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The Effect of Educating Breast Crawl on the Practice of the Employed Midwives

[1]Fariba Mahdavi Yalghouzaghaj, [1]Fateme Nahidi, [2]Mohammad Heidarzadeh and [3]Atefeh Talebi
[1]Department of Midwifery and Reproductive Health, School of Nursing and Midwifery,
Shahid Beheshti University of Medical Sciences, Tehran, Iran
[2]Neonatal Health Office, Ministry of Health, Tehran, IR Iran
[3]Department of Biostatistics, Faculty of Paramedicine,
Shahid Beheshti University of Medical Sciences, Tehran, IR Iran

Abstract: Given the importance of the breast crawl process in the development of mother-infant interaction and infant's survival, this study aimed to examine the effect of educating the employed midwives about the breast crawl process on their practice. This quasi-experimental study was conducted on 59 midwives working in delivery rooms of selected hospitals (through convenience sampling) affiliated to Tabriz University of Medical Sciences in 2013-2014. A questionnaire and an observation checklist were used to collect data. At first, knowledge, attitude and practice of the subjects were examined using these tools. Then, a breast crawl workshop was held. Immediately and two months after education, knowledge and practice of the subjects were examined again. The results were analyzed through Wilcoxon and Friedman tests using SPSS-16. $p<0.05$ was considered as the significance level. The results showed that 98.3% of the midwives had poor and 1.7% had moderate practice before education. However, immediately after education, the rates reached 78 (poor), 20.3 (moderate) and 1.7% (good practice) and after 2 months, they reached 88.1, 10.2 and 1.7%, respectively. The results showed that educating midwives through workshops improves their knowledge and practice. Therefore, it is recommended that educational courses be held periodically and barriers to implementation of this process be removed.

Key words: Tehran, Iran, education, knowledge, observation

INTRODUCTION

The most sensitive period for the for mation of mother-child bond and starting breastfeeding is the first 24 h after childbirth. This is an evolutionary period during which the babies have the ability to show their innate talents in the form of a particular behaviors. Thus, breast crawl is the most natural way for expressing this behavior within the 1st h after birth (Girish *et al*., 2013). By this definition, every newborn when is placed on his mother's abdomen and breasts immediately after birth has the ability to find his mother's breasts and begin breast feeding (Gangal *et al*., 2007). This process is an important milestone in the development of mother-infant interaction and infant's survival (Calais *et al*., 2010; Henderson, 2011). Currently, breast crawl is recommended as a preferred method for starting breast-feeding (Henderson, 2011) and as a strategy for promoting and supporting breast feeding, it can significantly reduce 1.3 million child deaths each year through exclusive breast feeding. According to recent research, infants who spend >50 min for an immediate skin to skin contact are eight times more likely to begin spontaneous breastfeeding. However, it does not happen for most newborns in the United States and around the world (Henderson, 2011). Although, this process is one of the ten measures of the baby friendly hospitals, unfortunately it is not done properly in the country and the care model separates mothers and babies at birth and during the early postpartum period.

Separating newborns from their mothers is the primary cause of stress. Being away from the mother for a long time can have lasting emotional effects. Since, mental health in infancy affects the adult mental health and the infant mental health care begins early, even in the 1st h after birth (Bergman, 2011; Flacking *et al*., 2012; Howard *et al*., 2011), several problems can be avoided by placing the naked baby near the mother's breasts and drying and covering both of them (Bergman, 2011). However, many factors such as administration of

Corresponding Author: Fateme Nahidi, Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

epidural analgesics and narcotics during labor to the mother, the episiotomy pain, mother's rapid transfer out of the delivery room, infant's intense oraopharyngeal suctioning, using a nasogastric tube to empty the baby's stomach contents, mother's excessive hydration and drying the baby completely have made implementing this process difficult (Goodarzi *et al*., 1969). Despite the fact that breast crawl has been proved scientifically and practically, reference books have slightly dealt with this subject. Therefore, because the personnel of delivery centers do not have the knowledge, this process has not yet been implemented in these centers (Half, 2008). The deputy for treatment of Ministry of Health has recommended a measure to prevent these problems; to educate the personnel about how the baby crawls to the mother's breast (Goodarzi *et al*., 1969). The United Nations Children's Fund, World Health Organization, International Union of Breastfeeding as well as the scientific community also emphasize educating health workers for providing every baby with the best start in life. However, it appears that there is still no comprehensive documented information about the education and practice of midwives regarding the process of breast crawl in Iran. Given the importance of midwifery care in reducing maternal and neonatal mortality, continuing education of midwives is a hot subject in many countries and one of the most urgent educational needs is to adopt new policies and procedures for empowering midwives and improving their practice (Geranmayeh *et al*., 2006).

Education leads to the improvement of the quality of midwifery services and the efficiency and effectiveness of care and productivity in healthcare system (Modares *et al*., 2009). Holding workshops is an effective educational method for learning in a short time and is appropriate for adult education and continuing education (Geranmayeh *et al*., 2006). Education should be tailored to the needs of the employees and constantly update along with advances in technology. The benefits of continuing education can be classified into four categories: satisfaction or motivation; changes in the procedure; attitudes and skills; changes in the practice and increased quality of services. Safari quoted Oermann and Pasma as stating that continuing education programs with measurable objectives can improve clinical skills. Therefore, as the performance of each person depends on his perception and knowledge Halimi and according to the recommendations of the World Health Organization, this study was conducted to evaluate the effect of education of the breast crawl on the practice of the employed midwives.

MATERIALS AND METHODS

This is a before-after quasi-experimental study. The samples included the midwives with Bachelor's and Master's degrees working in the delivery room of Alzahra and Taleghani hospitals in Tabriz and Razi hospital in Marand. At first, they were invited to participate in workshops and answer the questionnaire and they were assured of the confidentiality of all information obtained. The hospitals were selected through convenience sampling to save time and transportation fare. Of all the 66 subjects, seven did not continue and finally, the study continued with 59 subjects. A questionnaire and a performance observation checklist were used to collect the data. The questionnaire consisted of 6 demographic questions and 14 knowledge questions. The observation checklist included 10 questions about the performance of the midwives in the process of breast crawl immediately after childbirth that. Each question was scored from 0-4 according to the value and importance of the question (the activity) and whether it was done or not by the midwife. After summing up the scores obtained from the questions and converting them into percentages, the level of performance was divided into three categories of poor, moderate and good.

Content validity was used for assessing the validity of the data collection tools and test re-test method was used for determining the reliability. The responses given to the knowledge questionnaire and observation checklist were confirmed by obtaining the Pearson's correlation coefficient of 0.97 and 0.92, respectively. The data were gathered in three stages, i.e., before immediately after and two months after training. In the first stage, the knowledge, attitude and practice of the subjects were examined before training. Then, a curriculum was developed and the subjects were divided into 6 groups of 10 people. For each hospital, a 1 day workshop was held for 2 h twice and breast crawl, its importance, mechanism, conditions and requirements were trained. Mainly direct teaching methods, including lectures, question and answer, small group discussion and playing educational films were used. Indirect teaching methods, including booklets, pamphlets and educational films were also used. The knowledge questionnaire was completed before, immediately after and two months after training. Furthermore, midwives' practice was observed before, two days after and two months after the workshop twice and was recorded in the second observation. To analyze the data, descriptive statistics of frequency distribution tables, mean and standard deviation and inferential statistics of Friedman and Wilcoxon tests were used in SPSS-16. The confidence coefficient was considered 95%.

RESULTS AND DISCUSSION

In this study, of the 59 midwives working in the delivery room, 27 people (45.8%) aged 30-39 years, 39 (66.1%) were married, 56 (94.9%) had a Bachelor's degree and 29 (49.2%) had an employment contract. The 33 of them (55.9%) had <5 years of work experience and 34 (57.6%) were earning between 6,000,000 to 10,000,000 IRR.

All the midwives had a positive attitude towards breast crawl and none of them had ever participated in breast crawl workshops. The practice of the midwives before training indicated no statistically significant difference in all the three hospitals. Based on the results obtained in this study, the knowledge level of the midwives increased after training compared to before education (Table 1 and 2).

Based on the results, the comparison of the knowledge and practice of the employed midwives before and immediately after training as well as the comparison of the knowledge and practice of the employed midwives before, immediately after and two months after training indicated a statistically significant difference using Friedman and Wilcoxon test ($p<0.05$) (Table 3).

The knowledge level and practice of the employed midwives regarding breast crawl had no correlation with the employment status, age, marital status, income level, education level and work experience. The results of this study showed that most of the midwives had a moderate level of knowledge about breast crawl before training and a small percentage of subjects had a high level of knowledge. However, immediately after training, the number of midwives who had good knowledge increased in that none of the subjects had poor knowledge any more after training. These results are consistent with the study by Girish *et al*. (2013) and inconsistent with the study of Nahidi in which most of the midwives in teaching and non-teaching hospitals stated they were familiar with the skin to skin contact immediately after birth and knew it as the breast crawl.

However, it should be noted that in the above-mentioned study, the knowledge of the subjects was examined by asking them only a question while in our study, the knowledge of the subjects was evaluated by a questionnaire regarding the breast crawl.

According to the results of the study and the Wilcoxon and Friedman test, a significant difference was observed between the mean knowledge scores of the subjects before and after educational intervention. The knowledge level of the subjects significantly increased after training which may be attributed to education, their active participation in the workshops and providing them with educational films and pamphlets. Many studies have indicated the effect of education on the increased level of knowledge and awareness (Bolbol *et al*., 2008; Yeke and Zaree, 2007).

In this study, the mean knowledge scores of the midwives decreased two months after education compared to immediately after education. This result is consistent with the study of Levitt who examined the effect of neonatal resuscitation training course on the knowledge of pediatric residents. As the time interval between education and examination increases, people's knowledge level decreases (Trevisanuto *et al*., 2005). In this study, since the conditions were stable, this decreased knowledge level can reflect the impact of the passage of time and suggest the need for continuing education. The results showed that the practice of 98.3% of the midwives was poor before training but immediately after and two months after training, it was reported as 78 and 88.1%, respectively which indicated a 20.3 and 10.2% reduction.

Bhagat reported that breast crawl is a new, easy, available, evidence-based and cost-effective method that does not require any guidelines or expensive facilities and can be performed in all delivery centers. Karimi also suggested the feasibility of the breast crawl in Iran which does no concur with the results of this study. The above

Table 1: The knowledge level of the employed midwives on breast crawl before and after training in selected hospitals affiliated to Tabriz University of Medical Sciences in 2013

	Time		
Knowledge	Before education n (%)	Immediately after education n (%)	After 2 months n (%)
Poor (0-33/33)	12 (20/3)	0 (0)	0 (0)
Moderate (34/33-66/66)	46 (78)	29 (49/2)	47 (79/6)
Good (67/66-100)	1 (1/7)	30 (50/8)	12 (20/4)

Table 2: Comparison of the employed midwives on breast crawl before and after training

	Time		
Practice	Before education n (%)	Immediately after education n (%)	After 2 months n (%)
Poor (0-33/33)	58 (98/3)	46 (78)	52 (88/1)
Moderate (34/33-66/66)	1 (1/7)	12 (20/3)	6 (10/2)
Good (67/66-100)	0 (0)	1 (1/7)	1 (1/7)

Table 3: The comparison of the knowledge level and practice of the employed midwives regarding breast crawl before, immediately after and two months after training in selected hospitals affiliated to Tabriz University of Medical Sciences in 2013

	Time	
Knowledge-practice	Pre-post	Pre-post-fu
Knowledge	Wilcoxon: -5/822 p<0/005	Friedman test : 57/21 p<0/005
Practice	Wilcoxon: -2/449 p<0/014	19/53 Friedman test: p<0/005

mentioned studies have not exclusively examined the feasibility of the breast crawl and the barriers to or facilitators for its implementation. In addition, sufficient labor force and large population of the centers are also involved in the implementation of this process.

This study is consistent with the study by Goudarzi *et al*. (1969) and Haif (2008) who mentioned that unfortunately this process is not performed properly in the country and with the findings of Morrison who reported that the common care model separates babies and mothers at birth and during the early postpartum period as well as with the findings by Sehhati (2004) who reported that the participation of delivery personnel in the process of mother-infant bonding is poor in the 1st h after birth.

In our study, despite having sufficient knowledge and positive attitude towards breast crawl after training, the practice of most of the subjects was still poor. Kashfi stated that although, having sufficient knowledge of health issues is a prerequisite for people's behaviors, there is not always a direct relationship between knowledge and practice. In other words, people with higher knowledge do not necessarily have better health behaviors (Kashfi *et al*., 2012). It seems that environmental conditions also affect people's practice. In this study, midwives stated that high workload and labor shortage are the most important factors affecting the duration of implementing the breast crawl properly.

The results of our study match with the study of Girish *et al*. (2013) reporting that the early skin-to-skin mother-infant contact neither takes a lot of time nor imposes more workload on nurses. However, this study is inconsistent with the study by Walters *et al*. (2007). This difference may be due to the small sample size in Walters' study which was conducted as a pilot on only 9 mother-infant pairs. Girish *et al*. (2013) stated that most of the nurses and gynecologists opposed the implementation of breast crawl due to the increased workload and they believed that this approach is not feasible.

The shortage and poor distribution of personnel, lack of equipment, incompatibility between practice and job description, lack of assistants, inadequate job description, overcrowding in centers, etc., were among the main factors affecting midwives' practice. Moghimi and Parsai reported the shortage of human resources as the most important factor inhibiting the midwives' practice (Nazari *et al*., 2006). Lack of human resources in health services has been widely recognized as a threat to the achievement of the Millennium Development Goals. Therefore, trying to potentially optimize the available healthcare providers is crucial. Ghabeljoo quoted Levin as stating the main reason for the lack of high-quality nursing care is not that the nurses do not want to employ what they have learnt but is associated with the quantity of the human resources and environmental facilities (Abdollahi *et al*., 2003).

CONCLUSION

The results reflect the fact that despite having knowledge of and positive attitude towards breast crawl, the practice of the employed midwives is far from the desirable level. Therefore, it is suggested that the periodical education be conducted and the possible barriers to the implementation of this process be removed in order to help midwives to improve their practice.

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