BREAST-FEEDING KNOWLEDGE, PRACTICE AND BARRIERS AMONG WORKING AND NON-WORKING MOTHERS: A COMPARATIVE STUDY

By

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Abstract

Introduction: Breastfeeding is a natural and greatly beneficial way to feed the baby. However, it can be particularly challenging for working mothers due to obstacles such as lack of time, insufficient facilities, and restricted maternity leave. Addressing these challenges requires comprehensive workplace policies that support breastfeeding. Aim of Work: To compare knowledge, practice, and barriers to breastfeeding among working and non-working mothers in the Minia district, highlighting the challenges unique to each group. Materials and Methods: A descriptive cross-sectional study was conducted on 460 mothers with at least one child less than two years old. Participants were recruited from five major maternal and child health care units at Minia district. Data was collected by a validated and structured interview-based Arabic questionnaire covering aspects of knowledge, practice, and barriers to breastfeeding. Results: Mean knowledge scores were significantly higher among educated and working mothers. The most frequent cause behind stopping breastfeeding was thoughts that the mother did not have enough milk (23.69%). The percentage of exclusive breastfeeding was higher among non-working mothers (51.5%) compared to working mothers (49.8%), the difference wasn't statistically significant (P=0.72). The majority of working mothers who reported exclusive breastfeeding (76.8%) were working less than 8 hours. Conclusion and Recommendations: Knowledge and practices regarding breastfeeding showed significant differences in most of the aspects between working and nonworking mothers. There is an ongoing need to promote knowledge of the importance of breastfeeding. It is recommended that healthcare providers and policymakers plan effective breastfeeding promotion programs and create breastfeeding-friendly workplaces.

Keywords: Breastfeeding, Working females, Knowledge, Practice and Barriers.

Introduction

Breastfeeding is universally recognized as the optimal method for infant nutrition, providing essential nutrients and antibodies that promote healthy growth and development (Buckland et al., 2020).

For the first six months of an infant's life, the World Health Organization (WHO) advises women to breastfeed their children exclusively. According to the WHO, exclusive breastfeeding (EBF) is when a baby exclusively drinks breast milk and no other food, not even water, enters their mouth, except any medications or supplements that may be required for medical reasons (Mekebo et al., 2022). This practice is recommended for the first six months of life to ensure optimal growth, development, and health of the infant (WHO, 2023).

Breastfeeding offers numerous benefits for both babies and mothers. For infants, breastfeeding reduces the onset of childhood diseases and may protect them from diarrhea, respiratory infections, as well as malnutrition, while the immunological component of breast milk acts as a child's first immunization and provides infants with a strong immune system (Domenici

and Vierucci, 2022). For this reason, compared to formula-fed infants, breast-fed newborns are less likely to suffer from respiratory infections, diarrheal diseases, urinary tract infections, sepsis, and gastroenteritis (Frank et al., 2019). For mothers, breastfeeding aids in postpartum recovery reduces the risk of breast and ovarian cancers, and can serve as a natural form of contraception additionally. Breastfeeding is a cost-effective, environmentally friendly, and convenient feeding method (CDC, 2023).

Breastfeeding can be challenging for working mothers due to several obstacles such as: lack of time as work usually reduces the mother's time with the baby, consequently, breastfeeding time is also reduced. When this happens, mothers replace exclusive most breastfeeding with formula milk which is considered easy and time-efficient (Wahyuni et al., 2024). The workplace environment also lacks adequate lactation support, such as private clean spaces for nursing or pumping (Chang et al., 2021). Restricted maternity leave as short maternity leave policies can force mothers to return to work before they are ready, making it difficult to establish and maintain breastfeeding. In contrast, non-working mothers generally have more flexibility and time to establish and maintain breastfeeding routines (Jiravisitkul et al., 2022).

Aim of Work

To compare knowledge, practice and barriers to breastfeeding among working and non-working mothers in the Minia district, highlighting the challenges unique to each group.

Materials and Methods

Study design: It was a comparative cross-sectional study.

Place and duration of the study: It was performed among the female population in the Minia district. The study was conducted during November and December 2024 in five randomly chosen Maternal and Child health care units (One urban and four rural units).

Study population: Participants of the study were female population in Minia district and having at least one child less than two years old. Exclusion criteria: Mothers having no children less than two years or refused to participate in the study.

Sample size: The total number of females in the childbearing period (14-45 years old) in the Minia district was

240248 females. The necessary sample size was determined using the statistical software EPI-INFO 7.2.5.0. It was assumed that the greatest variability would be 50%, with a confidence interval of 95% with a margin of error of 5%. Based on these assumptions, a minimum sample size of 384 was obtained. After adding a 20% non-response rate, the final estimated sample size was (460).

Sampling method: A convenient sample of mothers was chosen from the randomly selected four rural and one urban maternal and child health unit in the Minia district.

Data collection: A well-designed and structured Arabic interview-based questionnaire covering aspects of knowledge, practice, and barriers to breastfeeding.

The questionnaire had five parts: the first related to the demographic details of study participants including age, educational level, and residence. The second part was occupational details; occupation, number of working hours, days of work, and years of work. The third part was obstetric history; number of pregnancies and labors, and type of delivery. The fourth part was a list of questions related to knowledge

and the fifth was related to practice.

The total knowledge score for each participant was calculated as follows: for each statement of knowledge questions, a correct response gives a score of (1), while an incorrect response or do not know response gives a score of (0), and their mean score was calculated by SPSS.

A pre-test was conducted on 10% of the sample. The questionnaire was subjected to necessary modifications and extensive literature evaluations were conducted during its development.

Consent

Participants were informed about all steps of the study to be oriented by data collected. Written consent was obtained at the beginning of the study. The privacy of the data taken from the participants and their anonymity were duly upheld. The data were exclusively utilized for research purposes.

Ethical Approval

The study was approved by the Ethical Committee of the Faculty of Medicine, Minia University (No 1302/10/2024). Approvals were also obtained from maternal and child health units where the study was performed.

Data management

All data was analyzed using the Statistical Package for Social Sciences (SPSS) version 20. A 95% confidence interval was used to interpret the data. Using numbers and percentages, descriptive statistics were used to sociodemographic summarize the data, and occupational and obstetric data. The association and comparison among groups for qualitative data were analyzed using the Chi-square test as well as Fisher's exact test. The student's t-test was employed to analyze the quantitative data. A p-value of less than 0.05 was deemed to be statistically significant.

Results

The study included (460) mothers having an infant of 2 years old or younger.

Table (1): Sociodemographic characteristics and obstetric history of the studied mothers according to working status.

Variables	Working	Non-working	Total	P-value
	No=225 (48.9%)	No=235 (51.1%)	No=460(100%)	
Age (years)				
Range	20-45	19-45	19-45	
Mean ± SD	31.8±6.4	28.77±6.2	30.26± 6.5	<0.0001*
18-25	53 (23.6%)	82 (34.9%)	135 (29.3%)	
26-35	102(45.3%)	119 (50.6%)	221(48.1%)	<0.0001*
> 35	70(31.1%)	34(14.5%)	104(22.6%)	
Residence				
Urban	69 (30.7%)	16(6.8%)	85 (18.5%)	<0.0001*
Rural	156 (69.3%)	219(93.2%)	375 (81.5%)	
Family income				
In debt	11(4.9%)	38 (16.2%)	49(10.7%)	
Satisfy only basic expenses	59(26.2%)	120(51.1%)	179(38.9%)	<0.0001*
Satisfy expenses and emergency	90 (40%)	57(24.3%)	147(32%)	
Sufficient for saving	65 (28.9%)	20(8.5%)	85(18.5%)	
Education				
Secondary school or less	66 (29.3%)	213(90.6%)	279 (60.7%)	<0.0001*
University	159(70.7%)	22(9.4%)	181 (39.3%)	
Gravity				
<3	98 (43.6%)	89 (37.9%)	187 (40.7%)	0.22
≥3	127(56.4%)	146(62.1%)	273(59.3%)	
Parity				
<3	110 (48.9%)	103 (43.8%)	213 (46.3%)	0.28
≥3	115(51.1%)	132 (56.2%)	247 (53.7%)	
Mode of delivery last infant				
Normal Labor	103 (45.8%)	93 (39.6%)	196 (42.6%)	0.18
Cesarean section	122(54.2%)	142(60.4%)	264(57.4%)	

^{*:} Statistically significant

Table (1) showed that the range of mothers' age in the studied group was (19-45) years with average of (30.26 ± 6.5) years. Almost half of participants (48.9%) were working. The majority of mothers (81.5%) was from rural areas and had secondary school or less education (60.7%). More than half of the participants reported gravity and parity of three or more children. About (57.4%) of them had a cesarean section for delivery of the last infant.

When comparing working and non-working mothers, working mothers were significantly older, of urban residence, had sufficient income, and had higher education.

Table (2): Knowledge scores related to breastfeeding according to characteristics of studied mothers.

Variables	No	Knowledge score Mean ± SD	P-value	
Age group/years				
18-25	135	37.7±5.1	0.17	
26-35	221	38.69±4.9		
< 35	104	38.65±4.8		
Working state				
Working	235	39.06±4.7	0.005*	
Non-working	225	37.75±5.1		
Residence				
Urban	85	38.5±4.7	0.8	
Rural	375	38.4±5.04		
Education				
Illiterate	68	36.32±5.3	0.0001*	
Educated	392	38.75±4.8		
Mode of delivery				
Vagina	196	38.55±4.8	0.56	
Cesarean	264	38.28±5.1		

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Occupation	225	27.75.51	0.040%
No work (housewife)	235	37.75±5.1	0.018*
Professional	147	39.12±4.9	
Manual work	50	39.54±4.4	
Clerk	28	37.89±4.4	
Gravity			
<3	187	38.12±5.3	0.33
≥3	273	38.58±4.8	
Parity			
<3	213	38.22±5.3	0.48
≥3	247	38.55±4.7	
Age of child/ months			
< 12	191	37.8±5.3	0.048*
12-24	269	38.78±4.7	
Child gender			
Male	275	30.09±4.9	0.11
Female	185	38.84±4.9	
Family income			0.08
In debt	49	37.1±5.6	
Satisfy only basic expenses	179	38.98±4.7	
Satisfy expenses and	147	37.99±5.01	
emergency	85	38.6±4.9	
Sufficient for saving			
Working hours			0.17
< 8	174	39.3±4.55	
≥8	51	38.27±5.2	
Working days			0.85
< 5	63	38.97±4.8	
≥ 5	162	39.09±4.7	
Working years			0.06
< 10	170	38.73±4.8	
≥ 10	55	40.09±4.5	

^{*:} Statistically significant

Using of total score of both knowledge (8 questions) and awareness (8 questions), table (2) demonstrated that mean knowledge scores were significantly higher among educated ,working mothers , mothers working in manual jobs, and mothers having children more than 12 months .

On the other hand, knowledge scores didn't differ significantly according to age group, residence, mode of delivery, gravity, parity, child gender, family income, working hours, days or years.

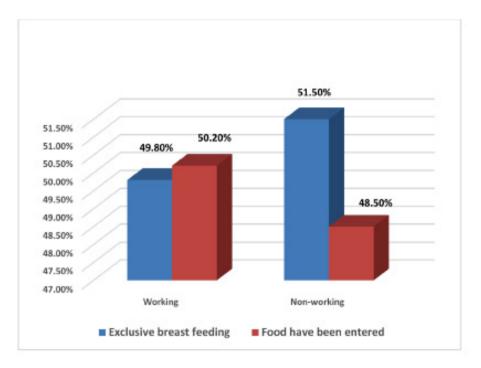


Figure (1) Current breastfeeding practice among participant mothers according to working status.

The percentage of exclusive breastfeeding was higher among non-working mothers (51.5%) compared to working mothers (49.8%), the difference wasn't statistically significant (P=0.72).

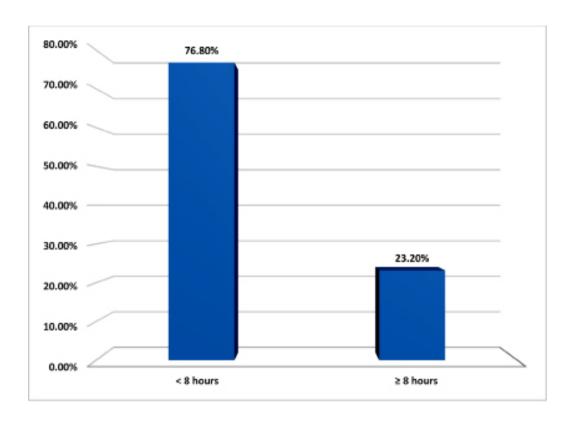


Fig (2): Distribution of working mothers practicing exclusive breastfeeding according to their working hours

The majority of working mothers who reported exclusive breastfeeding (76.8%) were working less than 8 hours.

Table (3) Causes behind stopping breastfeeding (BF) according to working status as reported by studied mothers.

Causes	Working	Non-	Total	P-value
	No=225	working	No=460	
		No=235		
I thought I did not have	63 (28%)	46 (19.57%)	109 (23.69%)	0.03*
enough milk				
I was advised not to give	70 (31.11%)	31 (13.19%)	101(21.96%)	0.0001*
BF because of my health				
I planned to return to	56 (24.9%)	2 (0.85%)	58(12.6%)	0.0001*
work or study				
I wanted to use	31(13.78%)	8(3.4%)	39(8.48%)	0.006*
contraception that affects				
BF				
I had a lot of home duties	21 (9.33%)	18(7.66%)	39 (8.5%)	0.52
My baby was sick I tried BF before and	23 (10.22%)	12 (5.1%)	35 (7.6%)	0.04*
I tried BF before and	18 (8%)	6 (2.55%)	24 (5.22%)	0.008*
failed				
I wanted to retain my	10 (4.44%)	4 (1.7%)	14 (3.04%)	0.09
body				
I wanted to reduce my	10 (4.44%)	4 (1.7%)	14 (3.04%)	0.09
weight				
I think artificial feeding is	5 (2.22%)	3(1.28%)	8(1.74%)	0.43
better				
My husband refused BF	1.33%))3	1 (0.43%)	4(0.87%)	0.29
My husband refused BF My mother-in-law refused	- '	4(1.7%)	4(0.87%) 4(0.87%)	-
BF				
I did not find support	2(0.89%)	-	2(0.43%)	-
from my husband				

BF: Breast feeding

Table (3) demonstrated the causes behind stopping breastfeeding. The most frequent causes were thoughts that the mother does not have enough milk (23.69%), advice to the mother not to breastfeed because of her health (21.96%), plans to return to work or study (12.6%), having a lot of home duties (8.5%), the mother wants to use contraception that affects breastfeeding (8.48%) and sick child (7.6%).

On the other hand, the causes that received little recognition by the mothers included those; who didn't find support from their husbands (0.43%). The husband refused to breastfeed (0.87%), and the mother-in-law refused breastfeeding (0.87%). Artificial feeding is better than breastfeeding (1.74%).

Most of the recognized causes were significantly higher among working mothers compared to non-working ones.

^{*:} Statistically significant

Discussion

Breast milk is considered as the ideal food for human infant. Beyond the nutritional value, breastfeeding reduces infection susceptibility and neonatal mortality through active protection against infections (Lackey et al., 2021).

Many mothers experience barriers to maintain a breastfeeding relationship with their infants upon returning to work and, consequently, terminate breastfeeding earlier than recommended or intended (Chang et al., 2021).

The curret study showed that the range of the studied mothers' age was (19-45) years with an average of (30.26±6.5) years (Table 1). This is consistent with the study conducted by Awoke et al. (2020) in Worabe town Ethiopia, which identified predictors of optimal breastfeeding practices and reported that the majority of participating mothers were aged between 25 and 34 years. From the researcher's perspective, the age range of 25 to 35 years is considered an ideal period for childbearing and breastfeeding.

More than half of the studied females had secondary school or less education (Table 1), which is similar to the findings of a study conducted by Cascone et al. (2019) who tried to

evaluate knowledge, attitudes, and practices about exclusive breastfeeding among women in Italy, and reported that nearly half of the studied mothers had attained secondary education.

When comparing studied working and non-working mothers, working mothers were significantly older, of urban residence, had sufficient income. and had higher education (Table 1). This was in agreement with Abd Alfataha et al., 2022 who assessed the knowledge and practices regarding breastfeeding among working and non-working mothers, they found that working mothers were significantly of older age, of urban residence, had sufficient income, and had higher education. Also, this agreed with Almalki et al., 2024 study about the prevalence of breastfeeding among working versus nonworking mothers in Saudi Arabia.

The mean knowledge scores were significantly higher among studied educated mothers with p value =0.0001, working mothers (p=0.005), mothers working in manual jobs (p=0.018), and mothers having children more than 12 months (p=0.048) (Table 2). This was in harmony with Sultana et al. (2015), who revealed that higher levels of maternal education were associated with better breastfeeding knowledge and practices.

Similarly (Laksono et al., 2021) the effects analyzed of mother's education level on the coverage of exclusive breastfeeding in Indonesia; and detected that mother's education positively level affects exclusive breastfeeding practice. Mothers who tertiary graduated from education had 1.203 times more possibilities to perform exclusive breastfeeding compared to mothers who were never attended schools. This finding also, was in agreement with (Gizaw et al., 2022), who revealed that educational status. breastfeeding knowledge and attitude were significantly associated with high breastfeeding self-efficacy.

Studied working mothers higher knowledge score; however, they showed a lower percentage of exclusive breast feeding (Figure 1). This can be explained that working mothers face more barriers to breast feeding than nonworking mothers (Table 3). Similarly, Rana et al.(2020), in their study titled knowledge and practices of exclusive breastfeeding among mothers in rural areas of Rajshahi district in Bangladesh demonstrated that there was significant difference between knowledge and practices of studied mothers. From the researcher's point of view, this result is due to the individual differences

between mothers.

Concerning the causes behind stopping breastfeeding (BF), the current study showed that most of the recognized causes were reported among working mothers significantly higher than non-working mothers (Table 3). This was due to the challenges faced by working mothers, such as limited time, lack of workplace support, physical separation from their babies, and increased stress. These factors make it more difficult to continue breastfeeding, leading many working mothers to stop earlier than recommended.

In accordance with Cunningham et al. (2024), who studied the impact of work on breastfeeding practices to identify the factors that correlate to the cessation of breastfeeding among working mothers; stated that breastfeeding cessation and outcomes were strongly associated with maternal employment, particularly workplace policies and employer support. In addition, Senosy et al., (2020) assessed exclusive breastfeeding (EBF) knowledge and practices among mothers of children under 2 years old in rural areas, Beni-Suef Governorate, Egypt, they found that non-working mothers were more likely to practice EBF. This suggests that nonworking mothers may have more time

and flexibility to care for their infants, facilitating the practice of EBF.

About 12.5% of studied females planned to return to work, this was the third ranked barrier against continuation of breast feeding among studied females sample (Table 3). This was in consistent with the study by Al-Katufi et al. (2020), which was conducted in the eastern region of Saudi Arabia and showed that early return to work and the lack of a supportive workplace environment were the most common barriers to exclusive breastfeeding.

This finding is also in agreement with the study by Khan et al. (2021), on factors preventing exclusive breastfeeding among working and non-working women. They found that several factors contribute to the interruption of exclusive breastfeeding among working mothers, with returning to work being the most significant one.

Another study conducted in Menoufia Governorate. Egypt, identified several factors contributing interruption of exclusive to breastfeeding among mothers. The most significant barrier was the return to work, which led many mothers to cease exclusive breastfeeding earlier than recommended. Other factors included insufficient milk supply, lack of health education about breastfeeding, and the perceived ease of artificial feeding (Shaheen et al., 2018).

The majority of the studied working mothers who reported exclusive breastfeeding (76.8%) were working less than 8 hours (Figure 2). This finding was in accordance with Omute and Kirungi, (2022), who detected that the majority of working mothers who reported exclusive breastfeeding (80.36%) were working up to 8 hours. Those who worked for more than 8 hours were 0.49 times less likely to initiate breast-feeding early compared to those who worked for less than 8 hours. This suggests that the early initiation of breastfeeding (EIBF) is significantly impeded by the requirement to work for extended periods.

Similarly, Snyder et al. (2018) reported that women working long hours required additional workplace support to improve their breastfeeding practices.

Conclusion

Knowledge about breastfeeding was significantly higher among educated and working mothers, especially those in manual jobs and with older children. The most common reasons for stopping breastfeeding

included perceived insufficient milk supply, health-related advice, work commitments, and household duties, with factors significantly these affecting working mothers. Limited support from husbands or mother inlaw was rarely cited. In addition, more than three-fourths of working mothers who reported exclusive breastfeeding were working less than 8 hours a day. This indicates that shorter work hours may be a contributing factor in enabling mothers to maintain exclusive breastfeeding.

Recommendations

Addressing breastfeeding challenges requires comprehensive workplace policies and programs that support breastfeeding, such as providing designated lactation spaces, flexible break times and access to necessary resources.

Conflicts of interest

The authors declared that there are no competing interests

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