

Females' knowledge regarding to breast milk expression and storage in universities

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ABSTRACT

Background: Human breast milk is widely recognized as the optimal source of nutrition for newborns and infants. It is essential for mothers to understand the proper techniques for expressing and storing breast milk. **Aim:** This study aimed to assess the knowledge of females regarding breast milk expression and storage, investigating the relationship between their demographic data and knowledge levels. **Methodology:** A cross-sectional study design was employed, utilizing a purposive sample of 100 females from universities. A questionnaire was developed to measure demographic information and knowledge related to breast milk. **Results:** The majority of participants were aged 20-29 years, with diverse professional backgrounds including teachers, employed females, and students. Notably, 84% of participants reported having 1 to 3 children. Although the participants had an adequate knowledge about breastfeeding (39%), there was also a sufficient percentage (33%) with low knowledge regardless of the type of work. Additionally, their knowledge was not significantly influenced by these demographic characteristics. **Conclusion:** While participants demonstrated a foundational understanding of breast milk expression and storage, significant knowledge gaps were identified. Addressing these gaps through targeted education and resources is crucial for improving breastfeeding practices. Future research should focus on developing and evaluating educational interventions to enhance breastfeeding knowledge and practices among diverse populations.

KEYWORDS

females, knowledge, breast milk, expression and storage

How to cite this article: Salih B. B., Khaleel M. A., Ahmed H. A. J.: Females' knowledge regarding to breast milk expression and storage in universities. *Epietheorese Klin. Farmakol. Farmakokinet.* 43(Sup1): 55-58 (2025). DOI: [10.61873/RYL17571](https://doi.org/10.61873/RYL17571)

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1. INTRODUCTION

Breastfeeding is a critical aspect of infant nutrition, providing essential nutrients and antibodies that promote healthy development. Despite its numerous benefits, many mothers face challenges due to a lack of knowledge about breast milk expression and storage, which can hinder their ability to breastfeed successfully. Research indicates that proper knowledge of breast milk handling is essential for maintaining its nutritional quality and safety. Many mothers are unaware of the appropriate techniques for expressing and storing breast milk,

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leading to issues such as contamination or loss of nutritional value [1].

The American Academy of Pediatrics (AAP) recommends that birth hospitals or centers implement maternity care practices shown to improve breastfeeding initiation, duration, and exclusivity. Pediatricians play a critical role in hospitals, their practices, and communities as advocates of breastfeeding and, thus, need to be trained about the benefits of breastfeeding for mothers and children and in managing breastfeeding. Furthermore, the U.S. Breastfeeding Committee underscores the importance of lactation support services and the need for policies that promote breastfeeding in various environments, including schools and workplaces [2].

In university contexts, explored the breastfeeding practices of lactating female students at Indonesia Universities, while the participants exhibited a generally positive attitude and awareness toward breastfeeding, they encountered several challenges on campus. Major obstacles included a lack of suitable breastfeeding facilities and existing societal stigma. The findings highlight the urgent need for customized educational programs and accessible resources within university settings to support student mothers in breastfeeding effectively and managing proper milk storage [3].

This study aims to evaluate the knowledge levels of females regarding breast milk expression and storage, and to investigate the correlation between their demographic characteristics and these knowledge levels.

2. METHODOLOGY

2.1. Study design

Descriptive study was conducted on females' knowledge regarding breast milk expression and storage.

2.2. Data collection

The data collected from 1st March 2024 to 10th April 2024. The study was carried out from all the married females includes (teachers, workers, and students) of universities. A purposive sample of (100) females to determine their knowledge. The questionnaire was designed and constructed by the investigator to measure the variable underlying the study. A questionnaire was consisted of demographical information and the elements related to their knowledge. The data were collected through face-to-face interview technique and by using questionnaire format.

2.3. Ethical statement and considerations

Before starting the data collection process, verbal consent was obtained from the females to participate in the research. As well as all ethical standards of research were adhered to by ensuring the confidentiality and privacy of the participants' information, which enhanced trust and integrity in the research process.

2.4. Statistical analysis

The data were analyzed through the application of descriptive statistical analysis (percentage, frequencies, and standard deviation) and inferential statistical analysis (Chi-square test) and all the statistical procedures were tested at $p \leq 0.05$.

3. RESULTS

The distribution of sample's demographic data and of the level of females' knowledge alongside association of demographic characteristics with females' knowledge regarding breast milk expression and storage, are shown separately in Table 1A-1B.

Table 1A. Distribution of the demographic data of the sample.

	Items	N (%)
1	Age	
	20-29 years	40
	30-39years	38
	40 and above	22
	Total	100
2	Type of working	
	Teacher	30
	Employer	30
	Students	40
	Total	100
3	Number of children	
	1-3	84
	4-6	16
	Total	100

Table 1B. Distribution of the level of females' knowledge and the association of demographic characteristics with females' knowledge regarding breast milk expression and storage.

Level of females' knowledge	Items		(N=F) & %	
	Low		33	
	Moderate		39	
	High		28	
Association between females' knowledge and their demographic data				
Variables	Chi-Square value	df	p-value	Significance
Age groups	9.019 ^a	4	.061	Non Sig.
Type of work	9.215 ^a	4	.056	Non Sig.
Number of children	2.350 ^a	2	.309	Non Sig.

4. DISCUSSION

The findings presented in the results section underscore critical aspects of knowledge regarding breast milk expression and storage among mothers, particularly in relation to demographic characteristics. The data reveals that a significant portion of participants falls within the younger age groups (20-39 years), which aligns with previous research indicating that younger mothers are often more engaged in seeking information about breastfeeding practices [4].

The distribution of knowledge levels shows that while 39% of respondents fall into the moderate knowledge category, only 28% demonstrate a high level of knowledge regarding breastfeeding. This suggests a potential gap in education and awareness that may necessitate targeted interventions. Studies have demonstrated that educational programs aimed at expectant and new mothers can significantly improve knowledge and attitudes toward breastfeeding. Conversely, other research indicates mixed results, with some educational initiatives failing to yield substantial improvements in breastfeeding knowledge [5].

The association between age and knowledge levels is particularly noteworthy. While the results indicate a non-significant association ($p=0.061$), it is essential to consider that younger mothers may be more likely to utilize digital resources and social media for breastfeeding information. This trend aligns with findings by Egyptian study, who argue that digital literacy plays a crucial role in information acquisition among younger demographics [6].

The impact of maternal employment on breastfeeding knowledge also merits discussion. The results indicate a non-significant association ($p=0.056$) between the type of work and knowledge levels. Some studies suggest that working moth-

ers may face barriers to breastfeeding due to time constraints and lack of support. Conversely, other research posits that working mothers who receive adequate support from employers are just as informed about breastfeeding as their non-working counterparts [7].

The relationship between the number of children and knowledge levels shows a non-significant association ($p=0.309$), suggesting that previous experiences with breastfeeding might not significantly enhance knowledge of milk expression and storage. However, previous studies have found that mothers with more children often have better breastfeeding experiences and knowledge [8].

5. CONCLUSION

The data highlight the need for enhanced educational interventions tailored to younger mothers and those with varying employment backgrounds. While some studies indicate that educational programs can yield significant improvements in breastfeeding knowledge, others reflect the complexity of the factors influencing maternal knowledge. Future research should focus on developing and evaluating targeted educational strategies that consider the demographic diversity of mothers.

ACKNOWLEDGMENTS

The authors would like to acknowledge all the universities that helped facilitate our mission, especially everyone who shared their knowledge, assistance, and guidance. I also thank my friends and family for their support. A special thanks to all the participants for volunteering to participate in this research study.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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