

## The Effect of the Educational Program on Iranian Fathers' Involvement Dimensions in Infant Care: a Randomized Clinical Trial Study

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### Abstract

#### Introduction

With the increase in women's employment and change in attitudes towards father's role in family, father involvement in infant care can indirectly influence the physical health and well being of infant and mother.

#### Materials and Methods

This randomized clinical trial study was performed on 150 qualified pregnant women and husbands. During the 35-37 weeks of pregnancy, fathers in fathers' training group and couples in couples' training group, participated in two training sessions of healthy infant caring. Fathers in control group received no training and mothers in all three groups received the routine pregnancy training and care. At the end of 4 and 8 weeks after birth, the involvement rate of fathers in infant care questioners were completed by mothers in all three groups. The data were analyzed using Analysis of variance (ANOVA) and SPSS software version 16.

#### Results

The total amount of involvement was calculated 55.77 for the fourth week and 62.64 for the eighth week. The average of total involvement rate and three dimensions of direct father-child interaction, accessibility and responsibility and providing financial resources in two training groups comparing with that the control group, indicated a significant difference ( $P \leq 0.05$ ).

#### Conclusion

Training the fathers regarding the infant care led to an increase in the fathers' involvement dimensions in infant care. Thus, paternal training of this educational program should be considered in pregnancy care programs.

**Key Word:** Infant Care, Involvement, Iranian Father.

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Received date: Oct 5, 2015 Accepted date: Oct 22, 2015

## Introduction

The transition to parenthood brings major changes in men's life and father involvement has been documented to have positive impact on pregnancy and infant outcomes (1, 2). Fathers of the twenty-first century are more involved in children's lives than before. Changing socio cultural, economic and employment patterns have contributed to men's increased participation in care activities, including: growing female employment; changes in attitudes towards work, care and role of men; and, availability of family-friendly policies. The participation of fathers in the care of his infant has an important effect in transition him to parenthood (3-5).

Like mothers, fathers have roles and impacts for child wellbeing and fatherhood is an important aspect of child development. Early involvement of fathers with their infant care is associated with improved cognitive and socio-emotional development of children, so that research has indicated that infants whose fathers are involved in their care are more likely to be securely attached to them, be better able to handle strange situations, be more resilient in the face of stressful situations, be more curious and eager to explore the environment (6-8).

With changing cultural expectations concerning men as fathers, fathers have begun to take increasing responsibility for childcare and given the importance of encouraging fathers' early involvement in their children's care. Absent fathers have been associated with poorer educational, behavioral and developmental outcomes in children with both direct effects on infant and child behavior and indirect effects possibly due to partner relationship problems, lack of social support and exposure to increased levels of maternal stress hormones in pregnancy (6, 9). Lamb and colleagues, who proposed a conceptual model of paternal involvement

consisting of: 1) Interaction– the father engaging directly with his child; 2) Accessibility – the father being physically and/or psychologically available to his child; and 3) Responsibility – the father assuming responsibility for his child's welfare and care (10).

Studies investigating that fathers want to be engaged in maternity care, but that the way maternity care systems are commonly organized in many high resource health-care systems tend to generate feelings of exclusion, fear and uncertainty in fathers (11), specially fathers receive less support from child health nurses, and many nurses do not sufficient attention to fathers' caring abilities. So methods need to be developed to involve father in child health care (9).

However, today show fathers who reported strong authoritarian views were involved relatively less in care giving, playing, teaching, and nighttime soothing during early infancy and this his pattern may be extended into later infancy (5).

Due to the infancy is one of the most critical periods of life that needs to be properly known and accurately cared, the present study aims to investigate the effect of the educational program on Iranian fathers' involvement dimensions in infant care.

## Materials and Methods

This randomized clinical trial study was performed on 150 qualified pregnant women and husbands. This study was approved by the Ethics Committee of Mashhad University of Medical Sciences. The research community included the primigravida women and also their husband's referring to the health care center in Mashhad to receive prenatal care and was eligible for inclusion. Considering the loss probability, 150 couples were selected and were randomly divided into two intervention and a control groups

using lottery. This means that the first of the five regions of Mashhad city (1, 2, 3, 5 and Samen) using lottery, one number center was choice and then of the among health centers and bases covered by one number health center, three centers randomly selected and centers were assigned to control, couples education and father's education group.

The inclusion criteria of the study for the mothers were being between 18 and 35 years old, gestational age of 35-37 weeks, primigravida women and single pregnancy, mother and her wife have the willingness to participate in research and mother and wife are literate.

The exclusion criteria of the study were being unwilling to cooperate in the study and incidence of any problems during pregnancy, such as abruption, cord prolapse, placenta previa and deliver done in less than 37 weeks and more than 42 weeks.

The tools used in this study were Questionnaire No.1 (parent's demographic information and information about pregnancy), Questionnaire No.2 (information on childbirth, postpartum and newborn) and Questionnaire (3) (background information) and Questionnaire to assess father participation in the caring for the infants reported by mother. Participation of fathers in the care of infants in this study in two time periods evaluated, end at 4 and 8 weeks after birth using of questionnaires of Lamb (1987) consists of three parts. In first section 14 questions about the father actions of the infant day care that direct interaction between child and father is assessed, in second section 5 questions about the father actions under certain conditions to review access dimension and in third section 3 questions that evaluated the participation of father in the care of infants in the responsibility and funding dimensions. The questionnaire contains 22 questions.

The lowest score is 0 and the maximum score of 88 is considered. The study calculated the mean scores in the three groups were compared with each other.

To determine validity of the questionnaires, content validity was used. To determine the reliability of questionnaires 1, 2 and 3, test-retest methods with interval of one week was used and confirmed respectively as  $r=0.90$ ,  $r=0.93$ ,  $r=0.95$ . The reliability of the father's involvement in infant care as the report of mother was confirmed by internal consistency using Cronbach's alpha and was ( $\alpha=0.89$ ) for week 4 and ( $\alpha = 0.86$ ) for week 8.

In doing so, in the father and couple groups were trained skills through two 90 minute sessions held one a week regarding of infant care which was developed based on the book of caring of healthy infant (special to parents) prepared by the Department of Neonatal Health of Ministry of Health and Medical Education and the contents of the sessions were include : a healthy baby specifications, criteria for normal infant growth, feeding, neonatal reflexes, vaccination, newborn screening programs, health care, common neonatal health problems, infant massage, development, warning signs and risk factors, prevention of accidents that was presented by the researcher by workshop methods including lectures, questions and answers, group working using PowerPoint, Models and Dolls.

At the end of sessions a pamphlet which contained summaries of training and a small gift was given. In the next step, the mothers were asked to inform their delivery date by phone and complete the questionnaire No.2. Then at the end of weeks 4 and 8 after birth, when mother referred to the health center to receive infant care (the end of first month) and vaccination(the end of second month), she was asked to fill in the questionnaire of

father's involvement in infant care and the questionnaire No.3 (other information). Then the dimensions of fathers' involvement in the different groups were compared by analysis of Variance test (ANOVA) and  $p \leq 0.05$  indicated a significant difference.

## Results

The mean age of the study women and their husbands was 26.01 and 29.17 years,

respectively. The proportion of mothers with university education was 48.7% vs. 44% of fathers with university education. Dimension of father's involvement in infant care during fourth and eighth week in three groups pointed out in (Table 1, 2). The results of ANOVA test indicated a significant difference in all dimensions of father involvement between the groups in fourth and eighth week ( $P < 0.05$ ).

**Table 1:** Dimension of father's involvement in infant care during week 4 in three groups

Week	Group	Average	Standard deviation	Minimum scores	Maximum scores	Variance analysis test (ANOVA)
Interaction						
Fourth	Couples	35.78	6.50	14	48	F=32.6 df=2 P=0.001
	Fathers	35.24	9.49	11	53	
	Control	23.58	9.26	0	39	
	Total	31.53	10.18	0	53	
Accessibility						
Fourth	Couples	15.68	2.24	9	20	F=32.94 df=2 P=0.001
	Fathers	15.06	3.83	5	20	
	Control	18	4.51	0	18	
	Total	20	4.36	0	20	
Responsibility						
Fourth	Couples	11.49	1.05	8	12	F=30.97 df=2 p=0.001
	Fathers	11.01	1.56	5	12	
	Control	9.08	2.15	4	12	
	Total	10.57	1.95	4	12	
Total Involvement						
Fourth	Couples	62.92	8.69	37	79	F=47.97 df=2 P=0.005
	Fathers	61.48	12.24	33	85	
	Control	42.92	12.78	14	65	
	Total	55.77	14.54	14	85	

**Table 2:** Dimension of Father's involvement in infant care during week 8 in three groups

Week	Group	Average	Standard deviation	Minimum scores	Maximum scores	Variance analysis test (ANOVA)
<b>Interaction</b>						
Eighth	Couples	38.76	5.54	22	54	F=9.28 df=2 P=0.001
	Fathers	38.68	6.38	22	53	
	Control	32.2	13.04	0	73	
	Total	36.48	9.46	0	73	
<b>Accessibility</b>						
Eighth	Couples	15.67	2.21	9	20	F=12.51 df=2 P=0.001
	Fathers	15.01	3.80	5	20	
	Control	10.24	4.50	0	18	
	Total	13.61	4.34	0	20	
<b>Responsibility</b>						
Eighth	Couples	11.60	0.75	10	12	F=5.26 df=2 P=0.006
	Fathers	11.16	1.20	8	12	
	Control	10.68	2.00	3	12	
	Total	11.14	1.45	3	12	
<b>Total Involvement</b>						
Eighth	Couples	66.74	6.96	48	83	F=18.89 df=2 P=0.01
	Fathers	66.52	8.07	51	85	
	Control	54.66	16.29	14	88	
	Total	62.64	12.52	14	88	

## Discussion

The findings of the present study revealed a significant difference between the three groups in dimensions of interaction, accessibility and responsibility of father involvement in infant care in fourth and eighth week. In all groups, average rate of father involvement was in couples group more than fathers group and in father groups more than controls group.

Studies show that father Involvement in infant care reduces the frequency of behavioral problems in child and psychological problems in his wife therefore should be provided adequate support for interventions and policies to improve circumstances to encourage fathers to participation (12).

Considering the importance of the impact of fathers' involvement on maternal and infant health and the results of this study,

it is crucial that interventions and policies to improve fathers' involvement in infant care. Although the importance of father involvement for maternal health as well as infant birth outcomes perceived, studies were identified many barriers to optimal involvement. Individual, family, community, societal and policy factors play a role in barring or diminishing the involvement of fathers that needs to be eliminated (1). Key factors such as parity, age, ethnicity and deprivation were affecting the father's reaction to and degree of involvement with the pregnancy, as well as labour and infant care (6). However, one of important issue to be should addressed is how child health nurses' attitudes to fathers' caring abilities and may influence fathers' involvement in infant care (9).

Studies provide evidence that father prenatal involvement and mother beliefs,

also when mothers were more encouraging of father involvement in infant care may be facilitate father involvement in infant care (4). Findings of studies suggest that a range of infant-related, interpersonal and environmental factors influence father involvement. Nurses can play an important role in facilitating fathers' involvement through teaching, encouragement, and modeling. This is important for the healthy growth and development of infants (12). Also father involvement in infant care giving is associated with infant sleep consolidation (13).

### Conclusion

The results of this study indicate that training the fathers regarding the infant care led to an increase in the fathers' involvement dimensions in infant care. Since the education is one of the significant roles of nurses, recommended be considered as part of prenatal education.

**Conflict of Interest:** None.

### Acknowledgment

This article is part of the thesis approved by Mashhad University of Medical Sciences. The authors express their gratitude to all of the fathers and mothers for their kind cooperation in this study and Mashhad University of Medical Sciences that was sponsored.

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