



The Influence of Knowledge Management Factors on the Quality of BEmONC Services at West Java Community Health Centers

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Abstract

Basic Emergency Obstetrics and Neonatal Care (BEmONC) services at West Java Community Health Centers (Puskesmas) remain relatively low, with a Community Satisfaction Index (IKM) of 72.5. This low service quality is influenced by suboptimal training, inadequate technology utilization, and the lack of application of Knowledge Management. This study aims to analyze the influence of Knowledge Management factors on the quality of BEmONC services. The study employed a quantitative approach with a descriptive-analytical survey design, involving 197 healthcare workers (doctors and midwives) from 22 BEmONC Community Health Centers that offer Basic Emergency Obstetrics and Neonatal Care services, selected using proportionate stratified sampling. Data were collected through questionnaires and analyzed using multiple linear regression. The results indicate that, of the six dimensions of Knowledge Management, only Knowledge Retention, Knowledge Transfer, and Application of Technology have a significant influence on service quality. This study emphasizes the importance of optimizing technology-based Knowledge Management through training, documentation, and the use of information systems to improve the quality of BEmONC services continuously.

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1. Introduction

The quality of services provided by Community Health Centers (Puskesmas) in Indonesia still faces various challenges that impact the effectiveness of basic health services, particularly in reaching the wider community. As the spearhead of primary health care, Puskesmas play a vital role in supporting promotive and preventive programs at the community level. However, challenges such as limited human resources (HR), lack of infrastructure, and suboptimal management systems remain obstacles to achieving quality services (Sarri & Misnaniarti, 2020) ^[1]. In this situation, Puskesmas are required to continually innovate and adapt to developments in knowledge and technology in order to meet community needs effectively. The unequal distribution of health workers between regions is also a significant issue, underscoring the need for a knowledge-sharing system among Puskesmas to ensure all service units have equal access to information and skills (Darajatun, 2023) ^[2].

One strategic approach that can address these challenges is the implementation of knowledge management. Knowledge management enables organizations to optimally create, store, share, and utilize knowledge to improve service quality. Research indicates that effective knowledge management implementation can enhance operational efficiency, facilitate informed decision-making, and enhance service responsiveness to community needs (Evans *et al.*, 2017) ^[3]. Even slow and bureaucratic administrative processes can be improved through an efficient and transparent knowledge management system (Lindsay & Kolne, 2020) ^[4]. Furthermore, the lack of ongoing training for healthcare workers often hinders the utilization of new tools and technologies in community health centers. Effective knowledge management can ensure ongoing competency development programs (Provvidenza *et al.*, 2020) ^[5], thereby ensuring that healthcare workers possess the relevant skills and knowledge

necessary for their practice (Daily *et al.*, 2010) ^[6].

In general, Knowledge Management encompasses six important factors: Knowledge Creation, Knowledge Retention, Knowledge Transfer, Knowledge Utilization, Managerial and Leadership Supports, and Application of Technology. These six factors play a significant role in improving the quality of healthcare service management, including in Community Health Centers. These factors have been proven in various studies to be key components in the successful implementation of Knowledge Management in the public service sector, including healthcare (Suwarsi *et al.*, 2014) ^[7]. The integrated application of all these factors enables healthcare organizations to be more adaptive, efficient, and innovative in carrying out their functions.

One of the regions that still faces significant challenges in implementing Knowledge Management is West Java. Based on the 2025 Public Satisfaction Index (IKM) data from the West Java Health Office, it is evident that several Community Health Center services have achieved high IKM scores, including the Dental Clinic (92.95), the Elderly Examination Room (91.89), and Special Services (91.67). However, several other services recorded lower scores, such as the Registration Room (85.403), MTBS/MTBM (86.900), and Counseling (87.083). The most striking is the Basic Emergency Obstetrics and Neonatal (BEmONC) service, which has the lowest IKM score, namely 72.500, far below the overall average. This value indicates a gap in service quality, especially in emergency services. One of the leading causes is the suboptimal utilization of the service tools that have been provided. In many community health centers (Puskesmas), new equipment is not being utilized optimally because healthcare workers still rely on outdated equipment and lack training in its use.

This issue highlights the importance of implementing comprehensive knowledge management in Puskesmas, particularly in BEmONC services. By integrating the six key factors of knowledge management, Puskesmas can enhance the capacity of their healthcare workers through training, knowledge sharing, and the effective use of technology. Knowledge management can also enhance internal management systems, encompassing work procedures, service flows, and information distribution. Therefore, effective knowledge management implementation is expected to bridge the gap in service quality and support improvements in healthcare services, particularly in Basic Emergency Obstetrics and Neonatal Care (BEmONC) services in West Java.

Based on the introduction outlined above, the research questions are formulated as follows: 1) How is knowledge management implemented in Basic Obstetrics and Neonatal Emergency Services at Puskesmas in West Java? 2) What is the quality of services provided by Basic Obstetrics and Neonatal Emergency Services at Puskesmas in West Java? 3) How is the influence of Knowledge Management factors simultaneously on the quality of service in Basic Emergency Neonatal Obstetrics Services at Indramayu District Health Center? 4) How is the influence of Knowledge Creation and service quality on Basic Emergency Neonatal Obstetrics Services at Indramayu District Health Center? 5) How is the influence of Knowledge Retention and service quality partially in Basic Emergency Neonatal Obstetrics Services at Indramayu District Health Center? 6) How is the influence of Knowledge Transfer and service quality on Basic Emergency Neonatal Obstetrics Services at Indramayu District Health

Center? 7) How is the influence of Knowledge Utilization and service quality on Basic Emergency Neonatal Obstetrics Services at Indramayu District Health Center? 8) How is the influence of managerial and leadership support and service quality on Basic Emergency Neonatal Obstetrics Services at Indramayu District Health Center? 9) How is the influence of the Application of Technology on the quality of partial services in Basic Emergency Obstetric Neonatal Services at the Indramayu District Health Center?

2. Literature Review

2.1 Health Management

Management is a process that consists of planning, organizing, mobilizing, and controlling the efforts of organizational members, utilizing all available resources to achieve predetermined goals (George R. Terry, 2006) ^[8].

Health management is a branch of management science that focuses on managing various resources within a health care system to achieve public health goals effectively and efficiently. Quality health care requires management capable of carrying out functions such as planning, organizing, implementing, monitoring, and evaluating systematically and purposefully (Wasiyem *et al.*, 2025) ^[9].

2.2 Health Human Resources

Human resources encompass the physical and non-physical strengths possessed by individuals that can be utilized to produce goods, services, and value-added outcomes for the organization and society. Human resources encompass not only the quantity of labor but also qualities such as skills, knowledge, attitudes, and motivation (Hasibuan, 2014) ^[10].

Health human resources refer to individuals working in the health sector, whether or not they have formal education in the field, but who are authorized to carry out specific health-related efforts. Health human resources are a key component in the provision of services at community health centers, hospitals, and other healthcare facilities, encompassing various professions that play a role in promotive, preventive, curative, and rehabilitative services (Law Number 17 of 2023 concerning Health) ^[11].

2.3 Knowledge Management

Knowledge Management is a systematic process for identifying, collecting, storing, sharing, and utilizing knowledge within an organization to improve effectiveness and performance. The primary goal of Knowledge Management is to ensure that relevant knowledge is accessible and used efficiently by individuals or groups within the organization to improve decision-making, innovation, and operations (Alavi & Leidner, 2001) ^[12]. Knowledge Management encompasses six main dimensions or factors: Knowledge Creation, Knowledge Retention, Knowledge Transfer, Knowledge Utilization, Managerial and Leadership Support, and Technology Application (Suwarsi *et al.*, 2014) ^[7].

A. Knowledge Creation

Knowledge creation is the process by which new knowledge is generated, whether through innovation, research, collaboration, or experiential learning. Knowledge creation encompasses the development of new ideas, products, or procedures that enhance organizational processes and performance (Suwarsi *et al.*, 2014) ^[7]. Knowledge Creation indicators include innovation in service methods, skill

enhancement through training, and idea development (Migdadi dan Zaid, 2016) ^[13].

B. Knowledge Retention

Knowledge retention is the process of retaining knowledge so that it remains within the organization, despite employee turnover or system changes. Knowledge retention ensures that important knowledge is not lost and remains accessible for future use (Suwarsi *et al.*, 2014) ^[7]. Knowledge Retention indicators include documentation of stored knowledge, knowledge storage systems, and data accessibility (Green & Villaret, 2021) ^[14].

C. Knowledge Transfer

Knowledge transfer is the process of disseminating or sharing knowledge from one individual, team, or department to another within the same organization. It includes communication and training processes to ensure knowledge is disseminated and applied effectively (Suwarsi *et al.*, 2014) ^[7]. Knowledge Transfer indicators in an organization include the frequency of knowledge exchange between staff, mentoring processes, and internal training (Al-Gharibeh, 2011) ^[15].

D. Knowledge Utilization

Knowledge Utilization is the process of leveraging existing knowledge within an organization to enhance decision-making, improve work processes, or enhance services. It includes how collected and stored knowledge can be applied to achieve organizational goals and increase operational efficiency (Suwarsi *et al.*, 2014) ^[7]. Knowledge Utilization indicators include the use of knowledge in decision-making and the effectiveness of knowledge application (Novák, 2017) ^[16].

E. Managerial and Leadership Supports

Managerial and leadership support refers to the assistance provided by managers and leaders in managing knowledge processes, including the provision of resources, strategies, and policies to facilitate the implementation of Knowledge Management. Supportive leadership can motivate employees to actively participate in the creation, dissemination, and use of knowledge (Suwarsi *et al.*, 2014) ^[7]. Managerial and Leadership Support indicators include management support in training, supporting Knowledge Management policies, and inspirational Leadership (Barker, 2016) ^[17].

F. Application of Technology

The application of technology is the use of information and communication technology (ICT) to support the management, storage, and transfer of knowledge. Technology enables more effective data storage, rapid access, and knowledge sharing across organizations through software, databases, or collaborative platforms (Suwarsi *et al.*, 2014) ^[7]. Indicators of Application of Technology include health information systems, the use of technology in services,

and data storage technology (Govender *et al.*, 2018) ^[18].

2.4 Service Quality

Service quality is a measure used to assess how well a service meets or even exceeds customer expectations (Aljohani, 2025) ^[19]. The SERVQUAL method is a measurement tool used to assess service quality by comparing customer perceptions of the service received with their expectations. This method consists of five main dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman *et al.*, 1988) ^[20].

A. Tangibles

Tangibles include physical aspects visible to customers, such as facilities, equipment, personnel appearance, and communication media. These elements are important because they reflect the overall image of the service; clean facilities, modern equipment, and professional staff can increase customer trust and positive perceptions of service quality (Ekasari *et al.*, 2017) ^[21].

B. Reliability

Reliability refers to an organization's ability to provide services on time and as promised consistently. Reliability is key to building customer trust and loyalty, as the accuracy and consistency of service reflect the organization's professionalism and commitment to quality (Ekasari *et al.*, 2017) ^[21].

C. Responsiveness

Responsiveness refers to the staff's willingness and ability to respond quickly and proactively to customer needs. A responsive organization demonstrates a genuine concern for customer satisfaction, particularly in how it handles requests and complaints. This speed and responsiveness directly contribute to a positive customer experience with the service (Ekasari *et al.*, 2017) ^[21].

D. Assurance

Assurance focuses on the sense of security and trust that customers feel through the competence, courtesy, and credibility of staff in providing service. In the context of sensitive services such as healthcare, assurance is crucial because customers rely on the expertise and professionalism of staff. Organizations with skilled and friendly staff are more likely to build customer trust and loyalty (Ekasari *et al.*, 2017) ^[21].

E. Empathy

Empathy reflects an organization's ability to understand customers' needs and feelings and provide personalized attention. By treating each customer individually and tailoring services to their needs, organizations can build stronger relationships. An empathetic approach increases feelings of appreciation, fosters long-term loyalty, and strengthens the emotional bond between customers and service providers (Ekasari *et al.*, 2017) ^[21].

2.5 Conceptual Framework

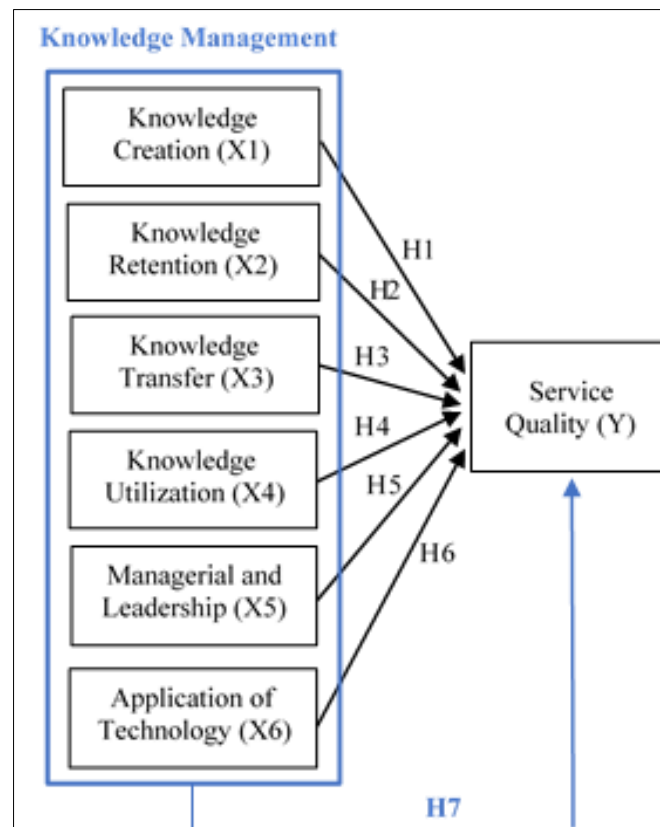


Fig 1: Conceptual Framework

Hypothesis

H1: Knowledge Creation influences the quality of BEmONC services at the West Java Community Health Center.

H2: Knowledge Retention influences the quality of BEmONC services at the West Java Community Health Center.

H3: Knowledge Transfer influences the quality of BEmONC services at the West Java Community Health Center.

H4: Knowledge Utilization influences the quality of BEmONC services at the West Java Community Health Center.

H5: Knowledge Management and Leadership influence the quality of BEmONC services at the West Java Community Health Center.

H6: Knowledge Application of Technology influences the quality of BEmONC services at West Java Community Health Centers.

H7: Knowledge Management factors simultaneously influence the quality of BEmONC services at West Java Community Health Centers.

3. Methodology

A. Area of the Study

This research was conducted at Community Health Centers providing Basic Emergency Obstetrics and Neonatal Care (BEmONC) services in West Java, including Pasekan, Sindang, Cantigi, Krangkeng, Karangampel, Kedokan, Pondoh, Jatibarang, Sliyeg, Sukagumiwang, Kerticala, Terisi, Cikeding, Kandanghaur, Gabuswetan, Kroya, Hargelis, Cipancuh, Widasari, Bongas, Sukra, and Patrol Community Health Centers.

B. Research Method

The research method used in this study is quantitative, as data processing is based on the results of questionnaires distributed to respondents and statistically analyzed to measure the relationships between predetermined variables. This quantitative approach includes descriptive and verification methods. Descriptive methods are used to systematically observe, describe, and summarize the characteristics of data, while verification methods aim to test and identify causal relationships between variables in the study.

C. Data and Source

The primary data in this study includes information on respondent profiles, such as age, length of service, and occupation of doctors and midwives working in the BEmONC services at West Java Community Health Centers. The population in this study consisted of all doctors and midwives working in 22 Community Health Centers that provided BEmONC services. The sample was determined using the Slovin formula and proportionate stratified sampling technique, with a total of 197 respondents.

D. Data Collection Technique

Data collection was conducted using a questionnaire. A questionnaire was distributed to all respondents to obtain data on the research variables, which were then processed and analyzed further. The questionnaire instrument used a 5-point ordinal scale, ranging from 1 (Very Poor) to 5 (Very Good).

E. Data Analysis and Hypothesis Testing

The data obtained will be analyzed using IBM SPSS

Statistics, version 29. The analysis included validity and reliability tests to measure the instrument's suitability, conversion of ordinal data to interval data using the Method of Successive Intervals (MSI) to ensure the data met the requirements for parametric statistical analysis, classical assumption tests to test the feasibility of the regression model, and multiple linear regression analysis to examine the effect of knowledge management on the quality of community health center services.

F. Validity and Reliability Testing

Validity and reliability testing are conducted to ensure the quality of the research instrument. Validity testing aims to assess the extent to which the questionnaire items measure what they are intended to measure, with validity criteria defined as a correlation value greater than 0.139. Meanwhile, reliability testing employs the Cronbach's Alpha technique to assess the instrument's internal consistency, where a variable is deemed reliable if the Cronbach's Alpha value exceeds 0.70.

G. Assessment Scale

Score interpretation in percentage form is achieved by converting the actual score to the maximum score and then classifying it based on the following intervals.

Table 1: Assessment Scale

Assessment Scale	Assessment Criteria
20% - 36%	Very Low (Very Poor)
36% - 52%	Low (Poor)
52% - 68%	Fair (Fairly Good)
68% - 84%	High (Good)
84% - 100%	Very High (Very Good)

H. Classical Assumption Test

- 1) Normality Test: The normality test aims to determine whether the confounding variables or residuals in the regression model have a normal distribution. There are two primary methods for determining whether residuals are usually distributed: graphical analysis and statistical tests.
- 2) Heteroscedasticity Test: If the variance of the residuals from one observation to another is different, it is called heteroscedasticity. To detect symptoms of heteroscedasticity, scatter plot analysis and the Glejser test are used.
- 3) Multicollinearity Test: To determine the presence or absence of symptoms of multicollinearity in a regression model, the tolerance value and its opposite, as well as the Variance Inflator Factor (VIF), can be used.
- 4) Multiple Linear Regression Analysis: Used to determine the effect of independent variables on the dependent variable.
- 5) Coefficient of Determination: A statistical measure that indicates the extent of the relationship between the independent variable (X) and the dependent variable (Y).

Model Estimation

This study employs multiple linear regression analysis to investigate the impact of independent variables on the dependent variable. In this case, the independent variables consist of Knowledge Creation (X1), Knowledge Retention (X2), Knowledge Transfer (X3), Knowledge Utilization (X4), Managerial and Leadership Support (X5), and

Technology Application (X6). In contrast, the dependent variable is Service Quality (Y). The analysis was conducted using standardized regression test results to determine the extent to which each independent variable influenced job satisfaction. The regression equation used in this study is as follows.

$$Y = a + bX_1 + bX_2 + bX_3 + bX_4 + bX_5 + bX_6 + \varepsilon$$

Description

Y = Service Quality

X₁ = Knowledge Creation

X₂ = Knowledge Retention

X₃ = Knowledge Transfer

X₄ = Knowledge Utilization

X₅ = Managerial and Leadership Supports

X₆ = Application of Technology

a = Constant

b = Regression coefficient

ε = Error or residual

Hypothesis Testing

1) F Test (Simultaneous)

The F test (simultaneous) is used to determine whether the independent variables collectively have a significant effect on the dependent variable. The test is performed by comparing the calculated F-value from the ANOVA output with the F-table at a significance level of 0.05. In this study, the F table value was 2.416. If F count > F table, then H₀ is rejected and H_a is accepted, meaning there is a significant influence of variables X₁, X₂, X₃, X₄, X₅, X₆ on Y.

2) t Test (Partial)

The t test (partial) is used to test the influence of each independent variable individually on the dependent variable. The test is performed by comparing the t-count value from the output coefficients with the t-table at a significance level of 0.05. In this study, the t-table value is 1.652. If t count > t table, then H₀ is rejected and H_a is accepted, meaning there is a significant influence between the independent variables (separately) on the dependent variable.

4. Results and Discussion

4.1 Descriptive Analysis

Table 1: Classification of Assessment for Each Variable

Research Variable	Average Score	Category
Knowledge Creation (X ₁)	4,06	Good
Knowledge Retention (X ₂)	4,01	Good
Knowledge Transfer (X ₃)	3,73	Good
Knowledge Utilization (X ₄)	4,07	Good
Managerial and Leadership Supports (X ₅)	4,00	Good
Application of Technology (X ₆)	3,96	Good
Service Quality (Y)	3,85	Good

Source: Processed primary data, 2025

The results in Table 1 indicate that all variables in this study had average scores in the "Good" category, including Service Quality. It suggests that respondents' perceptions of the implementation of knowledge management and services at the Community Health Center were generally positive. This finding provides preliminary insight that reinforces the importance of examining the relationships between these variables in more depth through hypothesis testing.

4.2 Research Test

A. Validity and Reliability Test

Table 2: Validity Test Results

Research Variable	Number of Items	Number of Valid Items	r table	Description
Knowledge Creation (X ₁)	3	3	0,139	All items are valid
Knowledge Retention (X ₂)	3	3	0,139	All items are valid
Knowledge Transfer (X ₃)	3	3	0,139	All items are valid
Knowledge Utilization (X ₄)	3	3	0,139	All items are valid
Managerial and Leadership Supports (X ₅)	3	3	0,139	All items are valid
Application of Technology (X ₆)	3	3	0,139	All items are valid
Service Quality (Y)	15	15	0,139	All items are valid

Source: Processed primary data, 2025

Based on the validity test results in Table 2, it is evident that all statement items have correlation values above 0.139. Therefore, it was concluded that all statement items were

deemed valid and could be used as measuring tools for research.

Table 3: Reliability Test Results

Research Variable	Crobach's Alpha	Alpha Coefficient	Description
Knowledge Creation (X ₁)	0,766	0,70	Reliable
Knowledge Retention (X ₂)	0,818	0,70	Reliable
Knowledge Transfer (X ₃)	0,781	0,70	Reliable
Knowledge Utilization (X ₄)	0,779	0,70	Reliable
Managerial and Leadership Supports (X ₅)	0,791	0,70	Reliable
Application of Technology (X ₆)	0,782	0,70	Reliable
Service Quality (Y)	0,861	0,70	Reliable

Source: Processed primary data, 2025

The reliability test results in Table 3 indicate that all variables have a sufficiently large alpha coefficient, above 0.70, indicating that the measurement tools for each variable are reliable and suitable for use.

B. Classical Assumption Testing

This study uses classical assumption tests, including normality, heteroscedasticity, and multicollinearity tests, to

ensure the validity of the regression model. The normality test is used to assess whether the residuals are normally distributed, the heteroscedasticity test examines the variance of the errors, and the multicollinearity test detects correlations among the independent variables. All tests showed that the data met the assumptions required for regression analysis.

1) Normality Test

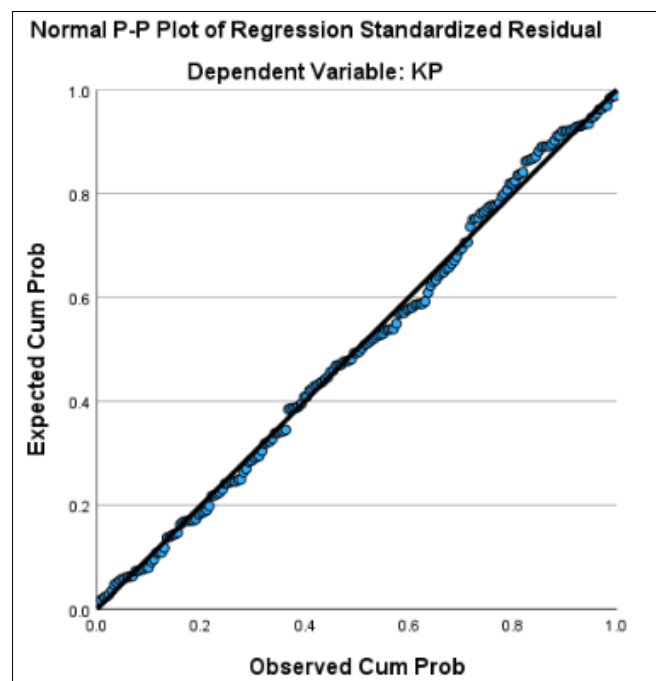


Fig 1: Normal P-P Plot of Regression

The Normal P-P Plot in Figure 4.1 shows that the standardized residuals are approximately normally distributed, as indicated by the points closely following the

diagonal line. Despite minor deviations at the extremes, the normality assumption is considered fulfilled, supporting the validity of the regression model.

2) Heteroscedasticity Test

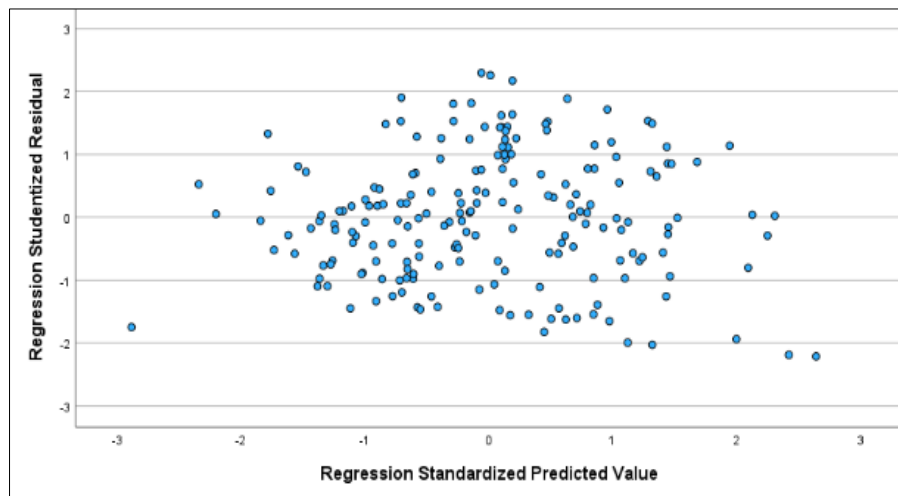


Fig 2: Scatterplot of Standardized Residuals

Figure 2 shows the scatterplot of standardized residuals against standardized predicted values. The residuals are randomly dispersed around the horizontal axis, with no clear

pattern, indicating that the assumption of homoscedasticity is met. This suggests that the regression model does not suffer from heteroscedasticity and is suitable for further analysis.

3) Multicollinearity Test

Table 4: Result of Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Knowledge Creation	0.348	2.876
Knowledge Retention	0.339	2.953
Knowledge Transfer	0.565	1.769
Knowledge Utilization	0.290	3.447
Managerial and leadership support	0.419	2.384
Application of Technology	0.512	1.952

Table 4.4 shows the results of the multicollinearity test using Tolerance and Variance Inflation Factor (VIF) values. All independent variables have Tolerance values above 0.1 and

VIF values below 10, indicating that there is no multicollinearity among the variables. Therefore, the regression model meets the assumption of multicollinearity.

4.3 Results of the multiple linear regression analysis and Hypothesis Testing

Table 5: Multiple linear regression

Variable	Regression Coefficient	Sig.
Constant	41,547	≤,001
Knowledge Creation	0,242	0,534
Knowledge Retention	0,879	0,019
Knowledge Transfer	2,019	≤0,001
Knowledge Utilization	0,221	0,599
Managerial and leadership support	0,021	0,951
Application of Technology	1,123	≤,001

Source: Processed primary data, 2025

Based on Table 4.5 above, the regression equation is $Y = 41.547 + 0.242(X_1) + 0.879(X_2) + 2.019(X_3) + 0.221(X_4) + 0.021(X_5) + 1.123(X_6) + \varepsilon$. This indicates that the Knowledge Retention (X_2) variable has a positive

effect on Service Quality (Y) with a regression coefficient of 0.879, meaning that increased knowledge retention also improves service quality. Furthermore, Knowledge Transfer (X_3) has the largest positive effect with a coefficient of 2.019,

indicating that the more frequent knowledge exchange between staff, the better the service quality. The Application of Technology (X_6) variable also has a significant positive effect on service quality, with a coefficient of 1.123. Meanwhile, the Knowledge Creation (X_1), Knowledge

Utilization (X_4), and Managerial and Leadership Support (X_5) variables also show positive, but insignificant, effects, indicating that improvements in these three aspects have not significantly contributed to improving service quality based on the data processing results in this study.

A. Simultaneous Hypothesis Test (F Test)

Table 6: F Test Results

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3265.423	6	544.237	10.844	$\leq .001^b$
	Residual	9535.606	190	50.187		
	Total	12801.029	196			
a. Dependent Variable: KP						
b. Predictors: (Constant), KM1, KM2, KM3, KM4, KM5, KM6						

Source: Processed primary data, 2025

Table 4.6 above shows that Knowledge Creation (X_1), Knowledge Retention (X_2), Knowledge Transfer (X_3), Knowledge Utilization (X_4), Managerial and Leadership Supports (X_5), and Application of Technology (X_6) have a

significant influence on the quality of Community Health Center services. The calculated F value supports this, as evidenced by the F table, which shows a value of 10.844, greater than 2.416.

Table 7: Simultaneous determination coefficient

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.505 ^a	.255	.232	7.08431
a. Predictors: (Constant), KM1, KM2, KM3, KM4, KM5, KM6				

Source: Processed primary data, 2025

Based on the results in Table 4.7, the Adjusted R-squared value is 0.232, indicating that 23.2% of the variation in service quality can be explained by the independent variables in this model: Knowledge Creation, Knowledge Retention,

Knowledge Transfer, Knowledge Utilization, Managerial and Leadership Support, and Application of Technology. Meanwhile, the remaining 76.8% is explained by other factors not included in the model.

B. Partial Hypothesis Testing (t test)

Table 8: t test result

Variable	t count	t table	Sig.	Category
Knowledge Creation	0,623	1,652	0,534	Not Significant
Knowledge Retention	2,367	1,652	0,019	Significant
Knowledge Transfer	6,360	1,652	$\leq 0,001$	Significant
Knowledge Utilization	0,526	1,652	0,599	Not Significant
Managerial and leadership support	0,062	1,652	0,951	Not Significant
Application of Technology	3,616	1,652	$\leq 0,001$	Significant

Source: Processed primary data, 2025

Based on Table 4.8 above, the results of the partial t test for each independent variable on the dependent variable are explained in more detail below.

- 1). Knowledge Creation does not have a significant effect on the quality of Community Health Center services. This is evidenced by the calculated t-value $\leq$ t-table, namely $0.623 \leq 1.652$, and a significance value of 0.534 (greater than 0.05). This means that H_0 is accepted and H_a is rejected; thus, the first hypothesis is not statistically proven.
- 2). Knowledge Retention has a positive and significant effect on the quality of Community Health Center services. This is evidenced by the calculated t-value of 2.367, which is greater than the t-table value of 1.652, and a significance value of 0.019 (less than 0.05). This means that H_0 is rejected and H_a is accepted; thus, the second hypothesis has been tested and statistically

supported.

- 3). Knowledge Transfer has a positive and significant effect on the quality of Community Health Center services. This is evidenced by the calculated t-value of 6.360, which is greater than the t-table value of 1.652, and a significance value of less than 0.001 (i.e., < 0.001). This means that H_0 is rejected and H_a is accepted; thus, the third hypothesis has been tested and statistically supported.
- 4). Knowledge Utilization does not have a significant effect on the quality of Puskesmas services. This is evidenced by the calculated t-value $\leq$ t-table, namely $0.526 \leq 1.652$, and a significance value of 0.599 (greater than 0.05). This means that H_0 is accepted and H_a is rejected; thus, the fourth hypothesis is not statistically proven.
- 5). Managerial and leadership support do not have a significant effect on the quality of Puskesmas services.

This is evidenced by the calculated t-value $\leq$ t-table, namely $0.062 \leq 1.652$, and a significance value of 0.951 (greater than 0.05). This means that H_0 is accepted and H_a is rejected; thus, the fifth hypothesis is not statistically proven.

- 6). Application of Technology has a positive and significant effect on the service quality of Community Health

Centers (Puskesmas). This is evidenced by the t-value $\geq$ t-table, namely $3.616 \geq 1.652$, and a significance value of ≤ 0.001 (less than 0.05). This means that H_0 is rejected and H_a is accepted, indicating that the sixth hypothesis has been tested and is statistically supported.

Table 9: Determination Coefficient

Model Summary				
Model	Sig.	Part	R Square Partial (%)	Category
Knowledge Creation	0,534	0,039	0,15%	Not Significant
Knowledge Retention	0,019	0,148	2,19%	Significant
Knowledge Transfer	$\leq 0,001$	0,398	15,84%	Significant
Knowledge Utilization	0,599	0,033	0,11%	Not Significant
Managerial and leadership support	0,951	0,004	0,00%	Not Significant
Application of Technology	$\leq 0,001$	0,226	5,11%	Significant

Source: Processed primary data, 2025

Based on the partial determination coefficient calculations for each independent variable versus the dependent variable in Table 4.9, it is evident that the Knowledge Transfer variable makes the most significant partial contribution to explaining the variation in the quality of BEmONC services, which is 15.84%, with a high level of significance ($p \leq 0.001$). Furthermore, the Application of Technology variable makes a significant contribution of 5.11% ($p \leq 0.001$), followed by Knowledge Retention, which contributes 2.19% ($p = 0.019$), a statistically significant contribution. Meanwhile, the variables Knowledge Creation, Knowledge Utilization, and Managerial and Leadership Support each contribute a tiny percentage to the quality of BEmONC services, specifically 0.15%, 0.11%, and 0.00%, respectively, and are not statistically significant ($p \geq 0.05$). These findings suggest that not all dimensions of Knowledge Management have a direct and significant contribution to improving service quality. However, there are key dimensions that have a significant and dominant influence, especially on the aspects of knowledge transfer and technology application.

4.4 The Influence of Knowledge Management Factors A

The results of the seventh hypothesis test indicate that Knowledge Creation (X1), Knowledge Retention (X2), Knowledge Transfer (X3), Knowledge Utilization (X4), Managerial and Leadership Supports (X5), and Application of Technology (X6) simultaneously have a significant influence on the Quality of BEmONC Services (Y) at the West Java Community Health Center. This indicates that the six dimensions of Knowledge Management Knowledge Creation, Knowledge Retention, Knowledge Transfer, Knowledge Utilization, Managerial and Leadership Support, and Application of Technology are conceptually complementary and strongly relevant to emergency services such as BEmONC. In emergencies, the success of services depends heavily on the ability of healthcare workers to act quickly, accurately, and knowledge-based. Knowledge Retention and Knowledge Transfer ensure that critical clinical information is maintained and can be quickly distributed among staff. Knowledge Utilization enables the direct application of acquired knowledge to emergency case management. Support from leadership and the use of technology are also essential foundations for building a structured, efficient, and adaptive service system. Thus, the comprehensive and synergistic implementation of

Knowledge Management is highly relevant for improving the readiness and responsiveness of BEmONC services at Community Health Centers (Puskesmas).

In line with the simultaneous regression results showing a significant influence between Knowledge Management dimensions and service quality based on the perceptions of healthcare workers (doctors and midwives), field findings from the perspective of service users, namely patients, also consistently demonstrate that BEmONC services at the Indramayu Community Health Center have been running well. Field results indicate that patients did not complain about BEmONC services at the Indramayu Community Health Center, nor regarding facility cleanliness, the availability of medical equipment, the speed of service, or the staff's attitude. This condition indicates that services have been running effectively, with satisfaction levels reflected in key dimensions of service quality, such as tangibles, reliability, responsiveness, assurance, and empathy. The minimal number of patient complaints reflects the staff's ability to consistently provide timely services, respond to patient needs, and demonstrate professionalism and empathy. These findings are further supported by various recent studies, such as those conducted by Krišelj *et al.* (2025) ^[22], which confirmed that knowledge management factors such as knowledge acquisition, sharing, application, and retention, as well as leadership, have been shown to impact the quality of healthcare services positively. Similarly, Ayatulloh *et al.* (2021) ^[23] demonstrated that the implementation of sound knowledge management can improve healthcare worker performance and service quality through more informed decision-making. These findings strengthen the argument that the success of BEONC services depends not only on physical infrastructure but also on strategic and sustainable knowledge management.

A. The Effect of Knowledge Creation on Service Quality

The results of the first hypothesis test indicate that Knowledge Creation (X1) has a partial and non-significant effect on service quality in Basic Emergency Obstetric Neonatal Care (BEONC) at the West Java Community Health Center. This indicates that statistically, the creation of new knowledge has not significantly contributed to improving service quality within the Community Health Center. Furthermore, these results also reflect a gap between the knowledge creation process and the work ecosystem at the

Community Health Center, which does not fully support its optimal implementation. In the BEmONC unit, high workloads, limited resources, and a greater operational focus on curative measures can hinder staff from developing and implementing innovative ideas.

This finding aligns with the human capital theory proposed by Becker (2024) ^[24], which asserts that knowledge creation is part of a long-term investment in human resources that ultimately contributes to productivity and work quality. However, if the knowledge created is not well distributed or not promptly applied in services, its impact on service quality will be limited.

B. The Effect of Knowledge Retention on Service Quality

The results of the second hypothesis test indicate that Knowledge Retention (X2) has a partially positive and significant effect on service quality in Basic Emergency Obstetric Neonatal Care (BEmONC) at the West Java Community Health Center. This means that the higher the level of Knowledge Retention, the higher the quality of service provided by the Community Health Center. This finding indicates that the Community Health Center's success in establishing a structured knowledge storage and documentation mechanism ensures that critical knowledge and best practices are continuously passed on and utilized by all staff, including new personnel, thereby maintaining the continuity of organizational competency.

The results of this study align with Armstrong's (2022) human resource management theory ^[25], which emphasizes that Knowledge Retention is a key element in maintaining the sustainability of organizational competency and preventing the loss of critical knowledge due to employee turnover, retirement, or transfer. Armstrong explains that organizations with a strong knowledge retention system ensure that individuals' experiences, expertise, and critical information can continue to be utilized by the organization on an ongoing basis.

C. The Influence of Knowledge Transfer on Service Quality

The results of the third hypothesis test indicate that Knowledge Transfer (X3) has a partially positive and significant effect on the quality of Basic Emergency Obstetric and Neonatal Care (BEmONC) at the West Java Community Health Center. This means that the higher the level of Knowledge Transfer, the higher the quality of services provided by the Community Health Center. This finding suggests that the Community Health Center's success in managing knowledge transfer lays a crucial foundation for developing a superior service system.

These results align with research conducted by Argote and Ingram (2020) ^[26], which states that effective Knowledge Transfer within an organization drives operational excellence and accelerates innovation. In the context of healthcare, this means that a rapid response, accurate diagnosis, and seamless integration into the referral system and patient care characterize improved service quality.

D. The Effect of Knowledge Utilization on Service Quality

The results of the third hypothesis test indicate that Knowledge Utilization (X4) has no significant effect on service quality in Basic Emergency Obstetric Neonatal Care

(BEmONC) at the West Java Community Health Center. This suggests that knowledge utilization has not had a significant impact on improving service quality within the Community Health Center. This finding also indicates a gap between knowledge training and the reality of implementation in the field. Even though health workers have participated in various training programs or have access to the latest information, without systemic support such as regular monitoring, clinical case reflection, or performance-based incentives, this knowledge tends not to be internalized in work behavior.

The results of this study align with McClelland's (2023) competency theory ^[27], which posits that optimal performance is achieved when individuals not only possess knowledge but also apply it effectively in the context of their professional duties. In healthcare practice, this includes the ability of healthcare workers to translate theory into appropriate, rapid, and accurate medical actions.

E. The Influence of Managerial and Leadership Supports on Service Quality

The results of the third hypothesis test indicate that Managerial and Leadership Supports (X5) partially did not have a significant influence on service quality in Basic Emergency Obstetric Neonatal Care (BEmONC) at the West Java Community Health Center. This suggests that, within the context of this study, leadership support has not had a direct and significant impact on the perception of service quality provided by healthcare workers. These results also suggest that healthcare workers have not fully understood the role of leadership at the Community Health Center in improving service quality.

This finding aligns with research by Yukl (2020) ^[28], which states that leadership effectiveness is highly dependent on the leader's ability to translate vision into actions that directly impact organizational systems and performance. If leaders only play a normative role without strategic and tactical reinforcement, their influence on service performance tends to be minimal.

F. The Effect of Technology Application on Service Quality

The results of the third hypothesis test indicate that Technology Application (X6) partially has a positive and significant effect on the quality of service in Basic Emergency Obstetric Neonatal Care (BEmONC) at the West Java Community Health Center. This means that the higher the level of Technology Application, the higher the quality of service provided by the Community Health Center. The practical implementation of technology in the Community Health Center, both through internal digital applications and the use of modern medical equipment, has contributed to accelerating the diagnostic process and clinical decision-making. The efficiency offered by technology ultimately improves the quality of services provided to BEmONC patients.

This finding is also supported by Becker's (2024) Human Capital theory ^[24], which states that technology is part of the capital supporting the improvement of human resource quality. The use of technology provides healthcare workers with access to the latest information, implements evidence-based practices, and facilitates more effective coordination in case management. Healthcare organizations that optimally adopt technology tend to have better service performance.

can be drawn:

- 1) Knowledge management in BEmONC services at the

5. Conclusion

Based on the results of this study, the following conclusions

West Java Community Health Center (Puskesmas) has generally been implemented well, with the implementation of all its dimensions deemed optimal by healthcare workers.

- 2) The quality of BEMONC services at the West Java Community Health Center (Puskesmas) has been assessed as good by healthcare workers, with the implementation of all its dimensions deemed optimal by healthcare workers.
- 3) Simultaneously, all Knowledge Management factors have a significant impact on service quality.
- 4) Knowledge creation has not yet had a significant impact; innovation and training activities have not had a direct impact on service quality.
- 5) Knowledge retention has a positive and significant impact through adequate documentation and knowledge storage.
- 6) Knowledge transfer has a positive and significant impact through information exchange, mentoring, and internal training.
- 7) Knowledge utilization has not shown a significant impact; knowledge utilization is still not optimal in supporting work standards.
- 8) Managerial and leadership support has not had a significant impact because it has not been fully utilized as a driver of knowledge management.
- 9) Application of technology has a positive and significant impact on service quality through the use of digital systems and information technology.

This research provides a novel contribution to the context of BEMONC services at the community health center level, highlighting the role of each dimension of knowledge management, both simultaneously and partially, in improving service quality. These findings provide a basis for developing strategies to enhance knowledge management in primary care, particularly in efforts to improve service quality and patient outcomes.

6. References

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