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EXPRESSED BREAST MILK

Dhivya B*| Dr. Sherene G Edwin**

**Research Scholar, Department of Nursing, Himalayan University, Itanagar, Arunachal Pradesh, India.*

***Research Supervisor, Department of Nursing, Himalayan University, Itanagar, Arunachal Pradesh, India.*

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ABSTRACT

Breastfeeding is a vital practice that ensures optimal nutrition, growth, and immunity for infants. However, employed mothers often face challenges in continuing breastfeeding due to limited workplace support and time constraints. Proper expression, handling, and storage of breast milk are crucial to maintain its nutritional and immunological quality while enabling mothers to continue breastfeeding after returning to work.

Objectives:

This study aims to assess the knowledge and practices of employed mothers regarding the expression, handling, and storage of breast milk, and to identify workplace factors that influence breastfeeding continuation.

Methods:

A descriptive research design will be used to collect data from employed mothers of infants using a structured questionnaire. The tool will assess knowledge and practices related to breast milk expression, labelling, storage temperature, thawing, and handling at the workplace. Supportive measures provided by employers, such as private expression spaces, refrigeration facilities, and flexible break times, will also be explored.

Findings:

Existing literature highlights that proper breast milk handling includes clean expression, correct labelling and dating, and storage at recommended temperatures—room temperature for 4–6 hours, in a cooler bag for up to 24 hours, in a refrigerator for 3–5 days, and in a freezer for up to 6–12 months. Studies indicate that lack of workplace support significantly affects breastfeeding continuation rates among employed mothers.

Conclusion:

Enhancing employed mothers' knowledge on breast milk handling and strengthening workplace support systems are essential to promote sustained breastfeeding practices. Employers play a critical role in providing conducive environments that enable mothers to balance employment and infant care, ultimately improving child health outcomes.

Keywords: *Breastfeeding, Expressed Breast Milk (EBM), Employed Mothers, Storage, Workplace Support, Infant Nutrition.*

ABOUT AUTHORS

Author Ms. Dhivya B is a PhD Scholar at Himalayan University, Itanagar in Arunachal Pradesh, India.

Author Dr. Sherene G Edwin is a Research Supervisor at Himalayan University, Itanagar in Arunachal Pradesh, India

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INTRODUCTION

Breastfeeding is an essential source of nutrition for young babies; however, it is challenging for employed mothers to continue breastfeeding with employment, especially if workplace support is minimal or missing. (Hirani SA, Karmaliani R. 2012) Defining breastfeeding is complex. The term describes any breast milk intake directly at the breast or indirectly regardless of its delivery mode. Breast milk has all the nutrients babies need to stay healthy and grow. It protects them from diarrhoea and acute respiratory infections – two leading causes of infant death. It stimulates their immune systems and response to vaccinations. [Mosimah, C., 2018; Adhikari Mishra et al 2013] Breastfeeding is a basic human activity, vital to infant and maternal health and of immense economic value to households and societies.[Helene M Johns, Della A Forster, Lisa H Amir and Helen L McLachlan. 2013) Studies performed in developing countries have shown that the mortality rates among infants who have not consumed breast milk are 6 to 10 times higher than those who have consumed breast milk. [Aylin Baydar Artantas et al 2016] A recent study of urban mothers living in informal settlements in Nairobi has shown low uptake of the WHO recommendations on breastfeeding with very few working mothers expressing breast milk (EBM) for caretakers to give their infants [Kimani-Murage EW, et al 2015].

Poor urban mothers in the informal labour market do not receive paid maternity leave and thus they are forced to return to work leaving their infants, sometimes even in the first month of life, with caretakers or in daycare nurseries. These babies are given porridge and liquids other than breast milk. There is little information available on the infant feeding strategies that rural mothers in Kenya use when leaving their young infants with caretakers to work or return to education.

WHO and UNICEF jointly developed the Global Strategy for Infant and Young Child Feeding to revitalize world attention to the impact that feeding practices have on the nutritional status, growth and development, health, and thus the very survival of infants and young children. The Global Strategy is based on the evidence of nutrition's significance in the early months and years of life, and of the crucial role that appropriate feeding practices play in achieving optimal health outcomes. Lack of breastfeeding – and especially lack of exclusive breastfeeding during the first half-year of life – are important risk factors for infant and childhood morbidity and mortality that are only compounded by inappropriate complementary feeding. The life-long impact includes poor school performance, reduced productivity, and impaired intellectual and social development. [WHO 2003] The 2016 *Lancet* series on breastfeeding estimates that scaling up breastfeeding to near universal levels would prevent 823,000 deaths in children under five years annually.

The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life. One of the World Health Assembly's (WHA) global nutrition targets is to increase the rate of exclusive breastfeeding up to at least 70% by 2030. In Kenya, the exclusive breastfeeding rate rose from 32% in 2008 to 61% in 2014 according to the Kenya Demographic Health Survey (KDHS). However, there is a steady decline of exclusive breastfeeding rates from 3–5 months (63% at three months and 42% at five months) [KNBS. Key Indicators 2014]. A recent study of urban mothers living in informal settlements in Nairobi has shown low uptake of the WHO recommendations on breastfeeding with very few working mothers expressing breast milk (EBM) for caretakers to give their infants [Kimani-Murage EW, Wekesah F, Wanjohi M, Kyobutungi C, Ezeh AC, Musoke RN, et al. 2015].

Handling expressed breast milk among employed mothers of infants requires careful consideration to maintain milk safety and quality. Here are some tips:

1. Expression and storage: Express milk using clean hands and equipment. Store milk in clean, sterile containers or breast milk storage bags. Handling expressed breast milk among employed mothers involves proper expression and storage techniques. Mothers can express milk using clean hands and equipment, storing it in sterile containers or breast milk storage bags (AAP, 2024). Labelling containers with date, time, and contents ensures safe storage and use. Expressed milk can be stored in the refrigerator for up to 3-5 days or frozen for 6-12 months. Following these guidelines helps maintain milk quality and safety, allowing employed mothers to provide breast milk for their infants while away from them.

2. Labelling and dating: Label containers with date, time, and any relevant notes. Labelling and dating expressed breast milk is crucial for employed mothers to ensure safe storage and use. Each container should be labelled with the date, time, and contents to maintain organization and prevent confusion (ABM, 2023). This practice helps mothers track the freshness and safety of the milk, ensuring that the oldest milk is used first. Proper

labelling and dating also facilitate sharing breast milk with caregivers, allowing them to identify and use the milk correctly.

3. Storage temperatures: Proper storage temperatures are essential for maintaining the quality and safety of expressed breast milk among employed mothers. Breast milk can be stored at room temperature (up to 4-6 hours), in an insulated cooler bag with ice packs (up to 24 hours), in the refrigerator (3-5 days), or in the freezer (6-12 months) (Jones & Spencer, 2022). Following these temperature guidelines helps preserve the nutritional and immunological properties of breast milk, ensuring it remains safe for infant consumption.

4. Thawing and warming: Thaw frozen milk in the refrigerator or under cool running water. Warm milk by placing the container in a bowl of warm water. Thawing and warming expressed breast milk requires careful handling to preserve its nutritional properties. Frozen breast milk can be thawed in the refrigerator or under cool running water (UpToDate, 2021). Once thawed, milk can be warmed by placing the container in a bowl of warm water. It's essential to test the temperature before feeding the baby to avoid scalding. Gentle handling helps maintain the milk's quality and ensures it remains safe for infant consumption.

5. Handling at work: Use an insulated cooler bag with ice packs to transport and store expressed milk. Handling expressed breast milk at work requires planning and support. Employed mothers can use breast pumps and store milk in designated refrigerators or coolers with ice packs (OSHA, 2021). Employers can facilitate this process by providing private lactation rooms, flexible break times, and storage facilities. By accommodating breastfeeding needs, employers promote a supportive work environment, enabling mothers to balance work and breastfeeding responsibilities.

Employers can support breastfeeding mothers by providing:

1. Private expression spaces: Employers can support breastfeeding mothers by providing private expression spaces, allowing them to comfortably and hygienically express milk during work hours (AAP, 2012). These spaces should be quiet, clean, and free from interruptions, with amenities like comfortable seating, electrical outlets, and nearby bathroom facilities. By offering private expression spaces, employers demonstrate their commitment to supporting breastfeeding employees, promoting a positive and productive work environment.

2. Refrigeration for milk storage: Employers can support breastfeeding mothers by providing refrigeration for milk storage, allowing them to safely store expressed breast milk at work (United States Breastfeeding Committee, 2020). This accommodation enables mothers to continue breastfeeding while working, promoting a supportive and inclusive work environment. By providing refrigeration, employers demonstrate their commitment to supporting employees' breastfeeding needs.

3. Break times for expression: Employers can support breastfeeding mothers by providing break times for milk expression, allowing them to comfortably express milk during work hours (Fair Labor Standards Act, 2019). This accommodation enables mothers to maintain their milk supply and continue breastfeeding, promoting the health and well-being of both mother and baby. By providing flexible break times, employers demonstrate their commitment to supporting employees' breastfeeding needs.

By following these guidelines, employed mothers can safely express and store breast milk for their infants.

Storage of breast milk among employed mothers of infants requires careful planning to maintain milk quality and safety. Here are some guidelines:

1. Room temperature: When storing breast milk, room temperature (around 73-79°F or 23-26°C) allows for safe storage for 4-6 hours, with some studies suggesting up to 8 hours if the environment is very clean (Lawrence & Lawrence, 2000). It's essential to note that longer storage times increase the risk of bacterial growth. Employed mothers should consider using insulated bags with ice packs or refrigerating expressed milk as soon as possible to maintain quality.

2. Insulated cooler bag with ice packs: An insulated cooler bag with ice packs is a suitable option for storing breast milk when refrigeration is not available. This method can keep milk cool for up to 24 hours, making it ideal for employed mothers who need to transport expressed milk (Arnold, 2002). The cooler bag should be kept closed as much as possible to maintain the temperature, and the ice packs should be frozen solid before use. This storage method allows mothers to safely transport and store expressed breast milk.

3. Refrigerator: Breast milk can be stored in the refrigerator at a temperature of 4°C (39°F) for 3-5 days (Hamosh et al., 1999). It's essential to store the milk in airtight containers or breast milk storage bags and label them with the date and time. The refrigerator's temperature should be consistent, and the milk should be placed in the

back of the fridge, away from the door. Proper storage in the refrigerator allows employed mothers to safely store expressed breast milk for later use.

4. Freezer: A freezer provides long-term storage for breast milk, allowing employed mothers to store expressed milk for 6-12 months at 0°F (-18°C) or below (Pardou et al., 2003). Frozen breast milk should be stored in airtight containers or breast milk storage bags, labelled with the date and contents. When frozen properly, breast milk retains its nutritional and immunological properties. This storage method enables mothers to build a milk stash, providing flexibility and peace of mind.

CONCLUSION

Breastfeeding remains the cornerstone of optimal infant nutrition, growth, and immune protection. However, employed mothers often face significant barriers to maintaining exclusive breastfeeding due to inadequate workplace facilities, time constraints, and limited awareness regarding proper handling and storage of expressed breast milk. Ensuring the safety and quality of expressed milk requires adherence to recommended guidelines, including hygienic expression, appropriate labelling, and correct storage conditions at varying temperatures.

Providing education and support to employed mothers on expression and storage techniques empowers them to continue breastfeeding even after returning to work. Equally important is the role of employers in creating breastfeeding-friendly environments by offering private expression spaces, refrigeration facilities, and flexible break times.

Promoting awareness among both mothers and employers can help sustain breastfeeding practices, enhance maternal satisfaction, and contribute to the overall health and development of infants. Therefore, strengthening workplace policies and implementing structured educational programs are essential strategies to support employed mothers in successfully managing breastfeeding alongside their professional responsibilities.

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