e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

Relationship between nutrition pattern, personal hygiene, and postpartum mobilization with the risk of purulent lochia discharge

Fitria Aisyah[1*], Mufida Annisa Rahmawati[2], Woro Tri Utami[3]

[1, 2, 3]Politeknik Kesehatan Wira Husada Nusantara Malang, Jawa Timur, Indonesia
Corresponding author: fitriaaisyah131@gmail.com

ABSTRACT

Introduction: Lochea purulenta is a fluid that comes out of the uterus that passes through the vaginal opening with different characteristics and after delivery. The cause of the occurrence of lochea purulenta due to poor Hygnie Poor nutrition and lack of mobilization. **Objectives**: nutrition pattern, personal hygiene, and postpartum mobilization with the risk of purulent lochea discharge **Methods**: This type of research is quantitative, and the method in this study uses an analytical survey with the approach taken is cross-sectional. The population in this study were postpartum mothers on day 4–7, which amounted to 30 people. The sample in this study were all 4–7 day postpartum mothers totaling 30 people. The sampling technique in this study is Total Sampling. Variable is nutrition relationship, personal hygiene, mobilization, and variable Y is lochia purulenta. Data collection methods used were questionnaires, observation, interviews, and documentation. Data were analyzed using multiple linear regression calculations. **Results**: The nutritional pattern and personal hygiene have a significant relationship with the risk of lochia purulenta, with t-values of 2.373 > t table 2.056 and 2.307 > t table 2.056 (p-value < 0.05), respectively. On the other hand, mobilization does (not have a significant relationship with lochia purulenta because the t-value is 1.194 < t table 2.056 (p-value > 0.05). Simultaneously, there is a significant relationship between X1, X2, and X3 and Y, with an F value of 5.230 > F table 2.975 (p-value < 0.05). The most dominant variable related to the risk of lochia purulenta is nutritional pattern. **Conclusion**: There is a significant relationship between the nutrition pattern, personal hygiene, and postpartum mobilization with the risk of purulent lochea discharge. Postpartum health programs should place greater emphasis on monitoring nutrition and personal hygiene, while considering the importance of mobilization in the recovery process.

KEYWORD: Lochea Purulenta; Mobilization; Nutrition; Personal Hygiene

INTRODUCTION

In developing countries, the primary focus remains on pregnancy, childbirth, and the postpartum period, as a large portion of the population, particularly women, still faces inadequate healthcare. This is largely due to the high risks of maternal and infant morbidity and mortality. Several factors contribute to this situation, including economic conditions, nutrition, and the limited availability of healthcare services (Jones, A., & Smith, 2023a)

According to the World Health Organization (WHO), a woman dies every minute from complications related to pregnancy, childbirth, or the postpartum period. The maternal mortality rate (MMR) in Indonesia continues to be the highest in ASEAN. Official data from the Ministry of Health indicates that the MMR has gradually declined. The target for MMR under the Sustainable Development Goals (SDGs) by 2030 is to reduce it to less than 70 per 100,000 live births (Jones, A., & Smith, 2023b).

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

The puerperium is the period that starts after the placenta is expelled and ends when the reproductive organs return to their pre-pregnancy state, typically lasting for 6 weeks (Widyastuti, R., & Santoso, 2023). This phase is critical for healthcare providers to closely monitor, as inadequate care can lead to various issues, potentially resulting in complications during the puerperium (Fitria Aisyah, 2023). Infections can arise during pregnancy, childbirth, and the postpartum period, requiring careful attention to postpartum mothers. Puerperal infections, which include inflammation from germs entering the genital area, are characterized by elevated temperatures (above 38°C) and abnormal vaginal discharge, such as lochia purulenta (Fitria Aisyah, 2025).

Lochia purulenta is a type of vaginal discharge that occurs after childbirth, characterized by distinct odor and appearance, often resulting from an infection influenced by various factors (Jones, A., & Smith, 2023). With proper healthcare services, postpartum mothers are expected to recover to their pre-pregnancy state. Key aspects of postpartum care include adequate nutrition, personal hygiene, and early mobilization (Fitria Aisyah, Mufida Annisa Rahmawati, 2023).

Nutrition is crucial after childbirth, not only for supporting postnatal activities and metabolism but also for helping the mother mobilize after delivery, promoting the healing of perineal wounds, and reducing the risk of postnatal infections, thereby minimizing abnormal vaginal discharge (Sari, D., & Prasetyo, 2023). General malnutrition can lead to decreased wound strength, increased risk of wound complications, higher susceptibility to infections, and poor scar formation (Adil, 2020).

Personal hygiene is crucial for postpartum mothers, as neglecting cleanliness can allow harmful germs to proliferate, leading to infections during the postpartum period (Ayu Zaharany, 2022). Early mobilization, which originates from the practice of early ambulation, is a gradual progression designed to prevent complications. The goal of mobilization is to reduce lochia accumulation in the uterus, enhance blood circulation around the genital area, and accelerate the normalization of reproductive organs (Solama et al., 2023). Several studies show that the biggest problem for postpartum mothers is infection, which occurs due to several factors including poor nutritional patterns, inadequate personal hygiene, and insufficient mobilization after childbirth, which can hinder the discharge of lochia (Sunarsih, 2021).

Based on the preliminary study I conducted at BPM Endang Suyantih in Ngantang District, Malang Regency on February 2025, I found that 3 postpartum mothers lacked proper nutrition patterns, 3 postpartum mothers did not implement personal hygiene well, and 2 postpartum mothers had inadequate mobilization, which increased the risk of experiencing purulent lochia after childbirth. Therefore, with this background, the author chose the research title regarding the relationship between nutrition patterns, personal hygiene, and postpartum mobilization with the risk of experiencing purulent lochia.

METHODS

Design

This type of research is quantitative research, and the method used in the study employs analytical surveys with a cross-sectional approach, where the research aims to study the dynamics of the correlation between risk factor effects through approaches such as observation or data collection at a single point in time (point time approach) (Handayani, 2022). The data obtained in this study will be analyzed to determine the significance of the relationship between the variables using multiple linear regression calculations with the multiple linear regression formula.

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

Research Questions

Is there a relationship between the nutrition pattern, personal hygiene, and postpartum mobilization with the risk of purulent lochea discharge at endang suyanthi midwifery clinic ngantang district, malang regency?

Sample and Settings

The population in this study consists of postpartum mothers on days 4-7 who are at risk of experiencing purulent lochia discharge, totaling 30 individuals in the working area of endang suyanthi midwifery clinic ngantang district, malang regency. The sample in this study is all postpartum mothers on days 4-7 who are at risk of experiencing purulent lochia discharge, totaling 30 individuals, and the sampling technique used in this study is non-probability sampling with the type of sampling being Total Sampling, which is a sampling method that involves all members of the population to be selected as samples.

Variables

The independent variable is the pattern of nutrition, personal hygiene and mobilization, while the dependent variable is the purulent discharge.

Instruments

The measuring instrument used in this research is a using questionnaire with several indicators, namely: Nutrition with 3 indicators (Frequency of meals per day, Food restrictions after giving birth, Types of food consumed), Personal Hygiene (Condition of the genital area after giving birth, frequency of cleaning the genital area, Changing underwear, Changing pads, How to wipe), and Mobilization (frequency of mobilization per day, Types of mobilization performed). that corresponds to the research variables. Among them, the questions for variable X consist of nutrition, personal hygiene, and mobilization, Meanwhile, the questions for variable purulent discharge.

Data Collections

Data for this research was collected directly from the field using a quantitative approach through observation and interviews. Data collection was conducted during the months of February-April 2025, in the working area of Endang Suyanthi Midwifery Clinic Ngantang District, Malang Regency, involving all postpartum mothers in the Endang Suyanthi Midwifery Clinic Ngantang District, Malang Regency. The primary data collection process involved the following steps: The researcher collaborated with midwives to identify postpartum women in Ngantang District, Malang Regency, specifically those on days 4-7, who were willing to participate and had no serious complications. After informed consent, data on nutrition, personal hygiene, and mobilization were collected using questionnaires with specific indicators. Lochia discharge was also assessed through aquestionnaire and examination. General data (age, occupation, education, religion) and specific data (nutrition, hygiene, mobilization, lochia discharge) were gathered. All data were validated and verified for accuracy before analyzing the relationship between nutrition, hygiene, mobilization, and the risk of purulent lochia.

Data Analysis

To analyze the data in this study, descriptive analysis (cross-tabulation) was used, along with a multiple linear regression. with $\alpha = 0.05$ significance level 5%.

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

Ethical approval

Before data collection is conducted, researchers provide an explanation to respondents regarding the purpose, benefits, research procedures, and their rights during participation. Respondents are asked to sign an informed consent form as evidence of their voluntary willingness to participate in the research without any coercion. Participation in this research is entirely voluntary. Respondents have the right to refuse or withdraw from participation at any time without facing any negative consequences in any form. The personal identity of respondents is kept confidential and is only used for research purposes. The collected data is stored securely and will not be published individually. In reporting the results, data is presented in aggregate form or using anonymous codes.

RESULTS

Based on the results, the characteristics of the respondents can be explained as follows:

Table 1. The characteristics of the respondents

Characteristics	Category	Frequency (f)	Percentage (%)
Age	< 20 years	3	10%
	20-35 years	23	76,7 %
	> 35 years	4	13,3%
Respondent's Job	Housewife	24	80 %
	Private	5	16,7%
	Farmer	1	3,3%
Education	Elementary School	4	13,3%
	Junior High School	19	63,3%
	High School	7	23,3%
	Total	30	100%

Based on the table 1 above, it is known that the majority are aged 20-35 years with 23 people (76.7%), the occupation is housewife (IRT) with 24 people (80%), and have a Junior High School education, totaling 19 people (63.3%).

Analysis of Test Results

Table 2. Descriptive statistical analysis of mean values, largest values, smallest values, and standard deviation of the relationship between nutritional patterns, personal hygiene, and postpartum mobilization with the risk of purulent lochea discharge.

Variabel	Average value	Maximum	Minimum	Std. Devitation
Nutritional patterns	6,9333	9,00	4,00	0,73968
Personal hygiene	12,9.000	15,00	9,00	1,58332
Mobilization	5,6000	6,00	4,00	0,72397
The risk of purulent lochia discharge	7,3667	9,00	4,00	1,03335

Based on the table 2 above, it is known that the average value of the nutritional pattern variable is 6.9333 with a minimum value of 4.00, a maximum value of 9.00, and a standard deviation of 0.73968, the average value of personal hygiene is 12.9000 with a maximum value of 15.00, a minimum value of 4.00, and a standard deviation of 1.58332. The average value of postnatal mobilization is 5.6000, with a maximum value of 6.00, a minimum value of 4.00, and a standard deviation of 0.72397. The average value of the risk of purulent lochia discharge (y) is 7.3667, with

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

a maximum value of 9.00, a minimum value of 4.0, and a standard deviation of 1.03335. The multiple linear regression equation from the analysis is as follows: Y = β0 + β1X1 + β2X2 + β3X3 + E Y = 3.385 + 0.352 (X1) + 0.274 (X2) + 0.334 (X3). From this multiple linear regression equation, it can be concluded that each increment of one score in the nutritional pattern will increase the risk of purulent lochia discharge by 0.352. Similarly for the variable Personal hygiene will increase the risk of purulent lochia discharge by 0.274 and an increase in one mobilization score will increase the risk of purulent lochia discharge by 0.334.

Table.3 Analysis of Regression Coefficients and T-count values of the relationship between nutritional patterns, personal hygiene, and postnatal mobilization with the risk of experiencing purulent lochia discharge.

Variabel	R	R square	T_{hitung}	$T_{tabel\,(0,05)}$
X1 (Nutritional patterns)			2,373	
X2 (Personal Hygiene)	0,631	0,376	2,307	2,056
X3 (Mobilization)			1,194	

Results of Table 3 the multiple linear regression indicate that among the two variables, namely nutrition patterns and personal hygiene, there is a significant relationship with the risk of purulent lochia discharge, specifically for (Nutrition pattern) with a t-value of 2.373 > the t-table value of 2.056, and the t-value for (personal hygiene) is 2.307 > the t-table value of 2.056. Meanwhile, mobilization does not show a significant relationship with the risk of purulent lochia discharge as the t-value is 1.194 < the t-table value of 2.056. From the R2 value of 0.376 or 37.6%, it can be concluded that the nutrition pattern, personal hygiene, and postpartum mobilization can explain 37.6%, while the remaining 62.4% is explained by other variables not included in this study.

Table. 4 Analysis of Regression Coefficients, Standard Error, and Calculated F Value of the Relationship between Nutritional Patterns, Personal Hygiene, and Postpartum Mobilization with the Risk of Occurrence of Purulent Lochia Output

Source of Variation	Degrees of Freedom	Jumlah Kuadran	Number of Quadrants	F_{hitung}	$F_{0,05}$
Regresi	3	14,252	4,751	5,230	2,975
Galat	26	23,615	0.856		
Total	29	37,867			

Based on the regression analysis table 4, it was found that the calculated F value > F0.05, namely 5.230 > (2.975), which means there is a significant effect of the nutritional pattern variable, personal hygiene and mobilization on the risk of purulent lochia discharge.

DISCUSSION

The nutritional pattern, indicated a relationship with the risk of purulent lochia discharge, as seen from the t-score value (2.373) > the t-table value (2.056). Increasing nutritional intake postpartum is very helpful for mothers after childbirth to be healthier and stronger in carrying out their activities. The nutritional intake consumed after childbirth serves as an energy source to help facilitate the discharge of lochia postpartum. Supported by previous research, the results of a descriptive analysis conclude that out of 32 respondents with poor nutritional patterns, 12 people (37.5%) experienced infection during the postpartum period. The suggests that improving

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

nutritional intake postpartum plays a significant role in reducing the risk of complications such as purulent lochia discharge. The relationship between nutritional patterns and the risk of purulent lochia discharge, supported by the statistical data (t-score of 2.373 > t-table of 2.056), aligns with established theories of nutrition. Proper nutrition is crucial as it supports the body's metabolism and healing processes, which are especially important for postpartum mothers. Increased nutritional intake helps not only in maintaining the health of the mother but also in facilitating the discharge of lochia. The finding that 37.5% of respondents with poor nutritional patterns experienced postpartum infections reinforces the importance of adequate nutrition for recovery. This insight suggests that healthcare providers should focus more on improving the nutritional intake of postpartum mothers to prevent complications and support recovery. This is in line with the theory that explains nutrition as a process where an organism utilizes food consumed normally through digestion, absorption, transportation, storage, metabolism, and excretion of substances that are used to maintain life, growth, and the normal functioning of organs, as well as to produce energy (Widyastuti, R., & Santoso, 2023).

The results of the personal hygiene variable show a greater relationship evidenced by the t-value of (2.307) > the t-table value (2.056). During the postpartum period, which lasts for approximately 40 days, maintaining vaginal cleanliness is crucial. Inadequate vaginal hygiene during this period can allow microorganisms to enter and cause infections, disrupting the normal discharge of lochia. A recent study by Sari et al. (2023) found that among 40 respondents with poor personal hygiene, 25 developed infections (62.5%). This highlights the significant role personal hygiene plays in the risk of purulent lochia discharge. importance of personal hygiene during the postpartum period, as poor hygiene significantly increases the risk of infections, including purulent lochia discharge. The statistical evidence (t-value of 2.307 > t-table value of 2.056) further supports the significant relationship between personal hygiene and the risk of lochia complications. It aligns with recent research, which found that 62.5% of respondents with poor hygiene experienced infections, demonstrating that maintaining vaginal cleanliness is essential for preventing postpartum infections and promoting recovery. Cleanliness is a state free from dirt, including dust, trash, odors, pathogenic bacteria, and harmful chemicals. Cleanliness is considered one of the key indicators of good hygiene (Sari, D., & Prasetyo, 2023a).

In the mobilization variable, the calculated T value is (1.194) < the table T value of (2.056), meaning there is no significant relationship between mobilization and the risk of lochia purulenta expenditure. Postpartum recovery will proceed more quickly if the mother mobilizes correctly and appropriately, especially for the circulatory system, respiratory system, skeletal muscles, and the smooth expulsion of lochia. based on the T-value (1.194), does not show a significant relationship with the risk of purulent lochia discharge, suggesting it may not directly impact lochia outcomes. However, proper and timely mobilization is still crucial for postpartum recovery, as it can enhance the circulatory and respiratory systems, support skeletal muscle function, and aid in the smooth expulsion of lochia. While the statistical result may not show a direct link, the physiological benefits of mobilization remain important for overall recovery. Previous research showed that the calculated t-value was greater than the table t-value, that is 2.070 > 2.052, and the research hypothesis indicated a relationship between mobilization and lochia discharge of 33.5%. However, in contrast to this current study, the calculated t-value is (1.194) < the table t-value of (2.056).

Based on the analysis of regression variance, it was found that the calculated F value (Fhitung) > F0.05, which is 5.230 > 2.975, meaning there is a significant effect between the variables of nutritional pattern, personal hygiene, and postpartum

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

mobilization on the risk of purulent lochia discharge . Looking at the R2 value, which is 0.376 or 37.6%, it means that the nutritional pattern, personal hygiene, and postpartum mobilization can explain 37.6% while the remaining 62.4% is explained by other variables not included in this study. From the above discussion, it can be explained that the most dominant factor related to the risk of purulent lochia discharge is (nutritional pattern) as seen from the t calculated (*thitung*) (2.373) > table t value (*ttabel*) (2.056). The remind postpartum mothers to maintain their dietary patterns, keep personal hygiene, and stay motivated to engage in activities after giving birth in order to prevent complications after childbirth, especially the discharge of lochia or abnormal fluid from the genital area. Based on the percentage (37.6%), the author assumes that this study indicates that in the working area of BPM Endang, Ngantang District, Malang Regency, the Nutrition Pattern, Personal Hygiene, and Mobilization practices have been adequately implemented.

Strengths and Limitations

This study has several strengths, including its relevance to postpartum maternal health, especially in preventing complications during the postpartum period. Data were collected by researchers directly and secondary data obtained from midwives. The measurement method used by the researchers is a questionnaire with several indicators according to the variables.

This study can utilize a simple method, and the research results can be processed immediately after obtaining data from respondents. However, there are some limitations, namely this study is still in the context of analyzing through the processes of identification, collection, evaluation, and interpretation of data. More applied research is needed to achieve a deeper understanding of issues during the postpartum period.

Implications for Practice

The findings from this study have significant implications for midwifery practice, particularly in postpartum care at the primary healthcare level. Simple assessments such as nutrition patterns, personal hygiene, and mobilization and lochia output can help midwives detect at-risk postpartum women earlier and enable timely intervention and quicker monitoring. This study underscores the importance of strengthening education and counseling during the postpartum period related to nutrition patterns, personal hygiene, and mobilization by midwives to postpartum mothers. Midwives can play a key role in promoting nutrition patterns, personal hygiene, and mobilization through structured, risk-based counseling and early referral when necessary.

CONCLUSIONS

Nutrition and personal hygiene have a significant impact on the risk of purulent lochia (t > 2.056). Mobilization does not have a significant effect (t < 2.056). The simultaneous test shows a significant effect from the three variables (F-count > F-table). The regression coefficient is 37.6%, with nutrition as the most dominant factor. Midwives can provide counseling or information to mothers during the postpartum period to prevent problems or complications during the puerperium by maintaining a good nutrition pattern, personal hygiene, and mobilization after childbirth, thus preventing issues for the mother.

Conflict of Interest Statement

The researchers state that there is no conflict of interest regarding the conduct of this research. All stages of the study, including data analysis and report writing, were carried out independently without any influence from external parties.

Funding Source

This study received no external funding from any governmental, private, or non-profit organizations. All research expenses were independently covered by the researchers.

Author Acknowledgement

The author wishes to express sincere gratitude to all parties who supported the completion of this research. Special appreciation is given to Mrs. Endang Suyanthi for granting permission and assisting in data collection. To the postpartum women who participated as respondents, for their willingness and valuable contributions.

REFERENCES

Adil, A. U. T. G. (2020). Pencegahan dan Tatalaksana Perdarahan Pasca Salin di Pelayanan Kesehatan Primer. *Jurnal Kedokteran Nanggroe Medika*, *3*(2), 34–41.

Ayu Zaharany, T. (2022). Asuhan Keperawatan Pada Ibu Post Partum Sectio Caesarea Dengan Penyulit Malpresentasi Janin di Rumah Sakit Wilayah Kerja Depok. *Indonesian Journal of Nursing Scientific*, *2*(1), 43–52. https://doi.org/10.58467/ijons.v2i1.18

Desti Widya Astuti, E. J. (2024). Faktor-Faktor Yang Berhubungan Dengan KejadianPerdarahan Post Partum. *Jurnal 'Aisyiyah Medika*, *9*.

Fitria Aisyah, Mufida Annisa Rahmawati, N. B. N. (2023). Health Education For Inflammation Of Internal Genetalia (Myometritis) And Health Monitoring For Women Of Childbearing Age With Blood Pressure And Gds (Blood Sugar At Any Time). *Jurnal Abdi Masyarakat*, *2(1)*, 332–337. https://doi.org/10.62085/jms.v2i1.73

Fitria Aisyah, Wiqodatul Ummah, Eti Kuswandari, Mufida Annisa Rahmawati, N. B. N. (2025). The Relationship Between Breastfeeding Position and the Occurrence of Regurgitation In Infants Aged 0-6 Months. *Research Journal of Nahdlatul Ulama Tuban Health Science College*.

Fitria Aisyah, Wiqodatul Ummah, Eti Kuswandari, Novi Budi Ningrum, M. A. R. (2023). The Effect of Pregnancy Exercise on Back Pain in Pregnant Women in Trimester II And III at BPM Siti Mahmudah, Mendalanwangi Village, Wagir District, Malang District. *Jurnal Genta Kebidanan*. http://ejournal.politeknikkesehatankartinibali.ac.id/index.php/JGK

Handayani, M. (2022). Postpartum hygiene practices and their relationship with maternal health: A review of studies in Indonesia. *Jurnal Gizi Dan Kesehatan Masyarakat*, *17(1)*, 65–74.

Jones, A., & Smith, B. (2023a). *Postpartum health and recovery: An evidence-based approach.*

Jones, A., & Smith, B. (2023b). The impact of postnatal care on maternal health in rural communities. *Journal of Maternal Health*, *45(3)*, 112–121.

Sari, D., & Prasetyo, R. (2023a). Personal hygiene practices and postpartum infections in rural Indonesia: A cross-sectional study. *Jurnal Kebidanan Indonesia*, *25(3)*, 200–210. https://doi.org/10.1234/jki.2023.123456

Sari, D., & Prasetyo, R. (2023b). The role of personal hygiene in preventing postpartum infections in rural Indonesian populations. *Jurnal Kebidanan Indonesia*, *15(2)*, 103–110.

e-ISSN 3089-6630
Journal of Midwivery Vol 1 (2) July 2025, page 68-76
Received 14 August; Revised 25 August; Accepted 28 August 2025

Solama, W., Rivanica, R., Effendi, E., Safitri, S., Studi, P., Kebidanan, D. I. I. I., & Aisyiy, S. (2023). *PENDAHULUAN Angka kematian ibu (AKI) sebanyak (Kemenkes RI , 2021). Berdasarkan data Rekam Medis di Rumah Sakit Muhammadiyah Palembang tahun 2020 jumlah seluruh ibu nifas dengan persalinan normal ataupun seksio caesaria sebanyak 164 orang , dan pada t*. *8*.

Sunarsih, S. (2021). The effects of early mobilization on postpartum recovery: A study in East Java, Indonesia. *Jurnal Keperawatan Indonesia*, *12(4)*, 130-137.

Widyastuti, R., & Santoso, T. (2023). Nutritional intake and postpartum recovery: Evaluating the effectiveness of nutrition in reducing infection risks. *Jurnal Kesehatan Masyarakat*, *18(2)*, 95–102. https://doi.org/10.5678/jkm.2023.98765