

FULL PAPER

Investigating the relationship between mothers' ability to breastfeed and exclusive breastfeeding in infants

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Empowering parents by hospital staff and their participation in infant care is a method that can significantly reduce the parents' feelings of stress and insecurity. Concerning the importance of breastfeeding, this study aimed to investigate the relationship between maternal empowerment in breastfeeding and exclusive breastfeeding of infants. This descriptive cross-sectional study, was conducted on 150 mothers with infants. The study population consisted of mothers from rural areas around Kermanshah Province who referred to the existing health centers for healthcare services. a total of 150 mothers referred to the health centers were included in this study. The results showed that most of the mothers were housewives with a rate of 60% and also had incentives for breastfeeding with a rate of 64.7%. Furthermore, there was a statistically significant difference between all the fields of the used questionnaire and the overall score of the breastfeeding ability questionnaire in the exclusive (M=157.32, SD=36.92) and non-exclusive (M=87, SD=6.87) breastfeeding group. Likewise, in all items, the score obtained in the exclusive feeding group with breast milk was higher ($p < 0.05$). The results also highlighted the fact that the demographic characteristics of the mothers are effective on EBF rate. Therefore, it is suggested to further do practical educational interventions with the focus on the benefits of breastfeeding.

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KEYWORDS

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Introduction

Premature birth not only challenges the health of the infant, but also the health of its family members. Premature infants have more vulnerable systems and immature organs. Hence, they are more likely to experience adverse complications than term infants during their neonatal period and adaptation to extrauterine life [1,2].

The health of children and infants is an important issue for parents that affects their quality of life. In the event of hospitalization of an infant, this can cause serious stress in the parents, affecting their parental role and the family system as a whole [3-6].

Factors such as maternal body mass index, socioeconomic status, maternal age, fertility, smoking, and delivery method can influence breastfeeding [7-9]. Breastfeeding refers to

feeding the infant exclusively with breast milk (EBF) without including other liquid or solid foods within the first 6 months of life [10-12].

Breastfeeding has been recognized as the gold standard for feeding infants and the best way to increase maternal and infant health [13].

Infants who are exclusively fed with breast milk have lower rates of mortality than infants who are fed with both breast milk and powdered infant formula. Breastfeeding also reduces the risk of necrotizing enterocolitis, bronchopulmonary dysplasia, sepsis, allergy and obesity diseases [14,15].

In addition, breastfeeding increases the neurological, mental, psychomotor, and physical strength of an infant compared to the other infants who are fed with formula [16].

Despite the numerous benefits of breast milk for the health of infants and mothers, in many countries the rate of EBF within the first 6 months of an infant's life is statistically reducing year by year [17,18].

Factors such as early return to work, lack of a private space for mothers, fatigue, lack of support at work, short maternity leave, and feeling monitored and judged have led to a decrease in the acceptance of exclusive breastfeeding among working mothers [19-21].

Empowering parents by hospital staff and their participation in infant care is a method that can significantly reduce the parents' feelings of stress and insecurity [22].

In regards to empowering mothers for breastfeeding, various factors such as maternal health literacy about breastfeeding, mother's tendency to breastfeed, cultural, social, and economic conditions of the family are effective. Moreover, in many cases, the mother may feel having insufficient milk, which can negatively affect the EBF due to internal weakness and doubts [23-25].

Concerning the importance of breastfeeding, this study aimed to investigate the relationship between maternal empowerment in breastfeeding and exclusive

breastfeeding of infants in Kermanshah Province.

Experimental

Research method

This descriptive cross-sectional study (code: 3009206), 150 mothers with infants. The study population consisted of mothers from rural areas around Kermanshah Province who referred to the existing health centers for healthcare services.

Inclusion criteria: mothers who were willing to participate in the study consciously, had a six months old infant at the time of enrollment, and also had the ability to understand the research questions. In case the mothers had ambiguity about the research questions, the study examiner, who was a female nursing student, was responsible to provide the necessary information to the enrolled mothers. Exclusion criteria included lack of informed consent, and an incomplete questionnaire.

A total of 150 mothers referred to the health centers were included in this study. The tools such as demographic questionnaire and the breastfeeding empowerment questionnaire were used to assess the variables contributing in breastfeeding empowerment. Breastfeeding questionnaire consisted of 45 items on a 5-point Likert scale. The questionnaire consisted of 5 knowledge items, 6 attitude items, related to breastfeeding skills (11 items), related to skills for prevention and solving of breastfeeding problems (6 items), related to adequacy of breastfeeding (4 items), related to perceived support from family (6 items) and to assess the breastfeeding self-efficacy (7 items) [26].

Criteria for research ethics included obtaining the code of ethics in research with no. IR.KUMS.REC.1398.995, obtaining informed and written consent, maintaining confidentiality in conducting the study, not imposing a cost on the patient, and reporting

the general aspects of the information. The data were collected and entered into SPSS, version 16, for further analysis using statistical tests.

Results and discussion

Based on Table 1, most mothers were housewives with a rate of 60% and also had incentives for breastfeeding with a rate of 64.7%.

TABLE 1 demographic characteristic of the research subjects

Variable		N	%
Education	Elementary	28	18.7
	High school	56	37.3
	High school	60	40
	University	6	4
Employment status	Housewife	90	60
	Employed	60	40
Number of children	One child	62	41.3
	Two children	78	52
	Three children and more	10	6.7
Type of recent pregnancy	Wish	136	90.7
	Unwanted	14	9.3
Type of recent birth	Natural childbirth	30	20
	Cesarean section	120	80
Encouragement to breastfeed	Yes	97	64.7
	No	53	35.3
Participation in physiological childbirth classes	Yes	143	95.3
	No	7	4.7

According to the findings, the overall score of mothers' ability to breastfeed with exclusive breastfeeding in housewives' mothers is higher than working mothers, in mothers with one child higher than mothers with 3 children and more than 3 children, in predicted pregnancies more than pregnancy Unforeseen and

unwanted events were higher in mothers with normal delivery than in mothers with cesarean delivery and in people who had incentives for breastfeeding more than those without incentives. In all cases, the p-value was reported to be less than 5 percent (Table 2).

TABLE 2 Comparison of demographic characteristics in the group with exclusive breastfeeding and the group without exclusive breastfeeding

Variable		Exclusive breastfeeding	No exclusive breastfeeding	Overall score
Education	Elementary	157.14(35.71)	86(0)	154.6(37.53)
	High school	156.46(36.32)	85.25(8.88)	151.3(39.62)
	High school	157.96(37.95)	91(1.41)	155.7(39.23)
	University	159.33(19.13)	-	159.3(46.87)
	<i>P</i> -value, <i>F</i>	0.99, 0.02	0.70, 0.37	0.92, 0.16
Employment status	Housewife	172.16(27.31)	86(9.41)	168.33(32.16)
	Employed	134.92(34.82)	88.33(2.08)	132.6(38.81)
	<i>P</i> -value, <i>F</i>	0.000, 45.83	0.69, 0.17	0.000, 37.59
Number of children	One child	171.75(31.52)	80(12.02)	168.8(35.03)
	Two children	146.64(37.82)	89.6(2.30)	142.98(39.19)
	Three children and more	148.7(34.05)	-	148.7(34.05)
	<i>P</i> -value, <i>F</i>	0.000, 8.76	0.11, 3.57	0.000, 8.42
	Wish	163.8(32.03)	89.5(2.07)	160.52(34.85)

Type of recent pregnancy	Unwanted	92.46(9.76)	72(0)	91(10.86)
	<i>P</i> -value, F	0.000, 63.54	0.001, 61.04	0.000, 54.85
Type of recent birth	Natural childbirth	190.75(36.12)	92(0)	187.46(39.81)
	Cesarean section	148.81(32.09)	86.16(7.13)	145.68(34.18)
	<i>P</i> -value, F	0.000, 37.48	0.48, 0.57	0.000, 33.51
Encouragement to breastfeed	Yes	165.38(34.98)	85(11.26)	162.89(37.2)
	No	141.85(35.94)	88.5(1.73)	137.83(37.34)
	<i>P</i> -value, F	0.000, 14.29	0.55, 0.39	0.000, 15.51
Participation in physiological childbirth classes	Yes	159.81(40.56)	90.5(1.29)	156.55(42.25)
	No	154.06(31.58)	82.33(9.07)	150.75(34.39)
	<i>P</i> -value, F	0.35, 0.85	0.12, 3.36	0.36, 0.81

TABLE 3 Comparison of the status of breastfeeding ability in the exclusive feeding group and the group without exclusive feeding with breast milk

Areas of breastfeeding ability	Exclusive breastfeeding	No exclusive breastfeeding	<i>P</i> -value, F
Consciousness	20.81(3.69)	8.57(1.61)	0.000, 2.77
attitude	23.20(3.90)	16.71(1.25)	0.000, 14.79
Correct breastfeeding technique skills	43.27(9.83)	23.00(3.1)	0.000, 5.44
Skills to prevent and solve breastfeeding problems	18.74(5.90)	10.00(1.15)	0.000, 24.54
Adequacy of breastfeeding	10.12(3.87)	6.57(1.13)	0.017, 5.37
Dragged family support	20.60(5.15)	14.00(1.82)	0.001, 14.90
Breastfeeding self-efficacy	20.55(8.83)	8.14(1.06)	0.000, 10.46
All areas	157.32(36.92)	87.00(6.87)	0.000, 14.54

Based on Table 3, there was a statistically significant difference between all the fields of the used questionnaire and the overall score of the breastfeeding ability questionnaire in the exclusive ($M=157.32$, $SD=36.92$) and non-exclusive ($M=87$, $SD=6.87$) breastfeeding group. Furthermore, in all items, the score obtained in the exclusive feeding group with breast milk was higher ($p<0.05$).

Conclusion

Demographic variables affect the health of patients as well as their recovery process [27-34]. The examination of factors influencing the health of infants and children is important and can be effective in identifying factors that can promote their health [35-39]. The aim of this study was to determine the relationship

between mother's breastfeeding empowerment and EBF of infants. The results of the study showed that the rate of infectious diseases is lower in infants who are breastfed. Frank *et al.* observed that breastfeeding of 3-6 months infants reduces the likelihood of developing respiratory infections with fever, gastroenteritis, and otitis media. The study showed that breastfeeding also decreases the reported rate of conjunctivitis, trachea, and ear infection among the 6-18 months old infants [40-42]. In addition, Dewey *et al.* demonstrated a lower rate of gastrointestinal infections in breastfed children in their first year of life [43] (28). Breastfeeding has various benefits including protection against digestive and respiratory infections in infants, which is why EBF is recommended [44].

It was found that most mothers were breastfeeding their infants. Pattison *et al.* suggested that 91.4% of mothers in the USA breastfed their newborn infants at least once in the first month of delivery [45]. A study by Taheri *et al.*, however, revealed that in Iran, only 66.8% of the newborns were breastfed, which was substantially lower than the results of the present study [26].

The difference between the findings of this study compared to other studies can stem from the socioeconomic status of the study population. Therefore, the difference reflects the urban versus rural status of the mothers. Given the mothers participated in this study were residents of the rural part of the Kermanshah Province, they had higher inclination to breastfeed their infants.

The findings indicated a higher rate of EBF in mothers with higher education levels. The results also showed that mothers whose relatives have infants under the age of 1 year and breastfeed them are more likely to EBF their baby. In a study by Pattison *et al.* in the USA, the normal breastfeeding rates were higher in women with higher educational degrees, aged between 30 to 36 and non-smokers [45]. A study conducted by Hamze *et al.* on 324 postpartum mothers showed that 32.7% of mothers had a negative attitude, 52.8% had a neutral attitude, and 14.5% had a positive attitude to breastfeeding practices [46]. In addition, the presence of relatives who use breast milk to feed their baby can act as an incentive for mothers such that in the study carried out by Poorahmad-Garbandi *et al.* the relatives have been noted as the most important incentives (47%) for mothers in relation to breastfeeding [47]. The results also highlighted the fact that the demographic characteristics of the mothers are effective on EBF rate. Therefore, it is suggested to further perform practical educational interventions with the focus on the benefits of breastfeeding.

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Authors' Contributions

All authors contributed to all stages of the article.

Conflict of Interest

The authors declare that they have no conflict of interest in this study.

Data availability

All produced and examined data are incorporated in this article.

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