Tehran University of Medical Sciences

Nursing Practice Today

2024; Volume 11, No 3, pp. 259-271

Original Article

Exclusive breastfeeding experience among healthcare working mothers in central Tanzania: A qualitative study

Elihuruma Eliufoo[1,2]*, Shedrack Mgeyekwa[2], Victoria Majengo[3], Tian Yusheng[1], Li Yamin[1]

[1]Clinical Nursing Teaching and Research Section, The Second Xiangya Hospital, Central South University, Changsha, Hunan 410011, China
[2]Department of Clinical Nursing, School of Nursing and Public Health, The University of Dodoma, Dodoma, Tanzania
[3]Department of Nursing and Midwifery, Decca College of Health and Allied Science, Dodoma, Tanzania

ARTICLE INFO

Received 15 May 2024
Accepted 02 July 2024

Available online at:
http://npt.tums.ac.ir

Keywords:
breast milk;
exclusive breastfeeding;
healthcare working mothers;
experience;
challenges

Corresponding Author:
Elihuruma Eliufoo, Clinical Nursing Teaching and Research Section, The Second Xiangya Hospital, Central South University, Changsha, Hunan 410011, China; Department of Clinical Nursing, School of Nursing and Public Health, The University of Dodoma, Dodoma, Tanzania. E-mail: ufooeli1@gmail.com

DOI: 10.18502/npt.v11i3.16173

ABSTRACT

Background & Aim: Exclusive breastfeeding (EBF) is essential for infant health, yet the global prevalence is below target. Tanzania is facing challenges in promoting EBF due to sociocultural and economic factors. Despite efforts, rates remained low, especially among working mothers. The experience of healthcare-working mothers in EBF is underexplored despite facing unique challenges like irregular schedules and workplace stressors. This study aims to explore healthcare-working women's experiences with EBF.
Methods & Materials: This qualitative study involves fifteen participants from two referral hospitals in Tanzania. We employed semi-structured interviews to explore the significance of their lived experiences while keeping the interview on track. We sampled our participants using purposive and snowball sampling. The interviews were recorded using a digital audio recorder and transcribed verbatim. Then, thematic analysis was used to analyze data.
Results: Participants shared insights into their EBF practices, highlighting the significance of breastfeeding knowledge and its benefits for mothers and children. Key themes identified were healthcare-working mothers' knowledge and practice of EBF, balancing EBF and work, and barriers to EBF while working. Mothers emphasized EBF's health and emotional benefits, noting strategies to ensure sufficient milk supply and challenges in maintaining EBF due to work demands, fatigue, and physiological discomforts. Support systems at home and workplace policies were crucial for facilitating EBF, yet the availability of alternative milk sometimes hindered sustained EBF.
Conclusion: This research provides valuable insights into the experiences of healthcare-working mothers in EBF. The findings underscore the importance of promoting supportive environments, workplace policies, and social networks to facilitate exclusive breastfeeding continuation for working mothers.

Introduction

Exclusive breastfeeding (EBF) supports infant health and development by improving outcomes, reducing morbidity and adverse nutritional effects, protecting against common pediatric diseases, and promoting intellectual and physical development (1). Even though EBF rates keep rising, global EBF trends show a complex pattern influenced by various sociocultural, economic, and medical factors (2). More than 50% of infants are expected to be exclusively breastfed by 2025, which shows a long way to reach the recommended goal of UNICEF of 100% (3). Among 56 million infants in developing countries, only 22 million were exclusively breastfed, leaving 60.7% not exclusively breastfed (4). The proportion of infants exclusively breastfed varies by zone in sub-Saharan Africa (SSA), East Africa (53.48%), West Africa (32.64%), Central Africa (23.70%), and Southern Africa (56.57%) (5). In Tanzania, the proportion of infants receiving EBF improved from 26% in 1990-1992 to 41% in 2004-2005 and 59% in 2015-2016, which is way below the World Health Organization (WHO) target of 90% (6,7).

In comparative studies across various developed and developing countries (8), stark

Please cite this article as: Eliufoo E, Mgeyekwa Sh, Majengo V, Yusheng T, Yamin L. Exclusive breastfeeding experience among healthcare working mothers in central Tanzania: A qualitative study. Nursing Practice Today. 2024; 11(3): 259-71

differences were observed in EBF rates between employed and unemployed mothers. In Pakistan, Ghana, Somalia, Ethiopia, and Tanzania, employed mothers consistently had lower rates of exclusive breastfeeding (EBF) compared to their unemployed counterparts: 26.5% as opposed to 75.5% in Pakistan, 16% compared to 84% in Ghana, 24.8% in contrast to 82.9% in Somalia, 54.8% versus 73% in Ethiopia, and 68.7% in comparison to 80.9% in Tanzania (7). These proportions suggest that employment status may pose significant barriers to EBF practices. Qualitative research is crucial to unpack the underlying factors contributing to this disparity based on their experience.

SSA has been struggling with low rates of exclusive breastfeeding. Various socio-economic, cultural, and infrastructural barriers have hindered the widespread adoption of EBF, leading to increased risks of malnutrition and infectious diseases among infants (9). Several factors, including insufficient maternity leave legislation, workplace restrictions, and weak support networks, can cause many working mothers not exclusively to breastfeed their children (10). A comprehensive approach that includes workplace assistance, community education programs, and regulatory reforms is needed to enhance EBF practices worldwide (2). Access to physical workplace facilities, such as nursing rooms and storage areas, is crucial for sustaining breastfeeding after returning to work (11). Programs like World Breastfeeding Week (WBW), the Baby-Friendly Hospital Initiatives (BFHI), and national initiatives addressing nutrition and infant and young child feeding (IYCF) have made significant contributions in Tanzania to EBF, maternal, and infant health outcomes over time. These programs contributed to the increase of EBF rate in the general population from 29% to 59% (7). Additionally, efforts such as The National Road Map Strategic Plan (2008–2018), the Primary Health Service Development Program (2007–2017), and the Health Support Program III (2008–2012) have played crucial roles in facilitating EBF uptake (12).

There is a notable increase in the female labor force in different sectors. According to a World Bank report, working mothers increased from 67% in 2000 to 80% in 2019. Among the reported increased labor force, 50.6% are employed, and 10% of employed mothers are in the healthcare and social work sector (7,13). The increasing women's labor force in Tanzania presents unique challenges in balancing their professional and motherhood roles, which leads to a lower EBF rate than non-working mothers (14). In comparing employed and unemployed breastfeeding mothers, employed had lower EBF rates than their counterparts (7). Different studies have been performed on EBF in Africa and Tanzania, focusing on mothers in general, with the findings focused on understanding the barriers and facilitators (3,4,7,9,10). Despite valuable insight into the larger context of EBF, there is a remaining notable gap in the literature concerning the experience of healthcare professional mothers who encounter unique challenges due to the demanding nature of their jobs. Given the influence of culture in breastfeeding practice, particularly in the African context, it is crucial to add Tanzanian healthcare-working mothers' perspectives to broaden our understanding of the complexities surrounding EBF.

Moreover, working mothers in healthcare often face distinct challenges and responsibilities, such as irregular schedules and work stressors, and focusing on this understudied population adds valuable insight into EBF. Despite Tanzania's increased female employment rate in the health sector, there is still a shortage of qualitative studies on EBF specifically for healthcare-working mothers. Therefore, we aimed to explore the EBF experience among healthcare-working mothers, which will offer practical implications for developing intervention and support systems directed to the needs of healthcare-working mothers, advancing maternal and child health in Tanzania and beyond.

Methods

Study design

This research employed a qualitative descriptive study design to explore healthcare workers' experiences with EBF. The study aimed to comprehend these women's distinct realities and range of EBF experiences by adopting an interpretive research methodology (15). To

ensure open participation, we conducted semi-structured interviews primarily in Swahili, Tanzania's most widely spoken language. The interviewer received training in qualitative methods of investigation, ensuring a robust and methodologically sound approach to data collection.

Study setting

This study recruited healthcare-working mothers in Dodoma City, central Tanzania. We purposely selected Dodoma City for the following reasons: based on previous research showing high rates of child stunting at 37.2%, substantial proportions of underweight children at 17.8%, and a low birth weight rate of 3.7% (7).

Tanzania has been progressing in improving EBF for the past 13 years. Different nutritional and health interventions for mothers and newborns have been implemented since 1974, which will enhance EBF. In Tanzania, social standards frequently assign women to care for the home and provide childcare. Since gaining independence, Tanzania has experienced a 24% increase in urbanization, placing it sixth in the world for population growth by 2015. This demographic change highlights the significance of comprehending its effects on mother and child health, especially concerning breastfeeding patterns and changing family structures and employment dynamics. Tanzania's labor laws support EBF by giving working mothers maternity leave (84 days and 100 days if a mother gives birth to multiple infants) and ample time to exclusively breastfeed by working half a day and spending 2 hours breastfeeding in the working time (12,16).

Study population, sampling, and recruitment

Using purposive sampling, female healthcare workers aged 18 and above were invited to participate in the study. The main criteria for selection included healthcare-working mothers who had returned to work after completing their maternity leave of 84 days for those with single infants and 100 days for those with multiple infants (16). The purposive sampling ensured participants were those currently balancing work responsibilities with EBF. Healthcare workers were selected from regional referral and zonal hospitals that support EBF policies and adhere to labor laws concerning maternity leave and breastfeeding rights to maintain consistency.

The study employed multiple approaches to ensure diverse participant representation. The recruitment process involved collaboration with Human Resources Managers from the selected hospitals. These managers facilitated the identification of potential participants who met the study criteria, and snowball sampling was applied to extend the reach and ensure a comprehensive sample. Initial participants, identified through HR managers, were asked to refer other eligible healthcare-working mothers within their professional network who also fit the study criteria. This approach helped recruit a diverse and sufficient number of participants, ensuring that the sample included a range of experiences and perspectives related to EBF among healthcare workers in similar working conditions.

Sample size

The sample size was set based on data saturation from participants. Zonal and regional referral hospitals were targeted due to the presence of a large number of female healthcare workers. The saturation of this study reached 15 participants. Data saturation was established by interviewing individuals in-depth until no new themes, information, or details could be extracted from the data. Throughout the data collection process, the researchers continuously analyzed the data, going over and comparing interview transcripts to find reoccurring themes and distinctive answers. Frequent team meetings and conversations guaranteed agreement on the point at which saturation was reached, confirming the accuracy and completeness of the information gathered.

Data collection procedure

This study used semi-structured interviews to guide interviews; however, women were encouraged to speak freely about the topic asked. Before the interview, some demographic information was collected from participants for easy identification. The questions in the interview guide were derived from a literature review. They were primarily related to general personal

experience of EBF and how they manage/fail to manage EBF practice while working. The questions included, "Can you please tell me about your thoughts about breastfeeding generally?", "now I would like to talk to you about your own decisions regarding feeding your baby," "I am interested in your experiences with infant feeding when you returned to work," "Can you talk a little about the support you received at work to that influenced your decisions regarding feeding your baby?" and "I am interested in the support you received at home to that impacted your decisions regarding feeding your baby when you returned to work." These general questions had different probes based on the participant responses. The interview did not prohibit respondents from introducing other topics.

The data was recorded using a digital voice recorder. Each interview lasted about 1 hour and was conducted in a private room to maintain confidentiality. The remote setting of the interviews created a familiar and comfortable atmosphere for the participants to open during the interview session. All interviews were transcribed based on the audio recording and translated into English. The transcripts were de-identified to ensure anonymity, and each interview was assigned a unique identifier. A pilot study was done on two participants to assess the appropriateness of the guiding question and to ensure they were given a chance for respondents to explain openly. Modifications were made to the areas of weakness, and the pilot data were not included in the final data analysis.

Data analysis

The audio recordings of the interviews conducted by the principal investigator and supervisor were transcribed verbatim, preserving the participants' language and expressions, and then translated into English by the Principal Investigator (EE). The quality of translation was assessed by YT and YL. During data cleaning, any inconsistencies or errors in the transcriptions were corrected to ensure the accuracy and clarity of the data. The data analysis process followed Braun and Clarke's six-step thematic analysis method (17). These steps involved becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. Coding the data involved reviewing, reading, and re-reading the transcripts. The transcribed data were coded manually by the principal investigator and assistant supervisor. Similar codes were merged into code terms, identical code terms were merged into subthemes, and similar subthemes were grouped to form themes from the participant interviews.

Data trustworthiness

The data trustworthiness used the criteria set in the Naturalistic Inquiry book by Lincoln and Guba, 1985 (18). Data collection was set to three months to ensure data credibility by fully engaging the principal investigator in the data. To ensure dependability, the decision trail was used to document raw data, transcripts, and comprehensive records of the data analysis process. A thorough account of every phase of the research process was furnished to enhance transferability, encompassing the study's background, participants, data collecting, and analysis protocols. To ensure confirmability, the principal investigator conducted four study participants via phone number and set physical meetings for input on the interpretations made based on their interviews. The research findings' neutrality and accuracy were supported by the participants' affirmation that the themes accurately represented their personal experiences.

Reflexivity

Researchers conducted this study experienced in public health, nursing, qualitative research methodologies in the social sciences, and healthcare policy. We understand that past events and personal beliefs may have shaped our viewpoints and interpretations. Various data sources were utilized to mitigate bias, regular team discussions documented ideas, feelings, and potential biases, and peer debriefing sessions were conducted. Interviews were conducted in neutral, private settings using non-hierarchical contact to ensure comfort and confidentiality.

Ethical considerations

The University of Dodoma (UDOM) ethical review board approved this research with the review number MA.54/261/01/62/332. All

participants provided their informed consent before the interview started. They were provided with a clear explanation of the study's purpose, procedures, potential risks, benefits, and their right to withdraw without penalty. Participants were given ample time to review the informed consent form, ask questions, and provide their voluntary consent to participate.

Results

Demographic characteristics of study participants

In this study, fifteen working mothers in the healthcare sector aged 29 to 43 participated. Most participants were in their thirties, which reflects a population that primarily manages the demands of mid-career and young children. Nurses, midwives, and medical officers were among the participants; each offered a distinct viewpoint on the difficulties and resources for EBF. Some continued with EBF, while others were forced to stop for personal and professional reasons. The mothers' children were generally four months old when they had them, emphasizing how essential nursing practices were during this time. The participants' educational backgrounds ranged from Certificate to Diploma and Degree levels. This range of academic backgrounds offered a wealth of information about how professional expertise and training influence breastfeeding behaviors and choices. Participants were interviewed once, and only four were called again to confirm data (Table 1).

Table 1. Demographic Characteristics of the study participants

Participants' ID	Age (Years)	Children age (Months)	Duration of EBF	Number of interviews
Interviewee 1	32	4	4	1
Interviewee 2	29	4	3	1
Interviewee 3	33	5	3	1
Interviewee 4	36	5	4	1
Interviewee 5	30	4	4	1
Interviewee 6	36	5	4	1
Interviewee 7	32	4	4	1
Interviewee 8	30	4	4	1
Interviewee 9	31	4	3	1
Interviewee 10	43	4	3	1
Interviewee 11	37	3	3	1
Interviewee 12	37	4	4	1
Interviewee 13	34	5	5	1
Interviewee 14	31	4	4	1
Interviewee 15	39	5	5	1

Extracted Themes

After the thematic analysis of the interviews, three themes were generated: Healthcare-working mothers' knowledge and practice of EBF, balancing EBF and work, and barrier(s) to EBF while working. A total of 7 sub-themes arose from the themes, as highlighted in Table 2 below.

Table 2. List of themes and their sub-themes

Themes	Subthemes
Healthcare-working mothers' knowledge and practice of EBF	1. Understanding and benefits of EBF to the mother and child 2. Ensuring and indications sufficient breast milk for the child
Balancing and maintaining EBF after returning to work	1. Frequency and duration of breastfeeding within 24 hours after resuming work 2. Preparation to Continue breastfeeding after maternity leave 3. Support system and assistance at home and workplace
Challenges to implementing EBF while working	1. Lack of time and consideration of alternative milk as a backup option 2. The physiological discomforts associated with EBF for working women

Healthcare-working mothers' knowledge and practice of EBF

Understanding and benefits of EBF to the mother and child

From the participants' view, it was evident that most of them clearly understood EBF. They explained it as feeding the baby only breast milk without introducing other foods or drinks, such as formula milk, water, or complementary foods. Participants' responses indicated that they recognized the importance of adhering to EBF guidelines to ensure the optimal health and development of the child. As a participant said:

"As far as I understand, exclusive breastfeeding means giving the newborn baby only breast milk, without giving any other type of food or drinks for the first six months of the baby's life." (Participant 1)

Another participant stated:

"As I understand it, exclusive breastfeeding means feeding an infant only breast milk as their sole source of nutrition for the first six months of their life, without giving them any water or other types of food." (Participant 7)

During the discussion, participants shed light on the perceived advantages that EBF offers to the infant's health and well-being. They emphasized that EBF provides the baby with immune protection, leading to fewer illnesses and quicker recovery from ailments. As participants stated:

"*Ah, it is known that mother's milk is natural and contains all the essential nutrients for the mental and physical well-being of the child. So, making the child exclusively breastfeed and rely only on the mother's milk is a good thing because it makes the child concentrate on the mother's milk alone, as opposed to mixing it with other foods, which could lead the child to reduce the intake of mother's milk and miss out on those important nutrients."* (Participant 8)

"…breast milk contains essential nutrients and natural antibodies that help promote the child's health and optimal growth." (Participant 13)

Furthermore, participants recognized that EBF fosters a solid emotional bond between the mother and the child, contributing to the baby's emotional development. For example, this participant reported:

"……helps in building a strong bond between the mother and the child. That is what I know but sometimes becomes difficult to implement." (Participant 7)

Participants acknowledged that exclusive breastfeeding supports the mother's postpartum recovery by reducing the risk of postpartum hemorrhage and aiding the uterus in returning to its normal state. The majority said they adhered to EBF, knowing it also benefited them. For example, these two participants said:

"Exclusive breastfeeding helps the mother recover quickly after childbirth……. Because it helps reduce the risk of postpartum hemorrhage (excessive bleeding after childbirth) and aids the reproductive system in returning to its normal state on time." (Participant 15)

"Mothers also receive several benefits from exclusively breastfeeding their baby, such as quicker recovery after childbirth as it helps the uterus to shrink and heal faster" (Participant 12)

Additionally, they recognized that exclusive breastfeeding helps reduce the risk of breast cancer, ovarian cancer, and other health issues for the mother in the long term. Participant said:

"For the mother, exclusive breastfeeding can reduce the risk of breast and reproductive cancers. It also helps in losing the weight gained during pregnancy." (Participant 1)

Moreover, participants highlighted the cost-effectiveness of breastfeeding, as it eliminates the need to purchase formula milk and other feeding alternatives. As another participant said:

"The greatest benefit is that exclusive breastfeeding is cost-effective compared to buying formula milk or complementary foods. It saves a lot of money for the mother by breastfeeding her baby." (Participant 10)

Ensuring and indications sufficient breast milk to the child

Most healthcare-working mothers shared their experiences and strategies for ensuring sufficient breast milk for the baby and indications of adequate milk supply. During the discussion, participants highlighted efforts to maintain proper infant milk supply. Participants described strategies to stimulate milk production, such as frequent breastfeeding and proper latch techniques. They expressed how they cared for themselves by maintaining a healthy diet and staying hydrated to support milk production. This participant's explanation is typical:

"*The things I do to ensure that the baby is well-fed include making sure I position the baby properly for breastfeeding, which involves keeping the baby close to my body and positioning their head in the correct direction for a good latch and effective feeding. I also allow the baby to suck for as long as they need until they are satisfied, without interrupting. Additionally, I breastfeed frequently and maintain a healthy diet to ensure an abundant milk supply for the baby*." (Participant 15)

Some participants also mentioned using breast pumps to express milk and store it for later use, especially when they were not available to breastfeed their babies directly. As a participant said:

"The mother needs to express her milk and store it in clean bottles so the caregiver can feed the child. So, there is a matter of preparing bottles for storing milk and a breast pump for expressing milk." (Participant 8)

Participants mentioned observing signs of contentment and satisfaction in their babies after breastfeeding sessions, such as the baby becoming calm and ceasing to cry. They also highlighted monitoring their babies' weight gain as an essential indicator of adequate milk intake. Participant stated:

"A baby getting enough milk will be satisfied and calm after breastfeeding. They will show signs of satisfaction, such as feeling full, resting, and smiling. Also, their weight gain is an important sign that the baby is getting enough milk." (Participant 6)

Balancing and maintaining EBF after returning to work

Frequency and duration of breastfeeding within 24 hours after resuming work

Participants reported that in the early days after birth, they breastfed their babies every two to three hours or as often as the baby demanded. Within 24 hours of returning to work, study participants reported experiencing challenges in EBF. Numerous participants reported varying the length and frequency of their breastfeeding sessions based on the age of their infant, their unique feeding needs, and the amount of time they had during the day to provide care. This adjustment demonstrated the dynamic nature of breastfeeding habits among mothers who work by balancing satisfying the infant's nutritional needs and adjusting to work demands. Most participants who reported continuing with EBF expressed the milk and stored it for use later by the nannies and caretakers. This participant explained:

"During the initial months and while on maternity leave, I breastfeed my baby every two to three hours, or whenever the baby demands it, even if it hasn't been two to three hours yet. However, after returning to work, the frequency varies depending on work responsibilities. However, a caregiver feeds the baby every two hours with the expressed milk I have stored." (Participant 13)

Participants also noted that the length of their breastfeeding sessions during maternity leave usually varied from 10 to 30 minutes, depending on their infants' specific demands and eating habits. Nonetheless, a few others reported shorter breastfeeding sessions after returning to work, which they attributed to exhaustion from finishing their workdays. This participant expressed that:

"That depends on the age of the baby and their needs at that moment. Typically, each breastfeeding session can take anywhere from 10 to 30 minutes, although it can vary and be shorter or longer." (Participant 12)

The results of this sub-theme shed light on the participants' flexibility in adjusting to their infants' feeding preferences and indications, in addition to providing insightful information on

their nursing practices. Despite their best efforts, the participant narratives also highlight the obstacles they encountered in continuing to practice successful EBF after their maternity leave ended. These two participants stated:

"I breastfed my baby every two hours while on maternity leave, but it was difficult once I started working again. I breastfed both before and after work in an attempt to acclimatize, but occasionally, I felt like my milk supply had reduced." (Participant 2)

"When I was at home, my baby would drink milk for extended amounts of time during the day. However, I saw that he became more demanding and appeared to require breastfeeding for shorter periods after I started working again, which concerned me about his nutrition." (Participant 4)

Participant 7 remarked, *"I intended to keep breastfeeding exclusively even after going back to work, but it was hard to do so because of the long hours and exhaustion in the hospital shifts. It was discouraging to discover that I was using formula as a supplement more frequently than I had anticipated."*

Participants acknowledged that EBF is challenging for working mothers due to time constraints in the hospital setting and the need to balance work commitments with caring for their newborns. Despite the challenges, many participants emphasized that breastfeeding created a unique bond with their babies, and they were determined to find ways to make it work even while employed.

Preparation to continue breastfeeding after maternity leave

Participants discussed the importance of planning and having support systems in place. One standard preparation was using breast pumps to express and store milk for their babies while they were at work. Participants also mentioned arranging for trusted caregivers, such as family members or nannies, to care for the baby during working hours. This sub-theme was noted after an extended discussion with some of the participants. Numerous mothers, including this participant, discussed this point;

"One thing you need to do is prepare a helper to take care of the baby. But also, prepare the finances to buy equipment for storing milk for the baby." Then she continued, "*What I do is when I go to work, I express my breast milk and store it in a container in the fridge so my helper can give it to the baby while I am at work. So, work continues, and my child gets breast milk.*" (Participant 5)

The findings reveal the participants' determination and proactive approach to ensure a smooth transition from maternity leave to the workplace while maintaining exclusive breastfeeding.

Support systems and assistance at home and workplace

Participants expressed the vital role of family, friends, and colleagues in providing physical, emotional, and informational support to breastfeeding mothers, ultimately contributing to the success of exclusive breastfeeding after resuming work. Participants highlighted the significant role family members, especially spouses and other relatives, play in supporting breastfeeding mothers. Participants described how their families assisted with household chores, childcare, and emotional support, enabling them to focus on breastfeeding and caring for their babies. Additionally, participants mentioned that family members provided valuable advice and guidance, drawing from their own experiences in childcare. The support at home created a nurturing environment for breastfeeding mothers, fostering a sense of reassurance and encouragement. Many participants discussed it, and this participant reported:

"The first support I receive at home is from my husband, who provides me with psychological support and takes care of some household chores so that I have enough time to rest. Additionally, I receive support from neighbors, friends, and family members who are there for me, especially during the postpartum period. They help with household tasks and provide contributions, gifts, and advice on how to care for the baby. Their experience and support were precious when I had my first child." (Participant 10)

Participants discussed workplace policies that catered to the needs of breastfeeding mothers,

such as flexible working hours. These policies allowed mothers to have reduced working hours to have time to breastfeed their babies but also supported three months of maternity leave as per labor laws. Participant said:

"Ah, in terms of work policies, apart from the three months of maternity leave, we are given reduced working hours to ensure that we have time to be with the baby and breastfeed after completion of maternity leave, which is in line with labor laws" (Participant 15)

Moreover, the support from colleagues, particularly those with previous parenting experiences, provided breastfeeding mothers with valuable insights and tips on balancing work and breastfeeding, as stated by this participant.

"Some of my colleagues have more experience in breastfeeding than I do, so they provide me with advice on how to handle various situations, especially based on their experiences with their firstborns, which I wasn't familiar with." (Participant 11)

Challenges to implementing EBF while working

Lack of time and consideration of alternative milk as a backup option

While participants recognized breast milk as the optimal choice for their infants during EBF, they also admitted that under certain circumstances, such as difficulties with breastfeeding or expressing sufficient milk, it is still challenging. The availability of alternative milk made them less motivated to continue with EBF upon returning to work. This was identified as a notable obstacle to maintaining EBF on occasion. Participants acknowledged this challenge, with many concurring that EBF should not be supplanted by formula milk or any other alternative. Participants highlighted the challenge of balancing work responsibilities and childcare, often leading to limited time spent with the baby. Even after working half a day, mothers still get tired, which leads most of them to need time to rest.

As this participant reported: *"Although it can be challenging to balance work and breastfeeding, in my opinion, yes, the mother should continue breastfeeding even when she returns to work. Alternative milk can be used only when the mother cannot breastfeed due to health issues. So, formula milk is just an alternative, as the name suggests. But I have failed to complete EBF because sometimes I have instructed my caretaker to give formula milk"* (Participant 9)

Participant 12 also reported, *"It is very challenging to continue exclusive breastfeeding while balancing professional obligations. Still, I am convinced that nothing can take the place of breast milk's advantages. I committed to breastfeeding my child exclusively even though I was having trouble expressing enough milk. When at all possible, I think mothers should make breastfeeding their priority because it not only creates a wonderful attachment with their child but also offers unparalleled nutrition."*

Another participant also said: *"I understand the importance of exclusive breastfeeding, but I must admit, there were moments when I found it tempting to opt for alternative milk options, especially when faced with time constraints and work demands. Despite my best intentions, there were instances where I resorted to formula milk out of convenience."* (Participant 2)

The findings highlight the determination of working mothers to continue exclusive breastfeeding and the various strategies they employed to make it feasible. Still, the availability of alternative milk caused some of them to discontinue EBF. Participants recognized their challenges but demonstrated a solid commitment to providing their babies with the benefits of breast milk, even in the context of employment and lack of enough time. Participant said:

"There is also the challenge of time because I need to be at work, so the time spent with the child becomes limited. I got exhausted at the end of shift" (Participant 8)

Participants described how interrupted sleep, caused by frequent nighttime feedings, impacted their energy levels and overall well-being. This emerges from the interviewer's probing. These participants explained:

"Another challenge is fatigue, as sometimes I get little sleep, especially when the baby is crying during the night. This can affect my efficiency at work." (Participant 13)

"The second challenge is fatigue or tiredness because sometimes I get very little sleep to meet the child's needs, so I find myself waking up tired and even dozing off at work." (Participant 14)

Fatigue can also lead to decreased milk production and affect the mother's ability to cope with work responsibilities, adding to the challenges of maintaining exclusive breastfeeding.

The physiological discomforts associated with EBF for working women

Participants discussed issues such as fatigue, sore nipples, breast engorgement, and mastitis, which can be painful and distressing. This challenge led to frustration and guilt, as mothers may worry about insufficient nutrition for their infants. This sub-theme emerges after extended discussion with respondents, reflecting the barrier many breastfeeding mothers face. Among other participants, these two participants stated:

"The challenge is insufficient milk sometimes; you will find that the child needs it, but the milk in the breasts is not flowing." (Participant 14)

"*I faced challenges with breast pain and engorgement, especially during long working hours. Although taking short breaks to pump and relieve the pressure helped ease the discomfort."* (Participant 6)

The findings underscore the need for comprehensive support and assistance to address these challenges and ensure a positive breastfeeding experience.

Discussion

This research aimed to explore the experience of healthcare working mothers in their implementation of EBF while fulfilling their job roles. Findings indicate that healthcare-working mothers understand the nutritional benefits of the EBF, psychological bonding, and how to ensure sufficient breast milk for the baby. This understanding may be due to the level of education among participants. The results are consistent with the study conducted in Ghana, which discovered that working mothers clearly understood the concept of exclusive breastfeeding (19). The study conducted among nurses in Pakistan showed the same understanding of the nutritional and psychological benefits of EBF (20). Most of our study participants showed awareness of the other benefits for the maternal side associated with EBF, which is the same as prior research reinforcing the importance of exclusive breastfeeding for maternal and infant health (21,22).

The participants employed breastfeeding practices and techniques to ensure sufficient breast milk for the baby, which concurs with the work of Talbert et al. (23), who highlighted the significance of frequent breastfeeding for establishing and maintaining an adequate milk supply. The emphasis on ensuring sufficient breast milk is consistent with other studies showcasing the importance of these aspects in optimizing healthy outcomes (24,25). However, despite this recognition, participants acknowledged several challenges in maintaining EBF post-maternity leave. Some participants reported stopping the EBF after returning to work, while others continued the EBF for six months even after returning to work. This explains individual behavior as the primary determinant of EBF duration (26).

One of the critical challenges identified was the difficulty in balancing work responsibilities with EBF commitment. Participants reported struggling with time constraints and exhaustion from work, which led them to consider alternative milk, such as formula milk, as an option. Literature shows that breast milk expression is a highly used alternative to continue breastfeeding at the end of maternity leave (27). While many participants expressed a desire to continue with EBF, they acknowledged the practical difficulties, highlighting the greater need for support and flexibility in the workplace. The Tanzania government established three laws to mitigate this challenge and improve EBF among employed mothers. These laws include maternity leave (Labor Act, Art. 33), breastfeeding leave (Labor Act, Art. 33), and women's work while pregnant or breastfeeding (Labor Act, Art 33 & 20) (16). Three favorable policies, exclusive breastfeeding education, complementary food education, and community health worker home visits, were tested in

Tanzania in 2020, which showed an increase in breastfeeding in and around the target areas (28).

Another study underscores the importance of workplace policies and colleague support for working mothers (29). Participants in our study acknowledged support from family, co-workers, and managers, consistent with findings that such support is crucial for sustained EBF post-maternity leave. However, some participants discontinued EBF early upon returning to work, citing inadequate paid maternity leave as a limiting factor. This aligns with research indicating that many working mothers find current maternity leave durations insufficient to support six months of EBF (9). Moreover, our study showed that some participants stopped EBF early after they resumed working. The paid maternity leave was seen to be not enough to support six months of EBF, so the duration of this leave became an essential factor that could affect EBF same as other research conducted in Uganda (30).

Participants acknowledged the physiological challenges of EBF faced by working mothers, including fatigue, sore nipples, and breast engorgement. They reported difficulties such as limited time for interaction with the baby, fatigue, insufficient breast milk, and breast pain and swelling. These challenges highlight the complexities working mothers face in balancing their dual responsibilities and resonate with previous research emphasizing common EBF challenges among this group (19). Other literature showed that most of the babies can be put at risk due to the alternatives that most employed mothers opted for after returning to work (20). Despite these difficulties, some participants demonstrated resilience and determination in their commitment to EBF.

This study presents the following strengths and limitations. This study employed semi-structured interviews, allowing in-depth exploration of participant perspectives. By focusing on healthcare workers, the study provides contextual understanding. One limitation arises from the involvement of different healthcare workers' professions, which might influence the experience and social desirability. The study lacked a longitudinal perspective as we did not make a follow-up to determine whether all participants who reported not stopping EBF continued to complete all six months. Some words might not be translatable in the translation from Swahili to English. The recruitment method of using participants' Human Resource managers might prevent other participants from freely discussing their issues and concerns. Despite these limitations, the study contributes valuable insight into the existing literature on EBF.

This research contributes to the field by providing insights into the EBF experience among healthcare worker mothers. The findings emphasize the need for support systems and workplace policies to facilitate breastfeeding continuation for working mothers. Increasing maternity leave to six months will enable the EBF practice as recommended by WHO. Workplaces should consider placing nursing rooms for breastfeeding mothers during their working time.

Conclusion

This study underscores the complex interplay between work demands and breastfeeding practice among female working women's EBF experience. The study highlights the participants' understanding of the related advantages while disclosing difficulties in managing job and breastfeeding responsibilities. The study underlines the need to promote supportive policies, such as longer paid maternity leave and establishing breastfeeding facilities that allow working mothers to continue exclusive breastfeeding. The study's implications extend to policymakers, healthcare providers, and employers, advocating for interventions that promote a conducive environment for working mothers to sustain exclusive breastfeeding. Further longitudinal studies can be performed to understand this topic in a broad context and with a large sample size.

Acknowledgment

The authors of this research are sincerely grateful to all the incredible female HCWs who generously shared their experiences and insights for this research on exclusive breastfeeding. Their valuable contributions have illuminated the

challenges and triumphs faced in balancing work and breastfeeding, making the study possible.

Conflict of interests

The authors declare that they have no competing interests.

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