI district Bekasi is one of the UDDs that is responsible for the improvement of maternal bloodstock from the many requests for blood from various sick people in District Bekasi. Based on the observations made by the people from January to October 2023, the UDD PMI district Bekasi is one of the PMI UDDs that has many donors and many requests for blood from various sick people in Bekasi District.

With so many requests for blood from various hospitals, the blood demand service at UDD PMI Bekasi Regency plays an important role in serving blood requests from hospitals. The Hospital Blood Bank requests blood from UDD PMI Bekasi Regency if the bloodstock at the Hospital Blood Bank (BDRS) is not available, BDRS appoints officers to deliver and draw blood to UDD PMI Bekasi Regency either directly requests from the ward or BDRS. Data officers to UDD PMI Bekasi Regency by bringing a blood request form that has been signed by a doctor and stamped by the hospital, bringing the patient's blood sample using a coolbox. This blood delivery officer then met with UDD PMI blood service technicians at Bekasi Regency.

Related to the duties and responsibilities of UDD PMI Bekasi regency, blood service efforts are carried out thoroughly, so blood service techniques must have good, fast, friendly, and professional service to maintain quality and service at UDD PMI Bekasi regency. Good service will foster satisfaction in users (blood delivery officers) satisfaction arises if the services provided can meet the five dimensions of satisfaction, namely Reliability, Responsiveness, Assurance, Empathy, and Tangible.

This study focuses on the assessment of blood delivery officers from BDRS to the UDD PMI District Bekasi blood request service because blood delivery officers are the connector of the BDRS blood request chain to UDD PMI Bekasi Regency, where later the officer will carry out blood retention and memory. This research aims to determine the level of excellence by using five dimensions of service quality to have reliability, responsiveness, confidence, empathy, and tangible to blood delivery at UDD PMI District Bekasi and to determine whether there is a significant relationship between the five dimensions of service quality to the level of satisfaction to blood delivery officers at UDD PMI Bekasi Regency.

LITERATURE REVIEW

Satisfaction is a situation that appears to be demonstrated by consumers when they realize that their needs and desires are in line with their expectations (Tjiptono, 2008) satisfaction or Consumer satisfaction or dissatisfaction is the consumer's response to the perceived discrepancy between previous expectations and the perceived service result following their use. (Betan et al., 2023).

Satisfaction can be concluded as a consumer feeling after comparing the result they have experienced with their hopes of being achieved by the service provider.

According to (Tjiptono, 2008) can affect satisfaction, namely:

- 1) Reliability,
- 2) Responsiveness, responsiveness;
- 3) Assurance,
- 4) Empati,
- 5) Tangible

Here is the table of satisfaction categories:

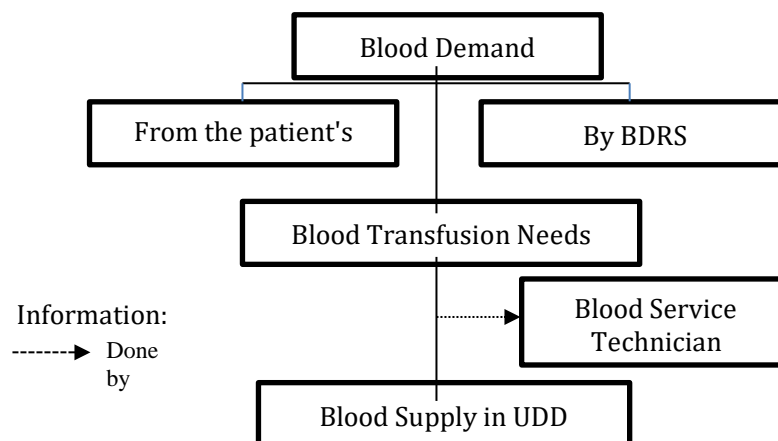
Table 1. Satisfaction Categories

No	Value	Criterion
1	0,00-0,34	Not Satisfied
2	0,35-0,50	Less Satisfied
3	0,51-0,65	Quite Satisfied
4	0,66-0,80	Satisfied
5	>0.80	Very satisfied

Service is an activities process that takes place routinely and continuously covering all life in human society (Gustaman, 2013). Service is an activity carried out by an organization regarding the needs of consumers and will create a special impression (Fadhilah, 2021) service is a very pioneering thing in an to understand consumers to use the products or services offered. Whereas the other definition states that service is a benefit or benefit that is envied by another side which is intangible and neither does it exist nor can its production be related to a physical product.

A blood delivery officer is someone who is assigned by a hospital agency or BDRS to deliver and take blood requests to UDD PMI, be it a direct request from the ward or a request from a blood bank to meet the blood needs of the hospital. Blood distribution must maintain the cold chain of blood according to the type of component using a distribution device whose temperature is validated and controlled by competent personnel. Therefore, blood delivery officers must be trained and have good knowledge about the blood cold chain so that blood quality is maintained. The blood request procedure is to bring a duplicate form that has been filled out completely and has been signed by the doctor in charge and stamped by the hospital, bring the patient's blood sample using a (Regulation of the Minister of Health of the Republic of Indonesia) coolbox, the blood request form and the patient's blood sample are given to the officer at the patient service counter.

Concept Framework



The conceptual framework of this study is, as follows:

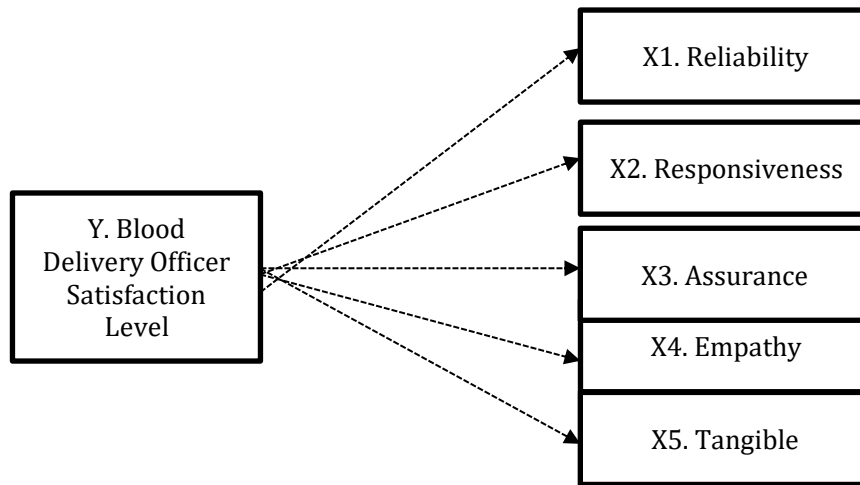


Figure 2. Presentation of the concept outline
(Source: Author, 2023)

RESEARCH METHODOLOGY

This study is a quantitative descriptive research with hypothesis H0: There is a significant relationship between the five dimensions of service quality to the level of satisfaction to blood delivery officers at UDD PMI Bekasi Regency and H1: There is a significant relationship between the five dimensions of service quality to satisfaction with blood delivery officers at UDD PMI Bekasi Regency.

The respondents of this study were blood delivery officers from 46 hospitals around Bekasi Regency. The sample of this study was taken by a population of blood delivery officers 110 and then 52 respondents were taken as samples with the following criteria; Blood delivery officers aged ≤17 to ≥ 55 years old blood delivery officers have used services at UDD PMI Bekasi Regency more than once, blood delivery officers use services at UDD PMI Bekasi Regency.

Data collection using a questionnaire that contains five dimensions of service quality that have been adapted using Indonesian with answer choices using the Likert scale (Very Satisfied, Satisfied, Dissatisfied, and Very Dissatisfied) The number of question items was 24 question items and then tested for validity and reliability to 15 blood draw officer respondents with the results that 22 question items were declared valid and reliable with a level signification α , then obtained, reject H0 If $r > r_{(0.05; 28)} = 0.514$ or P-Value $< \alpha$.

Analyze the data used using SPSS devices. The stages of data analysis in this study include three stages, namely in the first stage using the satisfaction index, the second stage using ordinal logistic regression which aims to determine the influence of independent variables on dependent variables with ordinal data scales which include simultaneous tests with the following hypotheses

$$H_0: \beta_1 = \beta_2 = \dots = \beta_k, H_1: \text{there is at least one } \beta \neq 0; k = 1, 2, \dots, p$$

Significant level: α , Rejection area: Reject H0 if $G_2 > X^2_{(\alpha, v)}$ or P-Value is less than α

Partial tests are used to determine independent variables that have a significant individual effect on the dependent variable with a hypothesis

$$H_0 : \beta_k = 0 \quad H_1 : \beta_k \neq 0 ; k = 1, 2, \dots, p$$

Significant level: α

Deny area: Reject H0 if the Wald $> X^2_{(\alpha, v)}$ or P-Value is less than α

The third stage, namely the model conformity test, is carried out to test whether the

resulting model is based on multivariate logistics.

CONCLUSIONS AND FURTHER RESEARCH

Characteristics of Blood Delivery Officers

The respondents in this study were blood delivery officers who received services at UDD PMI Bekasi Regency totaling 52 respondents with the following details:

1. Respondent's Gender

Results were obtained from male and female respondents as follows:

Table 5. Gender of Respondents in UDD PMI Bekasi Regency

No	Gender	Number of respondents	Percentage (%)
1	Woman	0	0
2	Man	52	100

Based on this table, it can be seen that the majority of male blood delivery officers are more dominant than women. Gender is one of the factors that can influence individuals in responding to a product or service. Gender influences the perception and expectations of patients to meet needs including health services. Male respondents tend to have a high sense of service satisfaction compared to female respondents. This is because men tend to use reason in doing things, while women tend to use feelings (Destiani, Rejeki, and Laelasari, 2023).

2. Age of Respondents

The age of respondents in UDD PMI Bekasi Regency can be seen in Table 6 below:

Table 6. Characteristics of respondents by age

No.	Age of Respondents	Number of Respondents	Percentage (%)
1.	<17th	0	0
2.	17-35 th	21	40
3.	36-45 th	16	31
4.	46-55 th	15	29
5.	>55 th	0	0

In Table 6 the age of blood delivery officers is at most 17-35 years old as many as 21 people with a percentage of 40%, then at the age of 36-45 years as many as 16 people, namely with a percentage of 31%, ages 46-55 as many as 15 people with a percentage of 29%. The data above shows that respondents according to age are most at the age of 17-35 years.

3. Respondent Visit Quantity

The number of visits by blood delivery officers at UDD PMI Bekasi Regency can be seen in Table 7 below:

Table 7. Data on the quantity of Respondents' Visits

No	Quantity of Struggle	Number of respondents	Percentage (%)
1	First time	2	5
2	More than once	52	95

From Table 7, it can be seen that the majority of blood delivery officers at PMI Bekasi Regency visit or use services more than once. In this study, respondents were those who had visited or used services more than once. This is so that respondents have felt and can give a good assessment. So, the respondents used in this study were 52.

4. Respondent Education

The background of respondents based on their last education can be seen in Table 8:

Table 8. Categories of respondents by education

No.	Spondent education	Number of Respondents	Percentage (%)
1	SD	1	2
2	Junior High School / Junior High School	7	13
3	High School / High School	43	83
4	College	1	2

Based on Table 8, it can be seen that blood delivery officers with elementary school education are 1 respondent with a percentage of 2%, junior high school / junior high school education is 7 respondents with a percentage of 13%, high school / high school academic education is 43 respondents with a percentage of 85%. While those with undergraduate education as many as 1 respondent with a percentage of 2%. From the results of the study, most of them had high school / high school education as many as 43 blood delivery officers with a percentage of 83%. So the majority of respondents at UDD PMI Bekasi Regency have high school / high school education.

A person's education is one of the processes of behavior change. The higher a person's education, the more knowledge and information about health is known. The higher the level of education, the easier the person will receive information (Mantra, 2003).

Satisfaction Level

The satisfaction level analysis method in this study was carried out using the satisfaction index method and ordinal logistic regression.

1. Satisfaction Index

The data from the study describing the five dimensions of satisfaction of blood delivery officers are said to be very satisfied if the percentage of satisfaction is >80%, it is said to be satisfied if the percentage of satisfaction is 66-80%, said to be quite satisfied if the percentage of satisfaction is 51-65%, it is said to be less satisfied if the percentage of satisfaction is 35-50%, and it is said to be dissatisfied if the percentage is 0-34%.

The results of the calculation of the five-dimensional picture of the level of satisfaction of blood delivery officers in this study can be seen in the following Table 9.

Table 9. Table of Satisfaction Level Aspect Calculation Results

Aspect	Calculation Results
Reliability	80,91%
Responsiveness	84,95%
Assurance	81,65%
Empathy	83,87%

Tangible	82,66%
Satisfaction level	80,16%
Sum	82,32%

In Table 9, it can be seen that the level of five-dimensional satisfaction in the aspect of reliability (*reliability*) is 80.91%, aspects of *responsiveness* (*responsiveness*) of 84.95%, aspects of confidence (*assurance*) of 81.65%, aspects of empathy (*empathy*) of 83.87%, and aspects of reality (*tangible*) by 82.66%. So it can be concluded that the picture of the five dimensions of satisfaction in this study when viewed from each aspect is included in the criteria of very satisfied. This is because the calculation of the five-dimensional picture of satisfaction in each aspect has a value of more than 80%.

Table 9 also presents the results of the calculation of the level of satisfaction in this study which has a value of 80.16%, so it can be concluded that the level of satisfaction of blood delivery officers in this study falls into the category of very satisfied. Meanwhile, the overall satisfaction level obtained results of 82.32%. So that the conclusion of the five-dimensional description of the level of satisfaction in blood delivery officers at PMI Bekasi Regency can be categorized in the criteria of very satisfied.

2. Ordinal Logistic Regression

Concurrent Test

H0: The independent variable has no significant effect simultaneously on the dependent variable;

H1: The independent variable has a significant effect simultaneously on the dependent variable.

Significant level: $\alpha = 10\%$

Reject area: Reject H0 if $G2 > X2_{(\alpha, V)}$ or P-Value is less than α

Table 10. Concurrent Test Results

<i>G2</i> calculate	$X2_{(0,1; 5)}$	P-Value	Decision
26,501	9,236	0,000	Reject H ₀

Table 10 shows that the *G2* value of 26.501 is greater than $X2_{(0,1; 5)}$ of 9.236 with a P-Value smaller than α , then it was decided to reject H0 which means that five dimensions of satisfaction have a significant effect simultaneously on the level of satisfaction.

3. Partial Test

H0: The independent variable has no partially significant effect on the dependent variable;

H1: The independent variable has a partially significant effect on the dependent variable.

Significant level: $\alpha = 10\%$

Reject area: Reject H0 if the Wald $> X2_{(\alpha, V)}$ or the P-Value is less than α

Table 11. Partial Test Results

Variable	Wald	P-Value	Decision
Reliability (X1): satisfied		.	
Reliability (X1): very satisfied		.	
Responsiveness (X2): satisfied	0,015	0,904	Failed to reject H ₀
Responsiveness (X2): very satisfied		.	
Assurance (X3): satisfied	0,595	0,441	Failed to reject H ₀

Assurance (X3): very satisfied		.	
Empathy (X4): satisfied	3,554	0,059	Reject H ₀
Empathy (X4): very satisfied		.	
Tangible (X5): satisfied	1,613	0,204	Failed to reject H ₀
Tangible (X5): very satisfied		.	

Source: Primary Data 2023

Table 11 shows that the variables *responsiveness*, *assurance*, and *tangible* have value *Wald* which is smaller than $X2_{(0,1; 1)}$ of 2.705 or *P-Value* greater than α by 0.1. While *P-value empathy* is smaller than α by 0.1 so, only variables *Empathy* has a significant effect on the level of satisfaction partially. Values in the table that do not appear are caused by one of the categories not being selected as a response by respondents.

4. Model Conformity Test

H₀: compliant model

H₁: non-compliant model

Significant level: α

Deny area: Reject H₀ if $X2_{count} > X2_{(\alpha, v)}$ P-Value is less than α

Table 12. Model Conformity Test Results

<i>X2calculate</i>	$X2_{(0,1; 9)}$	P-Value	Decision
5,203	14,683	0,816	Failed to reject H ₀

Table 12 shows that *X2calculate* 5,203 is smaller than $X2_{(0,1; 9)}$ of 14.683 or *P-Value* 0.816 greater than α of 0.1 so it was decided to fail to reject H₀ which means that the model in this study is appropriate or there is no significant difference between the results of observations and the possibility of prediction results.

The results of the above research can be concluded as follows:

1. The results of this study clearly show that the majority of blood delivery officers at PMI Bekasi Regency are male and more dominant than female. Blood delivery officers at UDD PMI Bekasi Regency when viewed from the most age characteristics at the age of 17-35 years. The majority of blood delivery officers at UDD PMI Bekasi Regency visited or used services more than once. From the results of the study, it can be concluded that the majority of the last level of education for blood delivery officers at UDD PMI Bekasi Regency have high school / high school education.
2. The results of this study can be concluded that the level of satisfaction of blood delivery officers using five dimensions of service satisfaction when viewed from each aspect, namely reliability, Responsiveness, Assurance, *empathy*, and Tangible falls within the criteria of very satisfied. In addition, the results of this study can also be concluded that the overall level of satisfaction with blood delivery officers at PMI Bekasi Regency can be categorized in the criteria of very satisfied.
3. The results of simultaneous tests in this study were decided to reject H₀ which means that five dimensions of satisfaction have a significant effect simultaneously on the level of satisfaction. In the partial test results in this study, only *the empathy* variable has a significant effect on the level of partial satisfaction. The partial test results of the variables reliability, assurance, responsiveness, and tangible did not have a significant effect on the level of satisfaction. The data suitability test in this study decided to fail to reject H₀, which means that the model in this study is appropriate or there is no significant difference between the results of observations and the possibility of prediction results.

For future research, it is expected to add a knowledge factor about the cold chain to the

blood delivery officer.

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