

Original Article

Effect of maternal occupation on breast feeding among females in Al-Hassa, southeastern region of KSA



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المخلص

أهداف البحث: الرضاعة الطبيعية ظاهرة بشرية طبيعية، لتوفير الغذاء الضروري للنمو والتكوين. تساهم عوامل معينة في عدم استطاعة الأمهات توفير الرضاعة الطبيعية. يبحث هذا التحقيق في أثر وظيفة الأم على الرضاعة الطبيعية بين نساء الأحساء في المنطقة الجنوبية الشرقية من المملكة العربية السعودية.

طرق البحث: أجريت هذه الدراسة المقطعية عن طريق توزيع استبانة منظمة باللغة العربية على أمهات عاملات وغير عاملات في المنطقة. المشاركات سُئلن عن أوضاعهن الوظيفية وإذا ما كنَّ يُرضعن أم لا، وأسباب إيقافهن أو تقليصهن من الرضاعة الطبيعية، بالإضافة إلى الوضع الصحي لأطفالهن. تم تحليل البيانات المستحصلة.

النتائج: شارك في الاستطلاع ما مجموعه 124 أمًا، بينهن 62 امرأة عاملة و 62 غير عاملة. جميع الأمهات غير العاملات قمن بإرضاع أطفالهن، بينما قام 92% من الأمهات العاملات بإرضاع أطفالهن وبقية الـ 8% منهن لم يرضعن أطفالهن. كما أظهرت النتائج بأن 7% فقط من الأمهات العاملات مارسن الرضاعة الطبيعية الحصرية، بينما مارسها 37% من الأمهات غير العاملات.

الاستنتاجات: لم نجد أن وظيفة الأم تشكل عائقًا يمنع الرضاعة الطبيعية، ولكنها تؤثر على مدة الرضاعة وعدد الرضعات اليومية، بالإضافة إلى تأثيرها على الحالة الصحية للطفل.

الكلمات المفتاحية: الرضاعة الطبيعية؛ وظيفة الأم؛ النساء العاملات؛ النساء غير العاملات؛ الرضاعة الطبيعية الحصرية

Abstract

Objectives: Breast feeding is a normal behaviour in humans that provides babies with the nutrients needed for growth and development. Certain factors contribute to the inability of mothers to breastfeed. This investigation explored the effect of maternal occupation on breast feeding amongst females in Al-Hassa in the southeastern region of KSA.

Methods: This cross-sectional study was conducted by administering a structured Arabic questionnaire to working and non-working mothers in the region. The participants were asked about their job status and whether they were breast feeding (BF), the reasons for reducing or stopping BF, and the health status of their babies. The obtained data were analysed using the chi-square test.

Results: A total of 124 mothers participated in the survey; 62 working mother (WM) and 62 non-working women (NWM). All of the NWM had breastfed their babies, while ninety-two percent of the WM breastfed, while the remaining 8% (12.9) of WM did not breastfeed. The results also showed that only 7% of WM practiced exclusive breast feeding (EBF), while 37% of the NWM were found to practice EBF.

Conclusions: Maternal occupation was not observed to be a barrier to prevent mothers from breast feeding but affected the duration and frequency of breast feeding per day and the health status of babies.

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Keywords: Breast feeding; Exclusive breast feeding; Maternal occupation; Non-working women; Working women

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Introduction

Breast feeding (BF) is defined as the method of feeding a baby with milk directly from the mother's breast.¹ BF could probably have started with the first baby. A BBC News magazine² report indicates that 'for as long as there have been babies, there have been breast feeding mothers'. According to a WHO³ report on instant feeding recommendations, BF is classified as 'an unequalled way of providing ideal food for the healthy growth and development of infants'. Another WHO report⁴ defines Exclusive Breast Feeding (EBF) as the feeding of an infant solely on maternal milk with no addition of other milk or liquids. The WHO recommendation is for the first six months of life, infants should be breastfed exclusively for optimal development, as BF is the normal way of providing young infants with the nutrients that they need for healthy growth and development. In a report by UNICEF,⁵ BF is classified as a major contributory factor to public health, playing an important role in reducing health inequalities. Exclusive breast feeding can therefore be said to play a pivotal role in determining the optimal health and development of infants, while the lack of it is associated with an increased risk of many early life diseases and conditions, such as otitis media, respiratory tract infections, diarrhoea and early childhood obesity.⁶ Maternal health is also affected by EBF. Another WHO report⁷ indicates that breast feeding reduces the risks of breast and ovarian cancer later in life, as well as helping women return to their pre-pregnancy weight faster while lowering rates of obesity.⁷ Therefore, the benefits of EBF cannot be overlooked, as researchers⁸ all over the world have reported strong evidence on the benefits of exclusive breast feeding to both mother and child. However, there are reports indicating that with all the indicated benefits, EBF is still not practiced by mothers in different regions of the world, with reasons differing from one region to another. Some researchers have looked into different breast feeding patterns and reported that these patterns varied among mothers. Ekanem et al.⁶ reported that of the 100 mothers who participated in their study, only 24 said they practiced exclusive breast feeding (EBF). In the Abha region of KSA, Al-Binali⁹ reported that of the one hundred nineteen (119) participants in their study who started breast feeding their children within one hour of delivery, exclusive breast feeding was reported only amongst 32 of the participants, six months later. Many different reasons have been attributed to this attitude. Poreddi et al.¹⁰ are of the view that breast feeding in India is influenced by social, cultural and economic factors, with urbanization and maternal employment outside the home being a major cause for the

worldwide decline. An earlier report¹¹ indicated that in KSA, there has been a change in BF patterns, which has been due to advancements in socio-economic status. Prior to this period, BF duration was said to exceed the age of 2 years. Al-Hreashy¹² reports, however, a decline in BF over the years in KSA, particularly among young mothers living in urban areas.¹³ The reasons could be attributed to those listed by Alfaleh,¹⁴ Alwelaie et al.¹⁵ and Tarek et al.¹⁶ Other frequently cited problems in stopping or the inability to exclusively breastfeed, include sore nipples, engorged breasts, mastitis, leaking milk, pain, and failure to latch on by the infant.¹⁷ Kok¹⁸ is of the view that women who encounter these problems early are less likely to continue to breastfeed, unless they obtain professional assistance.

Diverse reasons are given for the inability of nursing mothers to practice exclusive breast feeding. There is, however, the need for detailed information about such reasons. With urbanization leading to more women needing to work and help out in the home front, there is a need to look into the effects of working outside the home on the ability of working mothers to exclusively breast feed their infants. The present investigation seeks to evaluate the attitudes of working mothers on exclusive BF in the Hofuf region of KSA, highlighting the effects of work on the ability of working mothers to breastfeed.

Materials and Methods

The study was carried out in Al-Hassa in the southeastern region of KSA. Al-Hassa is a university town with other training facilities, such as colleges and polytechnics. It has an estimated population of approximately 1,063,112, of whom 471,726 are women. Generally, female students make up a large part of the female Saudi population.¹⁶ In general, the population of women can be grouped into working mothers and non-working mothers amongst others.

A cross-sectional questionnaire-based study was carried out amongst females in the Al-Hassa community from October 2013 to December 2013. The estimated target respondents were all nursing mothers and were randomly selected and grouped into two groups. Group 1 consisted of sixty two (62) full-time students and full time working mothers, at the King Faisal University, Al-Hassa. The second group of sixty participants (62) was made up of non-working mothers who were full-time housewives.

The sample size was determined using the RaoSoft (<http://www.raosoft.com/>) online sample size calculator. A confidence interval of 8.71 at the confidence level of 95% gave a minimum sample size of 124 from the target population.

A questionnaire consisting of fifteen items was used for data collection. Items included in the questionnaire were used before by Adil¹⁹ and Tarek et al.¹⁶ and had previously been validated by De La Mora et al.²⁰ but with several modifications. The following items were considered: occupational status of the mother, health status of the baby, the average number of feedings the child receives per day. The following questions addressing attitudes were also asked: reasons for stopping breast feeding, commencement of breast feeding, the effects of working outside of the home, and work on the ability to breast feeding. Inclusive criteria for the investigation were that the participants were

all mothers nursing healthy babies, and who responded to the questionnaire based on their experience with the youngest child. Categorized responses for each item were adapted from earlier works.^{19,20} Respondents were to respond as: yes, no, or don't know.

The questionnaire was developed by the research group. The items were also translated into Arabic by the Arabic speaking members of the research group with a guide from field experts. Pilot testing has been described elsewhere,¹⁶ but with modifications. The survey tool was piloted on nursing mothers at the College of Medicine at King Faisal University, Al-Hassa. This step was followed with an adaptation of items through rephrasing and revision.²¹

The female investigators who are Arabic speakers were engaged in the data collection. Questionnaires were handed out individually to respondents, who filled them out and handed them back to the investigators.

For ethical consideration, approval was obtained from the research ethics committee of the College of Medicine, King Faisal University. Participants were dually informed about the project and a verbal consent was obtained from the mothers; only those who agreed to participate in the survey were included in the study. Confidentiality was guaranteed, as respondents were allotted numbers.

The collected data were analysed using Excel Microsoft Software 2013. Comparisons were made between groups to determine significance with Student's t-test and chi-square to test the relationship between variables. Significance level was set at $p < 0.05$.

Results

One hundred and twenty-four (124) women participated in the survey. Of these participants, 62 were working, and the remaining 62 were non-working mothers, as shown in Table 1. The survey results showed that there was a relationship between breast feeding (BF) and maternal occupation. Of the 62 working mothers who responded, five had stopped breast feeding at the time of the survey, as shown in Table 1, while all of the non-working mothers were still breast feeding. The results were significant with $p\text{-value} = 0.0225$.

When asked about the number of breast feeding times per day, the non-working mothers answered that they breastfed more than three times a day (88.7%); however, only 50% of working mothers said that they breastfed more than three times a day, and these results are shown in Table 2. There was a significant difference in the number of BF times per day between the WM and NWM groups ($p\text{-value} 0.000053$).

The participating mothers were also asked the length of time they practiced breast feeding, and the results on this

comparison in duration of BF between working and non-working mothers are shown in Figure 1. This figure shows that within the period of birth and 2 months, the difference in the number of working and non-working mothers breast feeding their babies was not significant ($p\text{-value} 0.77948$); however, from 3 to 5 months duration, there was a significant difference in duration, primarily due to the WM, with ($p\text{-value} 0$). A similar pattern is observed for mothers' breast feeding from 9 to 11 months duration with a significant difference between working and non-working mothers ($p\text{-value} 0.00042$). However, with an increase in duration of 18–20 months, more of the NWM than the WM were found to still be BF, and this difference was significant ($p\text{-value} 0.00544$). Additionally, significantly more of the non-working mothers breastfed for up to 24 months and above ($p\text{-value} 0$).

The results of the relationship between maternal occupation, exclusive BF and pre-planned BF are presented in Table 3. The questionnaire sought to determine if the respondents had pre-planned to BF prior to the birth of their babies and whether they had practiced EBF. Ninety three percent of working mothers said they did not practice exclusive breast feeding, while 63% of the non-working mothers did practice EBF and these results are significant ($p\text{-value} 0.001347$) and are shown in Table 3. However, regarding pre-planning to BF, the results showed that most (95%) of the working mothers affirmed that they pre-planned to BF, while only 5% said no. For the non-working mothers, 90% had pre-planned to BF, prior to delivery, while 10% said they had not done so.

Questions on barriers the respondents faced, regarding breast feeding their babies, were asked in the questionnaire. Post birth, the majority of the responding mothers were BF, with only approximately 35% of working mothers (WM) continuing at the time of the study. For the non-working mothers (NWM), 68% were still breast feeding at the time of the survey. The WM who stopped, said it was due to time spent at work, 72% of who indicated that the stress from work affected their milk secretion. In contrast, 28% of these mothers said work stress did not affect their BF but that there was not sufficient time to BF.

Discussion

The results from the present survey showed that in the majority of respondents, prior to birth, there was a

Table 1: Distribution of participants by occupation and BF.

Occupation of participants	Breast feeding (BF)		
	Yes	No	Total
Working mothers (WM)	57	5	62
Non-working mothers (NWM)	62	0	62
Total	119	5	124

The chi-square statistic is 5.2101. The $p\text{-value}$ is 0.022456. This result is significant at $p < 0.05$.

Table 2: Frequency of BF times per day for WM and NWM.

No. of times per day	Working mothers (WM)		Non-working mothers (NWM)	
	No. of mothers	%	No. of mothers	%
Once daily	6	9.7	1	1.6
Twice daily	9	14.5	1	1.6
Three times a day	16	25.8	5	8
More than 3T/D	31	50	55	88.7
Total	62	100	62	100

The chi-square statistic is 22.431. The $p\text{-value}$ is 0.000053. The result is significant at $p < 0.05$.

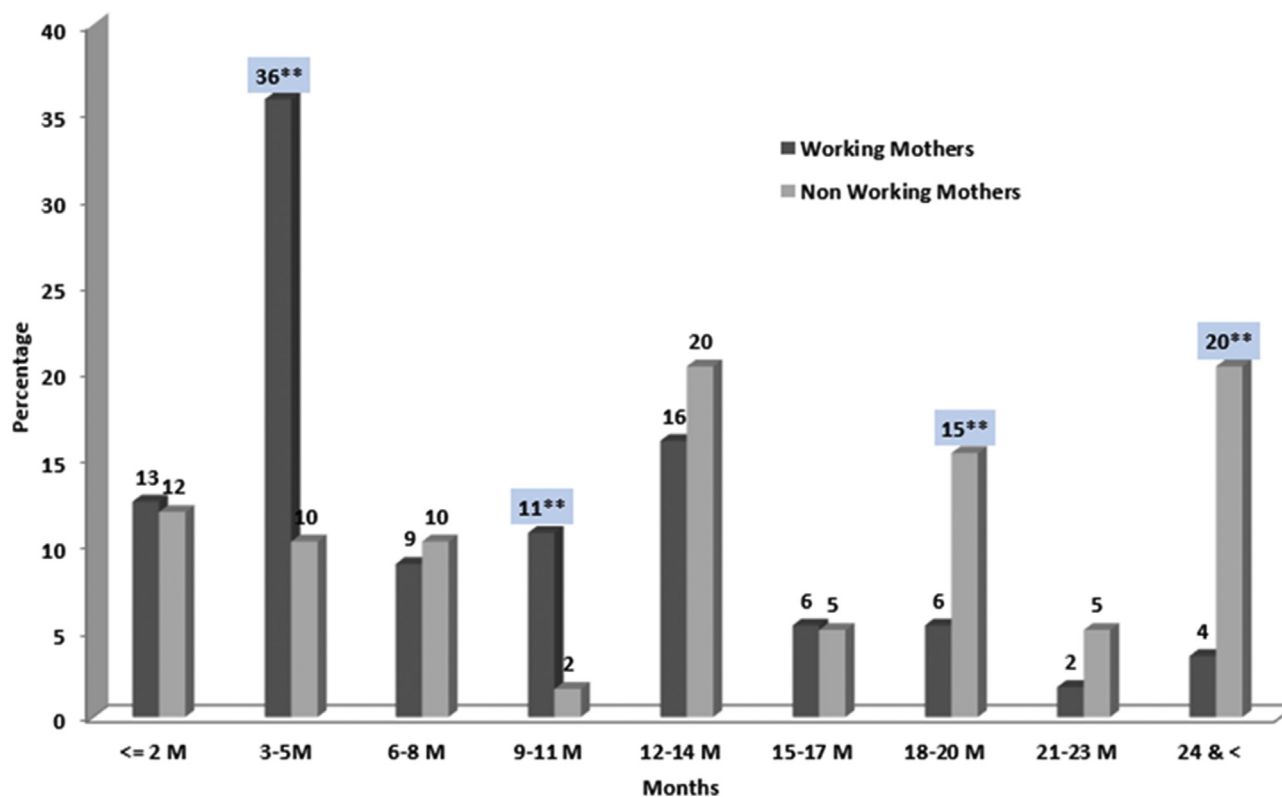


Figure 1: Comparison in duration of BF between WM and NW.

Table 3: Exclusive BF by WM and NWM.

Participants	Exclusive breast feeding (EBF)				Pre-planned BF			
	Yes	%	No	%	Yes	%	No	%
WM	4	7	53	93	59	95	5	5
NWM	23	37	39	63	56	90	6	10

The chi-square statistic is 15.6356. The p-value is 0.001347. The result is significant at $p < 0.05$.

willingness to breastfeed. However, at the time of the investigation, the majority of BF mothers were those who were non-working outside their homes. The effect of socio-economic factors on breast feeding and exclusive BF has been reported by Kok,¹⁸ who showed that compared to the 49.4% of high income earners who practiced EBF, 72.2% of low-income earners practiced EBF. This finding, therefore, may indicate that there is the possibility that the cost of baby formula could have been a contributing factor to continuous EBF. The only socio-economical factor considered in the present survey is occupation, in terms of working or non-working. The level of income might not be a contributing factor in the case of the present investigation. Earlier studies²² have shown that there was no significant relationship between level of education and the practice of exclusive breast feeding. These studies showed that there was a high correlation between BF and occupation. Ojong et al.²² observed that the mothers in their study who were

either full-time housewives or self-employed, fed their babies on demand. Indicating that these mothers were practicing the WHO and American Academy of Pediatrics actions on feeding on demand, which is the best method of feeding a baby, as well as promoting EBF.²³ Earlier studies²⁴ had attributed mothers' occupation, as a contributory factor to BF as well as the pattern of breast feeding. The present investigation also showed that the majority of the mothers, regardless of their occupation, had pre-planned to breast feed their babies before birth. More of the working mothers had pre-planned to breast feed than the non-working mothers. However, post birth, the percentage of working mothers still BF had dropped considerably by the sixth month. Therefore, maternal occupation was the contributory factor in the present investigation. The data obtained also showed that while all of the NWM mothers had breastfed their babies, the percentage was lower amongst the WM. El-Gilany et al.²⁵ stipulated that there are many reasons why women generally either stop breast feeding early, or do not breast feed at all and that one of such reasons is work, and the present findings support these results. In the present survey, the reasons given by the respondents for stopping BF included lack of adequate time, reduced milk and baby's adaptation to formula milk. Most of the respondents in the present survey who breastfed their babies for more than three times a day were the mothers who did not work outside the home. Therefore, availability of time is a contributory factor. There is the need to breast feed a baby every 2–3 h, which translates into approximately 8 times of BF a day. This process was said

to tend to sustain a 'copious milk supply'. The absence of this BF frequency is said to make it difficult for working mothers to meet the requirements, particularly if there is no provision to breastfeed at their work place.²⁵ This factor may be the reason why working mothers in the present investigation said they experienced reduced their milk production. Apart from this fact, is the issue of work stress,²⁶ which is the most common problem faced by working mothers, as they have difficulties expressing enough milk for their baby's needs during the day and that even women with an abundant milk supply can have difficulties pumping enough milk during the work day.

The respondents in the present study who stopped breast feeding used an alternative to their natural milk. The supplementation of breast feeding has been associated with a shortened BF duration and was also observed among the WM in the present investigation. El-Gilany et al.²⁵ stipulated that although the relationship between the use of formula and BF was difficult to establish, the influence of the hospital can promote formula use, while indirectly shortening the duration of breast feeding. This outcome implies that the frequent use of bottles could increase the possibility that babies will become frustrated with the slower flow of breast milk, leading to breast refusal and an earlier weaning than anticipated.

Health wise, a high percentage of respondent mothers said their babies had come down with cold & flu and diarrhoea. Similar findings have been reported by Lamberti et al.,²⁷ who found that compared to those that had been exclusively breastfed, there was a high risk of diarrhoeal mortality among non-breastfed babies.

Conclusions

It can be concluded from the survey that for our respondents, time spent at work affects the breast feeding process of working mothers. A number of factors also contribute to this outcome, one of which is the time spent by mothers at work during the day, and work stress, which certain of the mothers said affected their milk secretion.

Recommendations

Work places may need to look into the possibility of providing baby-friendly centres, where nursing mothers could attend to their babies. An increase in the duration of maternity leave will give working mothers more time to spend with their babies, as well as enhance breast feeding. It is also recommended that training be given to working mothers on the importance of breast feeding before and after work to ensure a 'copious milk supply'.

Conflict of interest

The authors have no conflict of interest to declare.

Authors' contributions

All the authors were involved in the manuscript preparation, data collection, and statistical analysis.

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