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Investigating the Effect of Post-Delivery Telephone Counseling on the Rate of Exclusive Breastfeeding Among Infants

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Abstract

Background: Owing to the crucial role of nutrition with breast milk for both the mother and infant, the implementation of programs that support breastfeeding seems essential.

Objectives: This study aims to determine the effect of post-delivery telephone counseling on the rate of exclusive breastfeeding among infants.

Methods: This study, as a randomized clinical trial, investigated 170 women who delivered their children in the Sabzevar Shahidan Mobini hospital, Iran in 2017. After acquiring the written informed consent, the researchers randomly assigned the subjects into two groups, including the telephone counseling recipient group (intervention) and the telephone counseling non-recipient group (control). The data collection instruments were questionnaires and checklists. The collected data were analyzed by the SPSS 18 software.

Results: The findings of the study showed that 73.8% of the counseling non-recipient group had exclusive breastfeeding, and 26.2% did not have exclusive breastfeeding. In the telephone counseling recipient group, 90.4% exclusively breastfed their infants, while 9.6% did not. Thus, there was a statistically significant difference between the two understudy groups ($P<0.05$).

Conclusion: This research revealed that although mothers were trained how to breastfeed when they were pregnant or were discharged from hospitals, and exclusive breastfeeding was emphasized, implementing the counseling program, even telephonic, and responding mothers' questions regarding breastfeeding and prevalent problems in this period could be helpful in the first two months after delivery.

Keywords: Exclusive Breastfeeding, Telephone Counseling, Infant

1. Background

The infinite benefits of breast milk are common knowledge, such that the UNICEF organization has pronounced breastfeeding and its training as a part of strategies for the growth and survival of children.[1] Breastfeeding has numerous benefits, including preventing the infant from the inflammatory diseases of intestine, lungs, and ears as well as other health problems like diabetes and obesity, preventing mothers from breast cancer, and removing the psychological needs of mothers and infants. Besides, breastfeeding is reckoned as a suitable economic approach for the family and society.[2,3] Global strategies for infants and advises related to infant nutrition elucidate the importance of breast milk in the infant's health. Meanwhile, the contribution of breastfeeding in reducing infant mortality has been clearly recorded. According to the advice of the World Health Organization, infants should be exclusively breastfed during the first six months of their lives.[4]

While extended global steps have been taken towards the exclusive exploitation of infants from breast milk, we witness different problems on part of mothers and their breastfeeding abandonment after they are discharged from hospitals.[5]

The breastfeeding preference is influenced by diverse

factors, including mothers' age, number of deliveries, academic level, income, and social supports.[6] However, the continuation of breastfeeding depends on the tendency and satisfaction of mothers as well as the supports the healthcare systems provide for them.[5]

For suitable breastfeeding, in addition to the tranquility and self-confidence of the mother, her acquisition of true and proper knowledge and skills seems necessary. Among different programs that support breastfeeding, mothers' exploitation of training and counseling can help them identify the problems and make informed decisions towards their solutions.[7,8]

Counseling can be conducted both in-person and remotely.[9] Distance-counseling is possible through the use of communicational tools such as educational films, internet, and telephone.[10] One of the useful and cost-effective methods of distance-counseling is telephone counseling that is accessed by the majority of individuals in society.[11] Telephone exploitation is cost-effective. It increases the quality of care services and decreases the workload of the healthcare systems. The use of telephone counseling in the breastfeeding period is a prevalent intervention in many countries.[12] Since the first training on how to breastfeed is fulfilled by the midwifery personnel in hospitals, midwives, as counselors, can play an important role in supporting mothers.[8]

Several studies and scientific reports indicate that the advertising programs of exclusive breastfeeding can be effective in precluding the main reasons for infant mortality like infants' diarrhea, pneumonia, and septicemia per se.[13,14] The results of a study in Australia display that although 90% of women in their fertility age are aware of the effects of breast milk on infants, only 24% of infants aged below six months were breastfed.[15,16] The study of Srinivas et al revealed that breastfeeding counseling enhanced the breastfeeding rate of women during the study period and helped them to reach their breastfeeding goals.[17] In Iran, according to the reports of the Ministry of Health and Medical Education, the breastfeeding percentages were 45%, 28%, and 20% in 2000, 2006, and 2009, respectively. These values picture a long distance from the ideal rate and an extreme decrease in the exclusive breastfeeding in Iran in recent years.[18]

2. Objectives

However, evidence and reports indicate that the effect of the programs that support breastfeeding on the duration of exclusive breastfeeding has not yet been illuminated accurately and vividly.[19] Since the true use of such programs promotes health training, and there are few exclusive breastfeeding-related studies using counseling techniques in the country,[20,21] the present study aimed to investigate the effect of telephone counseling support in the post-delivery period on the rate of exclusive breastfeeding among infants.

3. Methods

The present study is a randomized clinical trial conducted on 170 women who had delivered in the Sabzevar Shahidan Mobini hospital, Iran in 2017. The sampling was accomplished purposefully and based on the random number table. Therefore, 85 subjects were randomly assigned to the intervention group, and 85 were assigned to the control group. The inclusion criteria for the study were the mothers' Iranian nationality, lack of any underlying disease, and nonuse of drugs and medicines that were forbidden in breastfeeding, as well as the presence of a singleton fetus with normal birth weight and no congenital anomaly.

Before initiating the counseling, we asked the participants to fill out the informed consent form and then inserted their demographic information, including the mother's age, occupation, educational level, pregnancy order, delivery order, abortion order, number of children, delivery type, satisfaction with the infant's gender, and inclination to pregnancy besides her neonate's birth weight and gender and husband's occupation and academic level in a checklist. Then, the intervention group received telephone counseling, regarding breast milk and exclusive breastfeeding, from the trained nursing and midwifery experts in their 3rd-5th and 13th-15th post-delivery days for minimally 20 minutes, and the mothers' questions were responded. The service-providers' telephone numbers were given to the mothers so that they could access them in case of any problem or question. The rate of exclusive breastfeeding was examined on the 60th day of post-delivery. It is worth mentioning that the counselors were trained prior to the intervention, and the way the services had to be provided was equalized.

With the help of the SPSS version 18 software, we analyzed the data using descriptive statistics (percentage and frequency), the chi-square test, Fisher's test, and *t* test.

4. Results

We conducted the present study on 170 women who delivered their children in the Sabzavar Mobini hospital, Iran to investigate the effect of post-delivery telephone counseling support on the rate of exclusive breastfeeding among infants.

The two intervention and control groups were not significantly different in terms of their demographic specifications, including pregnancy order, delivery order, abortion order, number of children, and the infant's weight ($P > 0.05$) (Table 1).

In following up the understudy participants at the end of 2nd post-delivery month, we could not access 7 subjects out of 170 ones (4.1%). However, since a sample loss of 10% was considered in sample size determination, the interpretation of the results did not encounter any problem. The rate of exclusive breastfeeding was not significantly different between the intervention and control groups before counseling. After the first training

Table 1. Comparison of Demographic Characteristics Between Intervention and Control Group

Demographic Characteristics	Intervention Group	Control Group	*P* Value
Pregnancy order	2.1 ± 12.00	2.1 ± 20.06	0.60
Delivery order	1.0 ± 87.82	1.0 ± 88.86	0.92
Abortion order	0.0 ± 24.50	0.0 ± 31.61	0.41
Number of children	1.0 ± 86.81	1.0 ± 86.83	1.00
The infant's weight	3.0 ± 26.51	3.0 ± 18.44	0.26
Education, No. (%)			0.44
Illiterate	4 (5.9)	10 (9.8)	
Elementary school	19 (27.9)	27 (26.5)	
Diploma	27 (39.7)	47 (46.1)	
Higher education	18 (26.5)	18 (17.6)	
Mother' occupation, No. (%)			0.77
Housewife	78 (92.9)	78 (91.8)	
Employed	7 (8.2)	6 (7.1)	
Husband's occupation			0.84
Employee	9 (10.8)	7 (8.2)	
Self-employed	57 (68.7)	60 (70.6)	
Others	17 (20.5)	57 (68.7)	
Delivery type			0.74
Vaginal	59 (69.4)	57 (67.1)	
Cesarean	26 (30.6)	28 (32.9)	
Gender			0.16
Female	48 (56.5)	39 (45.9)	
Male	37 (43.5)	46 (54.1)	
A tendency to childbearing			0.35
Wanted	69 (81.2)	64 (75.3)	
Unwanted	16 (18.8)	69 (81.2)	

stage and telephone counseling (on the 3rd to 5th day after delivery), we observed a statistically significant difference between the two groups in terms of exclusive breastfeeding ($P < 0.05$). There was also a significant difference between the groups in the second stage of training and counseling (days 13th to 15th after delivery) ($P < 0.05$). Sixty days after delivery, there was also a statistically significant difference between both groups in the rate of exclusive breastfeeding ($P < 0.05$).

5. Discussion

The results of this inquiry showed that the control and experimental groups were not significantly different in their educational level, occupation, age, infant gender, and all underlying factors. This issue reflects the homogeneity of both groups. However, there was a statistically significant difference between the intervention and control groups, such that more exclusive breastfeeding was reported in the telephone counseling recipient group.

The results of this study conform to Kang et al's,[22] Pugh et al's[23] and Jang et al's[24] results, in which exclusive breastfeeding was more permanent at the end of the first month in the experimental group as compared to the control group. The results of Graffy et al's[25] study revealed the 6-week maintenance of exclusive breastfeeding as a result of telephone counseling. Furthermore, de Oliveira et al, in their study, concluded that the counseling sessions were effective in increasing the duration of the exclusive breastfeeding in the first four months of the infant's life.[26] The results of the study conducted in China in 2016 depict that the rate of exclusive breastfeeding in the intervention group is significantly higher than the one in the control group in 3 days, 6 weeks, 4 months, and 6 months after delivery.[27] However, the results of Raisi Dehkordi et al's study, which revealed no significant difference between the intervention and control group in their exclusive breastfeeding at the end of the first month,[5] were not in line with the results of the present study. Today, the presentation of simple and cheap counseling methods for exclusive breastfeeding enhancement has been taken into consideration. Concerning the problems of nursing mothers in the breastfeeding period, the presentation of telephone counseling to mothers can be a helpful step towards an improvement in the exclusive breastfeeding situation, and; as a result, family health.

The results of the present study revealed that those mothers that continued exclusively breastfeeding their infants had exploited post-discharge telephone counseling, supports, and training; however, there was not a significant difference between counseled and non-counseled groups. The results of the study of Masoumi et al[28] displayed that counseling with mothers can increase their awareness, change their attitudes towards exclusive breastfeeding, and thus improve their breastfeeding function. Moreover, in their study, Sakkaky et al,[29] and Amiri et al[30] probed into the post-delivery caring and counseling programs and their effects on exclusively feeding the infants by the breast milk in their infancy period in the form of home visits. Their results indicated that the rate of exclusively feeding the infants by the breast milk in the experimental group still exceeded the one in the control group after the implementation of home visits. Further, there was a significant difference between the two groups at the end of the first month; however, the number of mothers who had exclusively fed their infants with breast milk shrunk in both groups compared to the time they were discharged from the hospital.

In this research, mothers' educational level, economic and occupational statuses, and the cultural level along with their husbands' economic occupational statuses were compared, and no significant difference was observed. This means that both understudy groups enjoyed similar statuses and conditions, and the mentioned factors could not noticeably impact how the infant was fed. There can be several reasons for the significant effect of telephone counseling on mothers' encouragement and exclusive feeding with breast milk. For example, in Ingram et al's study, the effect of grandmothers in northern Asia

regions like India, Bangladesh, and Pakistan on the way infants were fed was observed. Many mothers entrusted to their families after their discharge are exposed to the early abandonment of exclusive breastfeeding since they are influenced by the advice of their associates. In their breastfeeding experiences, many grandmothers perceive that the use of other kinds of milk, liquids, and herbal medicines are useful in somatically fortifying the mother and her infant.[31] Likewise, some mothers expressed that they embarked on auxiliary feeding with other milk types or sugar water due to the deficiency in their breast milk as well as the infant's hunger. They recognized the excess cries of the infants as a symbol of their huger and mentioned that they started this kind of feeding according to the advice of their mothers or mothers-in-law.[32]

It is suggested embarking on educational and supportive programs from the mother's early pregnancy and continuing them 6 months after the birth of the infant. Indeed, we should promote people's culture respecting breastfeeding and revise untrue beliefs and customs, so that women believe that they are capable of feeding their infants.

Likewise, further and more extended studies are recommended for the presentation of the cost of the most possible effective intervention in this area. For example, providing employed mothers with necessary facilities, observing the breastfeeding leave hours, the presence of nurseries besides the working place of the nursing mothers, the necessity of promoting breastfeeding for employers and working environments, training nursing mothers, the families' and societies' physical, mental, and emotional supports from mothers, noticing the role of media in elucidating and settling the importance of breastfeeding for every individual in society, creating special sites for mothers and infants for easy breastfeeding at any time in public places, pathologizing the reasons for the probable non-execution of the breastfeeding law, correcting the untrue beliefs on breastfeeding, health risks, and mothers' fitness.

6. Conclusion

This study showed that although mothers were trained how to breastfeed in their pregnancy period and when they were discharged from the hospital, and exclusive breastfeeding was emphasized, the execution of counseling, even telephonic, and responding to the mothers' questions on breastfeeding as well as the prevalent problems of this period can be helpful. Thus, the breastfeeding-reinforcement programs, which emphasize the early start of exclusive breastfeeding, should be enhanced in countries with limited resources, including our country. Similarly, the healthcare employees should acquire the requisite training associated with the appropriate transmission of information on exclusive breastfeeding since nurses, midwives, and physicians play an integral role in removing the apprehension of mothers and their success in breastfeeding.

Research Highlights

What Is Already Known?

Before developing the research questions and objectives, we need to have an understanding about what is already known about the topic. Answers to some research topics such as effect of face to face counselling and home visit after delivery already exist but Articles about telephone counseling were less and results of this were different.

What Does This Study Add?

This research revealed that although mothers were trained how to breastfeed when they were pregnant or were discharged from hospitals, and exclusive breastfeeding was emphasized, implementing the counseling program, even telephonic, and responding mothers' questions regarding breastfeeding and prevalent problems in this period could be helpful in the first two months after delivery.

Author Contributions

Methodology: PA; Investigation: PA, MNN, MJ; Validation: KH; Writing – original draft: MV; Writing – review & editing: EDM, PA.

Conflict of Interest Disclosures

There is no conflict of interest in this research.

Ethical Approval

Current study was approved by Sabzevar University of Medical Sciences, Sabzevar, Iran ethics committee.

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