

THE RELATIONSHIP BETWEEN KNOWLEDGE AND MOTHERS' WORK REGARDING BREAST MILK STORAGE IN THE WORKING, FAKFAK DISTRICT, WEST PAPUA PROVINCE IN 2024

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ABSTRACT

Background Exclusive breastfeeding is the most appropriate source of nutrition for infants and contributes significantly to improving child health and survival. However, working mothers often experience difficulties in maintaining exclusive breastfeeding because of limited time with their infants. Expressing and storing breast milk is a practical solution that enables continued breastfeeding during maternal absence. The successful implementation of this practice depends largely on mothers' knowledge of correct breast milk storage procedures. **Objective** This study aimed to examine the relationship between maternal knowledge and breast milk storage practices among working mothers. **Methods** A descriptive-analytic study with a cross-sectional design was conducted among 32 pregnant and breastfeeding mothers. The respondents were selected using a total sampling technique. Data were collected through a structured online questionnaire and analyzed using univariate and bivariate statistical methods. The association between maternal knowledge and breast milk storage practices was assessed using the Spearman Rank correlation test with a significance level of 0.05. **Results** The findings indicated that 45.1% of respondents had limited knowledge regarding breast milk storage. Meanwhile, 51.6% demonstrated appropriate breast milk storage practices. The statistical analysis showed a significant relationship between maternal knowledge and breast milk storage practices ($p = 0.000$). Mothers with a better understanding of breast milk management were more likely to apply proper storage procedures. **Conclusion** Maternal knowledge is an important factor influencing breast milk storage practices among working mothers. Enhancing knowledge through breastfeeding education, counseling, and workplace support programs may improve breast milk handling practices and contribute to the achievement of exclusive breastfeeding.

Keywords: Breast Milk Storage; Employment; Knowledge; Mother; Working Mothers.

INTRODUCTION

Knowledge refers to an individual's capacity to understand, remember, and identify information obtained through learning and experience. It develops through the process of recognizing and interpreting stimuli received by the senses, including sight, hearing, smell, taste, and touch. Knowledge is formed from information that has been processed by the brain and becomes a basis for making decisions and taking action. (Erah and Email, 2023) The level of knowledge possessed by an individual can influence attitudes and behaviors. Individuals who have a better understanding of the positive aspects of an object or issue are generally more likely to display favorable attitudes and appropriate behaviors toward it. Knowledge can be categorized into several forms. Factual knowledge consists of basic information, facts, and data that can be directly observed or obtained. (Naik *et al.*, 2025) Conceptual knowledge relates to the understanding of relationships among various concepts within a broader framework. Procedural knowledge refers to understanding the steps, methods, or techniques required to perform a particular activity. Meanwhile, metacognitive knowledge involves awareness and understanding of one's own thinking processes and learning strategies. (Dewi *et al.*, 2024)

Breast Milk and the Lactation Process Breast milk (ASI) is a natural source of nutrition specifically designed to meet the nutritional requirements of infants and support optimal growth and development. (Nordin *et al.*, no date) Exclusive breastfeeding refers to providing only breast milk to infants during the first six months of life without introducing additional foods or beverages, including formula milk, water, honey, fruit juice, or complementary foods. After the infant reaches six months of age, complementary feeding is recommended while breastfeeding continues until the child is two years old or beyond. (Dellen *et al.*, 2021) Lactation is the physiological process through which breast milk is produced, secreted, and released from the mammary glands. This process is regulated by several hormones that work together during pregnancy and after childbirth. Estrogen and progesterone contribute to breast development, while prolactin stimulates milk production. Oxytocin facilitates the release of milk by triggering the milk ejection reflex. Other reproductive hormones also support breast tissue growth and preparation for breastfeeding during pregnancy. Breast milk production generally increases shortly after delivery and is sufficient to fulfill an infant's nutritional needs during the first six months of life. As the child grows older, nutritional demands increase, making complementary foods necessary in addition to continued breastfeeding. (Edemba, Irimu and Musoke, 2022)

RESEARCH METHOD

This study employed an observational survey design in which data were collected directly from respondents through structured questionnaires without providing any intervention to the participants. A descriptive-analytic approach with a cross-sectional design was applied to examine the relationship between the variables at a single point in time. The research was conducted in the working area of PT Rimbun Sawit Papua from May to June 2024. The study population consisted of all pregnant and breastfeeding mothers residing in the working area of PT Rimbun Sawit Papua, totaling 32 individuals. Due to the relatively small population size,

all eligible participants were included as study respondents using a total sampling technique, resulting in a sample of 32 mothers. The inclusion criteria were mothers who resided within the study area, possessed identification consistent with the research location, and were willing to participate by providing informed consent. Data were obtained from both primary and secondary sources. (Bemj, Posyandu and Gondomanan, 2026) Primary data were collected directly from respondents using questionnaires, while secondary data were gathered from relevant records and supporting documents. (Asi *et al.*, 2025) After data collection, the information was organized, coded, and processed to facilitate analysis. Data analysis was conducted to transform raw information into meaningful findings that could support interpretation and decision-making. The analytical process consisted of univariate and bivariate analyses. Univariate analysis was performed to describe the characteristics of respondents and the distribution of each study variable. Meanwhile, bivariate analysis was used to assess the relationship between maternal knowledge and breast milk storage practices among working mothers in the study area.

RESULT

Respondent Characteristics

a. Maternal Age The frequency distribution based on maternal age group can be seen in

Frequency Distribution of Mother Age

Age Group	Frequency	%
18-28	20	64,5 %
29-40	11	35,5 %
Total	31	100 %

shows that the largest proportion of respondents belonged to the 18–28 years age category, with 20 participants representing 64.5% of the study population.

Frequency Distribution of Maternal Education

Education	Frequency	%
Elementary School	9	29,0%
Junior High School	14	45,2%
Senior High School	8	28,8%
Total	31	100%

The data presented in Table reveal that junior high school (SMP) was the most common educational level among respondents, comprising 14 individuals or 45.2% of the study population.

Frequency Distribution of Mother Occupations

Occupation	Frequency	%
Housewife	14	29,0 %
Self-Employed	7	45,2 %
Farmer	10	28,8 %
Total	31	100%

illustrates that housewives constituted the largest occupational group among the respondents, accounting for 14 participants (45.2%).

Frequency Distribution of Mother Knowledge

Knowledge	Frequency	%
Good	6	19,4 %
Sufficient	11	35,5 %
Poor	14	45,1 %
Total	31	100%

indicates that the largest proportion of respondents had poor knowledge, accounting for 14 participants (45.1%). Meanwhile, 11 respondents (35.5%) possessed sufficient knowledge, and only 6 respondents (19.4%) demonstrated good knowledge.

Frequency Distribution of Breast Milk Storage

Knowledge	Frequency	%
Agree	16	52 %
Disagree	15	48%
Total	31	100 %

shows that 16 respondents (52%) agreed with breast milk storage practices, whereas 15 respondents (48%) did not agree.

DISCUSSION

The findings revealed that a substantial proportion of breastfeeding mothers had limited knowledge regarding proper breast milk storage, with 14 respondents (45.1%) categorized as having poor knowledge. (Basnet, Tamrakar and Thapaliya, 2025) Variations in knowledge levels may be associated with several demographic factors, including age, educational attainment, and occupation. The results indicated that mothers aged 29–40 years represented the largest group with low knowledge levels, accounting for eight respondents. This finding is consistent with the view that age can influence an individual's ability to receive, process, and retain information. Increasing age may be accompanied by changes in cognitive function that affect information absorption, whereas younger individuals are generally more receptive to new knowledge and learning experiences. (Khasanah *et al.*, 2022)

Educational background also appeared to contribute to differences in knowledge. Respondents with lower educational attainment, particularly those who had completed only elementary school, were more likely to demonstrate inadequate knowledge regarding breast milk storage. Education plays a significant role in enhancing an individual's capacity to access, understand, and apply health-related information. Therefore, mothers with higher educational levels tend to possess a better understanding of breastfeeding management and infant care practices. (Ramadhani, Rohmah and Fitriahadi, 2026)

Occupation was another factor associated with maternal knowledge. In this study, mothers working as farmers constituted the largest proportion of respondents with low knowledge levels. (Pengetahuan *et al.*, 2026) Employment conditions may influence opportunities to obtain health information and participate in educational activities. However, this finding differs from previous assumptions that working individuals often have broader

social interactions and greater exposure to information sources, which may contribute to higher knowledge levels. In addition, access to information was identified as an important factor affecting maternal knowledge. Several respondents reported that educational sessions conducted during Posyandu activities rarely addressed breast milk expression and storage, limiting opportunities to acquire relevant information. ('Factors Inhibiting Mothers In Providing Exclusive Breastfeeding To', 2025).

The statistical analysis demonstrated a significant relationship between maternal knowledge and breast milk storage practices ($p = 0.000$). This result suggests that mothers with higher levels of knowledge are more likely to implement appropriate breast milk storage methods. The finding supports the concept that knowledge serves as a fundamental determinant of health behavior. Individuals who understand the benefits and procedures of a particular practice are generally more inclined to adopt and maintain that behavior. Consequently, strengthening maternal knowledge through health education, counseling, and breastfeeding support programs may improve breast milk storage practices and contribute to the success of exclusive breastfeeding. (Di *et al.*, 2022)

CONCLUSION

Based on the findings and discussion of this study on the relationship between maternal knowledge, occupation, and breast milk storage practices in the working area of PT Rimbun Sawit Papua, Tomage District, Fakfak Regency, West Papua Province, several conclusions can be drawn.

1. The majority of respondents demonstrated inadequate knowledge regarding exclusive breastfeeding. A total of 31 mothers (69.6%) were categorized as having poor knowledge, while 28 mothers (30.4%) had good knowledge. These findings indicate that the overall level of knowledge concerning exclusive breastfeeding among respondents was relatively low.
2. Statistical analysis revealed a significant association between maternal knowledge and breast milk storage practices, as indicated by a p-value of 0.000 ($p < 0.05$). This finding suggests that mothers with better knowledge are more likely to implement appropriate breast milk storage practices.
3. A significant relationship was also identified between maternal occupation and breast milk storage practices, with a p-value of 0.000 ($p < 0.05$). This result indicates that occupational factors may influence how mothers manage and store expressed breast milk.

In conclusion, both maternal knowledge and occupation were found to be significantly associated with breast milk storage practices. Therefore, improving mothers' knowledge through breastfeeding education and support programs may contribute to better breast milk management and support the successful implementation of exclusive breastfeeding.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

Conceptor, data curation, investigation, methodology, formal analysis, validation, visualization, writing original draft, writing review and editing.

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