

Effect of Education on the Awareness of Primigravida Couples toward Infant Care

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ABSTRACT

Background: Infancy is one of the most critical stages of life, which requires parents to have adequate knowledge in order to provide careful nursing, attention and care for newborns. Given the importance of infant health, it is essential to teach proper child care techniques and principles to primigravida parents. This study aimed to evaluate the effect of education on the awareness of primigravida couples toward infant care.

Methods: This clinical trial was conducted on 50 couples in the healthcare centers affiliated to Mashhad University of Medical Sciences, Mashhad, Iran. Study tools were researcher-made questionnaires, and data analysis was performed in SPSS version 16 using analysis of variance (ANOVA).

Results: In this study, poor awareness of infant care was observed in the couples before training, which improved to moderate awareness after the educational sessions. Moreover, mean score of parental awareness significantly increased in mothers ($P=0.005$) and fathers ($P=0.05$) after the training.

Conclusion: According to the results of this study, educational intervention could promote parental awareness in primigravida couples. Therefore, application of this method could help parents to provide nursing care for their newborns.

Keywords: Awareness, Couples, Education, Infant care

Introduction

Infancy is a critical period of life for personality development, which plays a key role in all the mental and physical aspects of human health. Therefore, provision of proper infant care since birth is critical (1-3). On the other hand, optimal care for infants is associated with reduced healthcare costs, improved health of the members of community and maintenance of social capital (3, 4).

Several studies have evaluated the maternal awareness toward child development, all of which have stressed the need for proper training, regardless of the stage of pregnancy and number of children (5). In a study by Beger et al., physical care training programs were recommended for expecting mothers (6). In addition, Fonseca et al. focused on the need for providing training programs with the content of daily infant care, feeding, hygiene, disease control and family relations (7).

Today, the responsibility of infant care does not

lie upon the mothers only considering the changing social attitudes toward the role of fathers in the family (8, 9). In this regard, director-general of the World Health Organization (WHO) has stated that if the level of parent education is properly raised, we could save the lives of two-thirds of the children who die every year for various reasons (10, 11).

Literature review has revealed that the future of any society depends on children; therefore, society must provide a continuum of care for children in order to nurture and socialize them. This goal could be achieved through the cooperation of family members and healthcare providers, who are required to focus on family care.

Family-centered care is when healthcare providers incorporate into caregiving the knowledge and conviction that family is the constant part in children's lives. According to this philosophy, family is an integral part in the life and

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development of a newborn. Healthcare providers could expand parental involvement and increase family participation in order to encourage parental cooperation with infant care (3, 12).

Recently, the role of fathers, as the most important member of the family in infant care and education, has changed dramatically. Since mothers are earning more of family income than ever, whether based on desire or need, fathers need to be more involved in child care as well (13-16).

Education involves providing information and raising awareness in order to change the behavior and attitude of a target audience (17, 18). Preliminary investigation of families has demonstrated that primary education should be provided near the time of delivery since at this point, parents are highly motivated to participate in the life of the infant (19, 20).

Healthcare education is provided in three individual, group and public levels through the mass media. In this regard, individual and group instructions are emphasized to create effective behavior changes (17, 18). Optimal infant health could be attained through teaching of infant care techniques at home, including a complete understanding of the physiological characteristics of a normal newborn, normal infant growth standards, breastfeeding, neonatal reflexes, vaccination, infant screening programs, healthcare processes, common infant problems, emotional communication, infant massage, infant development, and warning signs and risk factors. Adherence to these instructions could lower the risk of possible incidents in children (3).

According to the literature, infant health requires parental education and awareness in this regard, which could effectively prevent diseases in children. Nevertheless, this issue is of particular importance in the parents who are expecting their first child (primigravida) (21).

With this background in mind, this study aimed to evaluate the effect of education on the awareness of primigravida couples toward infant care.

Methods

Research subjects

This clinical trial was conducted on 50 couples referring to the healthcare centers affiliated to Mashhad University of Medical Sciences, Mashhad, Iran. Participants were selected by the comparison of two population means via convenience sampling from the eligible cases referring to the mentioned health centers in Mashhad.

Research tools

Research tools used in this study were

questionnaire of choosing research unit (mother and father), demographic questionnaires (data of mother, father and pregnancy) and newborn care knowledge questionnaire before and after training, the validity of which was confirmed using content validity.

Newborn care knowledge questionnaire consisted of 25 multiple-choice items about infant care. This scale has been proposed by the Ministry of Health based on the book of healthy child care for parents. Each item in this questionnaire was responded with only one correct answer. Correct answers were assigned 3 scores, whereas wrong answers and items marked as "No information" were graded -1 and 0 score, respectively. In total, the minimum and maximum scores in this questionnaire were -25 and 75, respectively.

Patients were divided into four groups according to the minimum and maximum scores; in this regard, scores -25-0 were interpreted as very poor knowledge, scores 0-25 were indicative of poor knowledge, scores 25-50 showed moderate knowledge, and scores 50-75 were indicative of adequate knowledge.

Questionnaires were completed by the couples separately before the first infant care training session and a week after the second training session in order to eliminate the effect of immediate learning. Reliability of the demographic questionnaire was confirmed at a one-week interval using the test-retest reliability method ($r=0.90$). Moreover, reliability of the newborn care knowledge questionnaire was confirmed by internal consistency at the Cronbach's alpha of 0.76 before and after the training sessions.

Educational program

Contents of the infant care training sessions were the characteristics of a healthy newborn, normal infant growth standards, breastfeeding, neonatal reflexes, vaccination, infant screening programs, healthcare, common infant problems, emotional communication, infant massage and development, warning signs, risk factors and preventive methods for possible adverse incidents based on the book of healthy child care (for parents) provided by the Maternal and Infant Health Bureau of the Ministry of Health. Training sessions were implemented by the researcher through lectures, question and answer and group discussions using PowerPoint presentations and educational models.

Data collection and analysis

Subjects were selected from the primigravida pregnant women who were willing to participate in

the study. Inclusion criteria were age of 18-35 years, gestational age of 35-37 weeks, primigravida women, basic literacy, single pregnancy and willingness to participate in the research.

After sampling and completion of demographic questionnaires through interviews, mothers were asked to obtain the fathers' consent for participation by telephone and inform the researcher. Afterwards, fathers were requested to complete the demographic questionnaires in order to set the time of training sessions.

In the next stage, couples were divided into five groups of 15. Two 90-minute sessions were carried out for the subjects during one week, which covered the subject of infant care. Before the first session, couples completed the newborn care knowledge questionnaire, which assessed their infant care skills before the end of training sessions.

One week after the training program, parents were asked to refer to the clinic and complete the newborn care knowledge questionnaire again. At the end of the intervention, a pamphlet (short tutorials) and a small gift were distributed among the couples.

After collecting and reviewing the questionnaires, data were encoded and entered into a computer. Data analysis was performed in SPSS version 18 using Kruskal-Wallis, Wilcoxon test and analysis of variance (ANOVA).

Results

General characteristics

In this research, mean age of mothers and fathers was 25.68 and 28.28 years, respectively. In terms of educational level, 64% and 56% of mothers and fathers had academic education, respectively. Moreover, 74% of the mothers were housewives and 56% of the fathers were self-employed.

Among the participants, 94% were satisfied with their marriage. In the entire sample population, 86% of the families had adequate income. In addition, 56% of the fathers and 64% of the mothers were satisfied with pregnancy. According to the results, 50% of mothers had moderate awareness of infant care, while 50% of the subjects had poor or inadequate information in this regard. On the other hand, 82% of the fathers had poor or inadequate information regarding infant care.

Awareness score of couples before and after training

Before the training, 82% of the mothers had poor or very poor awareness about infant care. However, no such cases were observed after the training, and 54% of mothers had good awareness in this regard. Results of the Kruskal-Wallis test revealed a significant difference in the awareness level of mothers before and after the training (Table 1).

In addition, awareness of fathers was poor or very poor before training (96%), which enhanced to a good or moderate level after the training. Results of the Wilcoxon test demonstrated a statistically significant difference in the awareness of fathers before and after the training (Table 2).

Discussion

The present study aimed to compare the awareness of couples about infant care before and after a training intervention. According to the results, 96% of the fathers and 82% of the mothers had very poor or poor awareness levels before training, which improved to moderate and good knowledge in 96% of the fathers and 100% of the mothers, respectively, after the educational sessions.

In the literature review, no studies were found regarding maternal awareness on proper infant care. Nevertheless, in a study by Gholizdeh entitled the "Evaluation of maternal knowledge about infant care in the first few postpartum days in private and teaching hospitals in Urmia, Iran", 63% of mothers had poor or moderate awareness about infant care in the first days after birth. It was concluded that awareness was lower in primigravida mothers compared to gravida mothers, 77.7% of whom had good awareness in this regard (21).

In another study by Gholizdeh, maternal awareness was evaluated in three levels poor, moderate and favorable. According to the results, the majority of mothers had moderate awareness about infant care, which is consistent with the results of a study by Mir Ghafourvand. In the mentioned study, maternal knowledge of the subjects was compared in three levels of poor, moderate and adequate.

According to the results of the current study, the majority of mothers had poor awareness about

Table 1. Comparison of awareness of mothers toward infant care before and after training

Stage	Very poor		Poor		Moderate		Good		Kruskal-Wallis test
	Abundance	%	Abundance	%	Abundance	%	Abundance	%	
Before training	6	12	35	70	8	16	1	2	$\chi^2=61.03$ df=1
After training	0	0	0	0	23	46	27	54	P=0.005

Table 2. Comparison of awareness level of fathers toward infant care before and after training

Stage	Very poor		Poor		Moderate		Good		Wilcoxon test
	Abundance	%	Abundance	%	Abundance	%	Abundance	%	
Before training	27	54	21	42	2	4	0	0	Z=-6.18 P=0.05
After training	0	0	2	4	38	76	10	20	

infant care before the training; therefore, our findings are not in line with the results of the studies by Gholizdeh and Ghafourvand (22). It seems that the overall awareness of couples toward infant care is relatively poor, which could be a challenge against the involvement of fathers in infant care since it reduces the self-confidence of fathers and maternal support for the father.

In a study by Barclay, male subjects had no awareness of infant care and only played the role of an assistant for their spouses (23). Results obtained by Evans were indicative of diverse different interactive skills of fathers, compared to mothers. To elaborate, fathers often do not talk with their children and only embrace them, and sometimes they do not know how to communicate with their children (24). However, it was reported by Anderson that increased level of awareness of fathers toward infant care and needs of their spouses in this regard was associated with the effective involvement of fathers in child care, better interaction with children, higher satisfaction of fatherhood, higher self-confidence and encouragement to have greater involvement and responsibility in the future (25).

In the study by Gholizdeh, mean awareness scores of fathers and mothers were 3.52 and 13.7 before training, respectively. In the mentioned study, total mean score of awareness was 18.77, which was indicative of poor awareness of parents regarding infant care. Therefore, it was concluded that training can be the most efficient approach to improve parental awareness.

According to the results of the mentioned study, mean score of awareness in fathers and mothers increased to 41.46 and 51.54 after training, respectively. Moreover, findings of Mozaffari in this regard denoted that mean score of maternal knowledge was 9.5 before a workshop, which increased to 14.4 after the workshop (26).

In a study by Jarosz (27), the best way to educate mothers, especially those with low educational levels, was reported to be training programs. On this note, Sword highlighted the importance of maternal education during hospital stay, especially in mothers with low socioeconomic status (28). Furthermore, WHO has marked the importance of raising parental awareness toward infant care.

In the present study, a significant relationship was observed between educational level of fathers and their awareness of child care. It seems that

fathers with primary education had very little information about infant care. On the other hand, there was no statistically significant relationship among the variables of maternal age, paternal age, maternal education, as well as occupational status and level of awareness of parents before and after the training. On this theme, Mozaffari reported no statistically significant relationship between the mentioned variables and maternal knowledge (26). Nevertheless, Gholizdeh marked a significant relationship between awareness toward infant care and the variables of maternal education, maternal age and occupational status (21).

Some limitations of this study were miscellaneous education of mothers during pregnancy and postpartum period, obtaining information from relatives and cultural differences, which were controlled to some extent by using demographic questionnaires. While training was associated with increased level of awareness in couples regarding infant care, it is recommended that further studies be conducted to determine the most appropriate teaching methods, the best training time (before birth or shortly after birth) and outline of training contents.

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Conflicts of interests

The authors declare no conflicts of interest.

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