

## The Comparative Study of the Impact of Antenatal Training Care Infants to Fathers and Couple on the Fathers' Participations after Birth

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### Abstract

#### Introduction:

Increasing number of working mothers and changes in viewpoints on fathers' roles in families has increased fathers' participations. Fathers' participation is his broad, positive and active participation in different stages of children's life. Women possess the main role in enhancing and limiting father's participation. Fathers and couples require training to define father's role in infant care and the significance of his role in infant's health and foundation of family. Therefore, the present study is done to determine the impact of training couples and fathers how to take care of infants on the rate of father's participation to take care of infants after birth.

#### Materials and Methods:

The study was done as a clinical trial in three groups, on 150 people who refered to health clinical centers of Medical University of Mashhad. Fathers of training group and couples of training group took part in two training sessions of infant care in weeks 35 to 37 of pregnancy. The questionnaires of role of father's training in infant care were filled by mothers in three groups and were analyzed by SPSS18 software and ANOVA with repeated measure, Bonferroni tests.

#### Results:

Role of fathers' participation in infants care in father's training group and couple training group than control group increased significantly ( $P=0.003$ ).

#### Conclusion:

Training fathers and couples before birth will enhance rate of their participation in infant care.

#### Keywords:

Care of infant, Fathers' Participation, Training.

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## Introduction

Participation of men is one of the major strategies to achieve the third millennium development goals such as empowering women and improving maternal health (1,2). In fact by participation of men we mean their taking responsibility in reproductive health. This taking responsibility includes healthy sexual relations to childbearing, child nutrition and children's education (3). United Nations Population Fund defines the ideal father one who has close relationship with his children and cooperates with his spouse in doing household tasks (1). Parent involvement is the extensive, active and positive participation in child's life (4) which varies with the age and stages of child's development so that in the infancy fathers are the growers and when the child is a toddler the father plays the role of a teacher (5). Fathers' involvement in infant care is assessed in different ways; father's caring activities like bathing or dressing or through direct interaction such as taking care of the child alone, pacifying the child, talking or playing with her (6). Based on the report by Lamb et al infant care has three aspects; direct interaction between father and infant (playing and taking care of him), availability (father's availability to the infant in the time of need), taking responsibility and providing for the infant's needs (getting doctor's appointments, financial support of the family and the infant) (6,7,21).

Most of the fathers believe that providing facilities, is the best way to be involved in a child's life but this is part of the definition of the father's involvement (responsibility) (8,9). In families which the mother is a housewife, the father has 1/4<sup>th</sup> of the interaction and 1/3<sup>rd</sup> of the availability of the mother (11). The results of the study by Dragnus indicate that 16 to 25% of the Greek fathers had active participation in infant care. 50% did not

participate in infant care due to fatigue from work (12). There are increasing number documents asserting the fact that the fathers' interaction is independent from that of the mothers' and fathers' participation in infant care affects child's development (cognitive, emotional-social) and his evolution (13). Infant with good interactions with their fathers had better language skills when 18 months old (14). Infants whose fathers had participated in their upbringing and played with them more, had better intellectual understanding when 6 months old, in one-year-old B-Lee had better mental functioning, and when they were toddlers they solved puzzles better and when 3, they were more intelligent (11).

The need to education for increasing father's participation in prenatal care and its positive impact on the health of the mother and the infant has been shown in studies in different countries. Educating fathers in Indonesia caused an increase in their knowledge and their preparation for delivery (1,15). Educating fathers in turkey led to the promotion of their knowledge, attitudes and behavior of men in the areas of family planning, infant's health and nutrition and spousal relations and support (16). Becoming a father for those who lack the experience, expertise and support are stressful and disappointing (7).

Wives play the main role in promoting or limiting the fathers' participation and role in the infant care (17-19) fathers whose wives evaluate their fatherhood positively, have more participation and care more for their role and identity as a father (6). So researchers suggested educating fathers in accordance with culture before birth, either with their spouses or in a group of fathers only to clarify the role of father in the infant care and its importance in the health of the infant and the family, So that in the study by Dhoroty et al (2006) couples' education classes had positive impact on the father-child relations and their participation in the infant care and daily routines (20).

In order to develop comprehensive plans to attract more participation of fathers in the infant care in Iran there aren't enough data so, the presented research has been conducted with the aim of determining the effect of infant care education to couples and fathers before birth, on fathers' participation in infant care after birth.

### **Materials and Methods**

The study was a three-group clinical trial on 150 subjects in the treatment-health centers of Mashhad University of Medical Sciences. The tools used in the stud include the questionnaire of choosing the research unit (mother and father), questionnaire No. 1 (demographic information of mother, father, and information about the pregnancy) questionnaire No. 2 (information about childbirth, after delivery and the baby) and questionnaire No. 3 (side information). To determine the validity of the questionnaire, content validity was used. The questionnaires were prepared after reading the latest books, references and articles and then they were given to the supervisor and advisor professors and 10 professors of the Faculty of Nursing and Midwifery, after reviewing and considering the corrective comments of the professors, the final questionnaires were developed. The reliability of the questionnaires 1, 2 and 3 were confirmed using test-retest method with one-week intervals with ( $r=0.95$ ,  $r=0.93$ ,  $r=0.90$ ) respectively.

The way of preparing the questionnaire about father's participation in infant care, which is the main questionnaire in this study, was that after the researcher contacted the researchers out of Iran through internet and telephoned those in Iran and getting advices and the questionnaires previously prepared by them and searching in the articles and reading the related books, based on the report by Lamb (1987) from the aspects of father's participation in infant care and Leatherman and Vingarton question-

naire, designed 22 situations which assessed the participation of father in infant care. Then these questionnaires were given to the supervisor and advisor professors and 10 professors of the Faculty of Nursing and Midwifery, and after reviewing and considering the corrective comments of the professors, the final questionnaire was developed and its validity was measured using content validity. The reliability of the questionnaire about the level of father's participation in infant care was confirmed by internal consistency and using Cronbach's alpha based on the mother's report in week 4 ( $\alpha=0.89$ ) and in week 8 ( $\alpha=0.86$ ). This questionnaire has 22 questions and score 4 is used for Always and 0 is used for Never so that the minimum score is 0 and the maximum score is 88. Then with a pilot study on 20 subjects and determining the average and the standard deviation lower and higher than the average, the cutting point of the questionnaire was determined as follows; scores 0 to 30, little participation, scores 31 to 60, average participation and scores 61 to 88 sufficient participation of father in infant care based on the report by the mother. At the end of the questionnaire the mother indicate their total satisfaction of the father's participation in infant care by answering one question.

Infant care education include: characteristics of a healthy newborn, criteria for normal infant's development, breastfeeding, neonatal reflexes, immunization, newborn screening programs, health care, common problems of the newborns, infant's massage, growth and development, danger warning signals, preventing accidents based on the book "healthy infant care" prepared by the infants' health department of the ministry of health, treatment and medical education and also based on the needs assessment on 50 mothers in conditions similar to the research units. These were presented by the researcher in workshop method

including lecturing, Qs & answers, team work using PowerPoint, models and dolls. In order to gather the data and after the approval of the research by the Ethics

Committee and the research council of the University, the researcher randomly chose center No. 1 out of the five centers in Mashhad (1,2,3,5 and Samen) and from among health-treatment centers affiliated with center No.1 randomly chose three by draws and put in three groups of couples' education, fathers' education and control randomly.

In the couples' and fathers' education groups, from among first-time mothers with pregnancy age of at least 35 weeks to at most 37 weeks who were willing to participate in the study and had the necessary requirements for the study, sampling was done. After selecting the mother and completing the questionnaires of selecting research unit and No. 1 (parts related to the demographic information of the mother and pregnancy) by interviewing, the mother was asked to gain the father's consent by telephone and inform the researcher. After gaining the father's consent for participating in the study, in the fathers group, he was asked to refer to the center to fill out the questionnaires of selecting research unit and No. 1 (demographic information of the father). Then fathers were attended two sessions of 90 minutes about infant care, in groups of 5 to 15 people who had chosen the same day and time to participate in the classes. At the end of the sessions a pamphlet containing the contents of the classes and a small gift were given to the attendants. In the nest stage the mothers were asked to inform the researcher about the time of child birth by phone and questionnaire 2 was completed- information about the delivery, baby and after the delivery. Then at the end of weeks 4 and 8 after birth, when parents referred to the center for the infant care (at the end of month 1) and doing

vaccination (at the end of month 2) the questionnaire about father's participation in infant care based on the mother's report and questionnaire 3 were completed by the mothers.

In the control group for the first-time mothers with pregnancy age of at least 35 weeks to at most 37 weeks who were willing to participate in the study and had the necessary requirements, questionnaire 1 (parts of demographic information of the mother and pregnancy) was completed with interviewing. In the next step, mothers were asked to inform the researcher about their delivery by phone and questionnaire 2 was completed with information about the delivery, baby and after delivery. Then at the end of weeks 4 and 8 after birth, when parents referred to the center for the infant care (at the end of month 1) and doing vaccination (at the end of month 2) the questionnaire about father's participation in infant care based on the mother's report and questionnaire 3 were completed by the mothers.

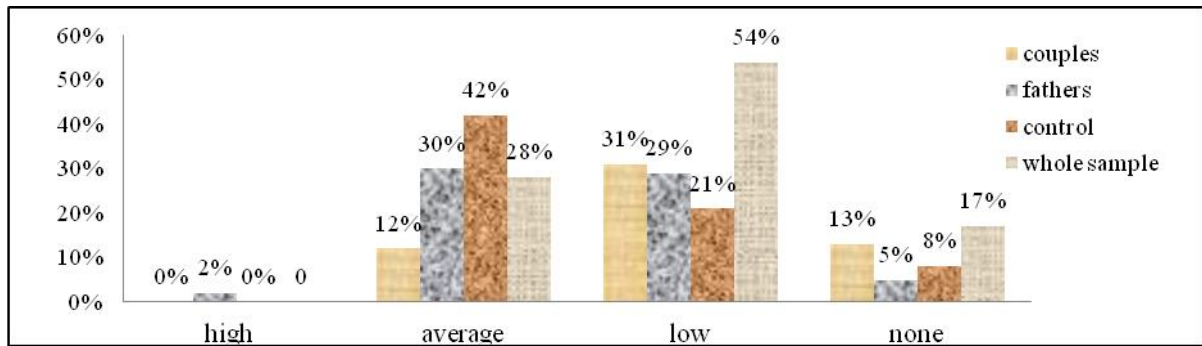
After gathering and reviewing the questionnaires, the data were encode to the computer and after ensuring the accuracy of the data input, the data were analyzed using SPSS statistical software version 18. In this research first the normal distribution of the dependent variable was controlled using Kolmogorov-Smirnov test. Distribution of father's participation in infant care in week 4 after birth is normal ( $P=0.135$ ) and in week 8 after birth is not normal ( $P=0.03$ ). Then because the results of ANOVA test were significant, Stepwise multivariate regression was used to eliminate the impact of effective variables on the level of father's participation in infant care. Finally, Bonferroni post hoc test was comparison of the groups and investigating the hypotheses of the research.

## Results

The average age of mothers and fathers participating in the study was respectively

26.01, 29.17. The proportion of college educated mothers in the sample was 48.7% vs. 44% of father with university education. 79.3% of mothers were housewives and 53/3% of fathers were self-employed. 91.3% of mothers and 89.3% of fathers were satisfied with their marriage and their relationship with their spouse. In the whole sample 84.7% of the families reported their income sufficient. 58% of fathers were overjoyed about their wives' pregnancy and 36% were happy about it. 54% of mothers had average knowledge about infant care and 2/6% had no

information. In the whole sample 43.3% of deliveries were natural, 55.3% were C-section and 1/3 was vacuum delivery. 55% of mothers had contact with their babies in the first 30 minutes after birth. 87.3% of mothers and 84.7% of fathers in the study were satisfied with their infants' gender. 61.3 of mothers reported the fathers' direct contact with the infant 1-3 hours in 24 hours. 74.7% of mothers are very eager to have their husbands help them in infant care. 60.7% of mothers use encouragement while their husbands help them.



**Fig 1:** Fathers' Self-Reported Level of Knowledge about Infant Care

Regarding diagram 1, the level of information of 54% of fathers' about infant care is low

based on their own report and 17.3% of them have no information about infant care.

**Table 1:** Comparison of Parent Participation in Taking Care of Infants in Three Groups, In Week Four

Group	Low participation		Average participation		Sufficient participation	
	Abundance	Percentage	Abundance	Percentage	Abundance	Percentage
Fathers	0	0	22	44	28	56
Couples	0	0	14	28	36	72
Control	9	18	40	80	1	2
Whole Sample	9	6	76	50.7	65	43.3

Results in Table 1 indicate that 56% of mothers in the fathers' education group, 72% in the couples' education group, 2% in the control group and 43.3% in the

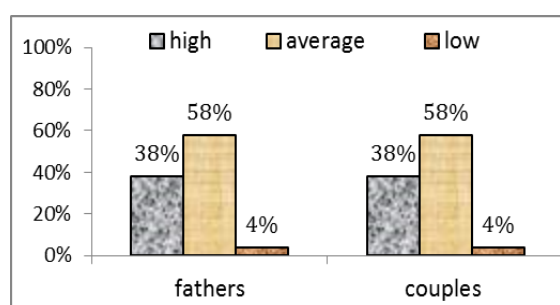
whole sample in the study evaluated the level of fathers' involvement in infant care in the fourth week after birth as sufficient.

**Table 2:** Comparison of Parent Participation in Taking Care of Infants in Three Groups, In Week Eight

Group	Low participation		Average participation		Sufficient participation	
	Abundance	Percentage	Abundance	Percentage	Abundance	Percentage
Fathers	0	0	15	30	35	70
Couples	0	0	10	20	40	80
Control	2	4	29	58	19	38
Whole Sample	2	1.3	54	36	94	62.7

Results in Table 2 indicate that 70% of mothers in the fathers' education group, 80% in the couples' education group, 38% in the control group and 62.7% in the whole sample evaluated the level of fathers' involvement in infant care in the eighth week after birth as sufficient

The level of total satisfaction of mothers from fathers' participation in the infant care, during two months after birth in the fathers' education group, couples' education and control was respectively 52%, 36% and 10% at high level.



**Fig 2:** Level Of the Effect of Education on Increasing Father's Participation in Infant Care in Fathers' Education Group and Couples' Education Group

Regarding the results of diagram 2, from the point of view of 38% of mothers in the fathers' education group and the same number in the couples' education group, educating fathers had high effect on their participation in infant care. 58% of mothers believed the effect was average.

The main finding of this study is that the difference in the average of the level of fathers' involvement in infant care in two groups of fathers' education and control and also couples' education and control is one way significant in the level of lower than  $\alpha=0.01$  ( $P=0.0003$ ) and fathers' and couples' groups have higher averages than the control group. But, the level of fathers' participation in infant care in fathers and couples groups is not significant ( $P>0.05$ ) meaning that the levels of fathers' participation in infant care in fathers and couples groups are not different.

## Discussion

This research was conducted with the main purpose of comparing the effect of educating fathers and couples about infant care before birth, on their participation in infant care after birth, in a clinical trial, on 150 subjects in the treatment- health centers affiliated to Mashhad University of Medical Sciences. The results indicated that participation of fathers in infant care in couples' and fathers' education groups increased significantly ( $P=0.0003$ ) compared with the controls. It copes with the results of the study conducted by Turan et al (2007) that says educating fathers positively affects their participation in infant care (16). Also in the study by Gierl et al fathers who were video trained to teach their infants to play with a certain toy, gained better NCATS (The Nursing Child Assessment Teaching Scale) scores in 5-8 months compared with the control group (21). 61.3% of mothers reported the direct contact of fathers with infants 1-3 hours in 24 hours which is the average of 4 hours in a week and almost conforms with the study by Barratt (1994) which reported that American fathers spent 12 hours during the week with their children alone (22). Of the most important results of the study by Russtia is that the first- time fathers had better participation in infant care than the experienced fathers (2.4 vs. 2.1) and there was no change in duration of their participation (6) which copes with our results showing that the effects of training lasted during weeks four to eight. Also in Russtia's study father's participation was not related to the infant's gender. In the presented study also father's participation was not gender related but based on the conformity of the infant's gender to the father's desire, the difference was significant. In a study by Dragnus (1993) 52% of fathers did not take care of the infant due to fatigue (12) but in our study 80% of fathers in the control group in week four and 58% in week 8 had average participation

(not sufficient) in caring for the infants. In the study by Simbar et al (1390) most of the subjects believed that the best method of training was face to face with the spouse (1) while the results of this study indicate that the level of fathers' participation in couples' education group and fathers' education group did not differ significantly. Also in the study by Mullani et al (2006) under the title of "The Impact of Involving Men in the Antenatal Education on Maternal Health in Rural Areas of Nepal", in a clinical trial investigated the impact of men's presence in the antenatal educations in comparison with mothers' education alone. Results in two groups of mothers' education and couples' education weren't different (23).

The limitations of this research include the inevitability of the impact of some factors like various educations during pregnancy and after delivery, interference of the family members, and cultural differences which were controlled by the questions in the questionnaire. Fathers' and couples' education affects increase the level of fathers' participation in infant care. But, it is suggested to do more study on the methods of education and the best of education (before birth or immediately after birth).

### Conclusion

Fathers' and couples' education affects the level of fathers' participation in infant care.

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