



Original Article

The Efficacy of Father Attachment Education on the Severity of Domestic Violence in Primegravida Women

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ABSTRACT

Introduction: In addition to physical and psychological tension imposed on women through pregnancy, the stress of the spouses' violence can cause harmful effects on both the fetus and mother. In Iran, there are limited data on this subject. Thus, learning attachment skills may be effective in reducing adaptation and domestic violence. This study aimed to investigate the efficacy of paternal attachment on the severity of domestic violence in primgravida women.

Methods: This quasi-experiment research was conducted on 150 pregnant women who were eligible and selected through simple convenience sampling. In the intervention group, four 90-minute training sessions were designed on father attachment, while the control group received routine prenatal care. A violence questionnaire was completed both before and after the intervention (36-38 weeks of pregnancy) in both case and control groups. Data analysis was done in SPSS software, using paired t-test and independent t-test.

Results: According to the results of an independent t-test, there was no significant difference in psychological violence, physical violence, and economic violence. However, there was a significant change in social violence, sexual violence, and overall violence score.

Conclusion: Training the fathers on behavior of domestic violence and its skills leads to reduced social and sexual violence. Therefore, it seems necessary to include education for the fathers in prenatal care.

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Introduction

Violence is a pattern of behavior that is imposed through the use of fear, threat, harmful and physical force and disturbing behavior, In order to exponential power and control over a close individual. Dimensions of violence included physical, sexual, economic, verbal abuse, and threats to separation and divorce.¹ Domestic violence impacts the intimate relationship that causes physical, psychological, or sexual harm and is considered as the main cause of death among women.² Violence against women is an acute social problem since it affects the health of future generations.³ The prevalence of violence against women was reported 25% to 30% in their lifetime by their partner; also, its annual prevalence is between 2% to 12%. Its physical and psychological effects involve both women and children. In the United States, the cost of domestic violence is estimated \$ 67 billion annually.^{4,5}

Domestic violence often starts or intensifies during pregnancy. Some studies also reported changes in violence.^{3,6,7} According to different studies, the prevalence of domestic violence was 1 to 30% during pregnancy.² According to a study done in Peninsular Malaysia, the overall prevalence of violence against pregnant women (VAPW) was 35.9%. Moreover, its prevalence in psychological, physical, and sexual aspects was 29.8%, 12.9%, and 9.8%, respectively.⁸ In a meta-analysis study in Iran, the prevalence of sexual violence in pregnancy was estimated to be 17% and in Iran it was

estimated at 28% (CI95%: 23% -32%).⁹ Therefore, the results of Zarei et al., in 2015 showed that all women in the study were at least once exposed to violence. In 11.7% of cases, the violence was moderate and severe. In total, there were 6.9% physical violence, 42.2% verbal and psychological violence, 52.4% sexual violence, and 53.4% economic violence.¹⁰ See comment in PubMed Commons below. Mostly, the violence against pregnant women remains covered or hidden despite its serious effects on both the mother and fetus. Several studies draw attention to the fact that the VAPW leads to some improper consequences directly (through physical and sexual trauma)¹¹ or indirectly (through anxiety). The other adverse consequences are abortion,¹² preterm delivery and low birth weight, premature separation of the placenta, chorioamnionitis, low Apgar score, cesarean delivery,¹³ anemia, urinary tract infection, premature rupture, hemorrhage, antepartum, overweight during pregnancy, and prematurity.⁸ In a cross-sectional study done on 302 women, about 15.9% (48 persons) were under violent behavior during pregnancy by their spouses in 2013. The identified risk factors included aging (over 30 years), multiparous, abortion, history of previous abortion, and spouses aged under 30 years.¹⁴

Finding the best solution to tackle or address the point in identifying and protecting the abused women has been a controversial issue. Since there is potential for violence against women, research and policy discussions in this area are always considered.² Mother-infant attachment is

one of the major topics in side effects and secondary outcomes against domestic violence during pregnancy.

Since the importance of mother-infant attachment has been underlined in various studies, a high degree of disturbance in maternal-neonatal attachment was reported as being prone to domestic violence during pregnancy. These babies are at risk of the incidence of maladaptation and consequences including repeated dysfunctional relationships and improper parenting patterns. Besides, women exposed to domestic violence generally showed lower attachment scores than their neonates.⁴ According to Murray, infants with lower maternal accommodation (even as early as 2 months in age) have a poor cognitive performance in 18 months, respectively. Other researchers have described the fact that children exposed to domestic violence are more predisposed to behavioral problems, including aggression and isolation in preschool and school age.^{15,16}

Violence against pregnant women is usually accompanied by more stress and poor psychological health in pregnant women,¹⁷ which leads to low birth weight and lower Apgar score,¹⁸ less memory and learning ability, and affected feeling and performance of the frontal lobe.¹⁹ Therefore, training the skills of father attachment is of the effective interventions in reducing stress.²⁰ Increasing awareness about domestic violence during pregnancy is the main priority of organizations in American College of Obstetricians and Gynecologists, American Medical Association and other health centers.²¹

Moreover, since researchers believe in the positive impact of decreasing violence on maternal attachment, they are curious about the possible effect of fathers' attachment training in his attachment with the baby and domestic violence against the pregnant women. Besides, most researches have provided training for pregnant mothers²²⁻²⁶ and comparatively little research has focused on parenting education.^{27,28} Also, some studies have shown that "educating and engaging fathers in the pregnancy process of their wives can significantly affect the mental health of women, infants and, can ultimately lead to better and more effective interactions. It can reduce the rate of anxiety in both men and women".²⁸ On the other hand, early clashes between fathers and their children have increased in recent years, and studies have shown that over 80% of fathers were happy with their partner's pregnancy. More than half of them accompanied their wife on a laboratory test once or more.

Almost all of them were there during the labor. And in the afterbirth period, most fathers assisted in the care of the baby. And even the presence of the father up to three months after childbirth was also associated with maternal welfare.²⁹ It can be concluded that training fathers on the Consequences of violence in pregnancy is also effective. Thus, we designed a study entitled the impact of fathers' attachment training on the severity of violence against nulliparous women referring to hospitals affiliated to Shiraz University of Medical Sciences.

Materials and methods

This is a quasi-experiment research study aiming to investigate the effect of fathers' training (waiting for their child to be born) on the severity of domestic violence. The study population consisted of the spouses of all primigravida pregnant women referring to prenatal clinics of Hafez and Shoshtari hospitals. A sample size of 120 was calculated regarding the relevant articles.³⁰ However, considering the probability of loss, 150 couples (75 in each arm) were selected through simple purposive sampling and randomly divided into an intervention and a control group, using the table of random numbers. The inclusion criteria included primigravida women, aged between 18 to 35 years, live singleton pregnancy with the gestational age of 28-34 weeks, no history of maternal mental disorders (psychosis, schizophrenia) according to medical records, no history of maternal chronic diseases (pulmonary-heart disease, hypertension and diabetes), and low or average anxiety levels according to spielberger anxiety scale. In addition, the fathers' inclusion criteria were having at least primary school education, being aged less than 45 years, participating in the training classes, and having signed written informed consents. The mothers were to receive prenatal care in the last months of pregnancy. They remained a part of the study in the case of cesarean section. The exclusion criteria were lack of willingness to cooperate, and any pregnancy complication during the study (placental abruption, umbilical cord prolapse and abnormal fetus position, placenta previa, etc.). The level of violence was assessed based on the questionnaire designed by Bagherzadeh. The violence questionnaire included 30 items. It was designed with the intention of capturing the major dimensions of the concept of domestic violence – physical (9-questions), sexual (3-questions), psychological violence (9-questions), social (5-questions), and financial (4 questions). Each item was scored from 0 to 4 (0: never, 1: little, 2: to some extent, 3: high, and 4: very high). Since the number of questions varies in each domain, the total score was divided by the maximum score in each domain as the mean for each (the maximum scores for physical and psychological, social, financial, and sexual were 36, 20, 16, and 12, respectively). The questionnaire's reliability and validity were determined by pre-trial (on 30 subjects) in the study done by Bagherzadeh and the validity and reliability (alpha of Cronbach 0.85) she had obtained served as the basis of our study.³⁰ SPSS ver. 13 software was applied to analyze the data (SPSS Inc., Chicago, IL USA). spielberger Scale was used to measure the anxiety (containing 40 questions and 80 score). The State-Trait Anxiety Inventory (STAI) is a commonly used measure of trait and state anxiety.

Both the A-State and A-Trait scales comprise 20 items each, which are scored based on 4-point Likert- scale. The scores range from 20 to 80, with higher scores suggesting a greater levels of anxiety. Low scores (20-40) suggest mild anxiety and median scores (41-60) suggest moderate

anxiety, while high scores (61-80) suggest severe anxiety. Aghamohammadi et al., used Spielberger's scale in 150 patients and reported its reliability to be 97%. The reliability and validity indexes of the study by Kalkhoran et al., were the basis of the current study.³¹ The sampling was purpose-based in the case of having low to moderate levels of anxiety (based on Spiel Berger Scale), besides having the inclusion criteria for her spouse. Attachment behaviors were taught to a group of qualified spouses and a group was selected as the control group. The pregnant mothers filled out the written consent form, Current and past pregnancy information, and the violence questionnaire at the beginning of the study and immediately after the intervention (lasting for one month). The intervention was performed in the 28th to 34th weeks of pregnancy.

The fathers were trained regarding the attachment skills through four sessions of 60 to 90-minutes held once a week. The contents of the sessions were as follows: first session: parental attachment to the baby and attachment behaviors; second session: the concepts of maternal-fetal and paternal-fetal attachment and their effects on the parents' physical and mental health and fetal growth, parents' anxiety during pregnancy and its reasons and impacts, and father's role in the reduction of anxiety; the third session: how attachment is created, beginning of attachment and its signs, father's role, and acceptance of father's role; and fourth session: father's role in attachment, the effects of focusing on the fetus, considering the fetus as an independent being, getting familiar with the sensory abilities of the fetus, and the father's role in breastfeeding after birth. After the intervention, the fathers were followed up through telephone contacts; they were asked to transfer their information to their wives. A reminder session was also held at the 38th week of gestation.

The planning of the fathers' training sessions and their expectations were as follows:

The pregnant mother should be able, after the end of the session, to have the knowledge and behavior appropriate in the following cases.

1. Describe maternal and paternal attachment to the fetus.
2. Know the benefits of maternal and fetal attachment to the fetus during pregnancy.
3. Name the ways of communication with the fetus.
4. Explain the use of postpartum attachment and other stages of life.
5. Can express parental-fetal and neonatal attachment concepts.
6. Can express the benefits of increasing maternal and paternal attachment and the impact of fetal and infant development on the health of the mother and father.
7. Know the anxiety during pregnancy in parents and its causes, its effects and the role of the father in reducing anxiety.
8. How to shape the attachment of mother and father with the fetus.
9. Can express the start time of attachment during pregnancy.
10. Describe their role in the pregnancy process and its acceptance.
11. Describe the role of the spouse as a supporter (psychologically-moral) to recognize and express the role of the paternal

12. Explain the role of the spouse in relation to the fetus and recognize and express the influence of the focus on the fetus on the attachment.
13. Identify the fetus as an independent entity of the mother and become familiar with his or her sensory abilities.
14. The description of the behavior that has taken place during these few weeks of training includes: touching the embryo from the abdomen, placing the fetal organs within the uterus, relaxing the fetus with the touch of the abdomen, attending the mother and providing psychological and physical support to the mother, participating in creating an attachment to the mother, and explaining the role of the father in helping to breastfeed after birth.
15. The fathers teach their wives the attachment skills that they learned during their 4 weeks. After all, the mean scores before and after the intervention were compared using paired t-test. Besides, an independent t-test was used in order to compare the two groups.

This research project was approved by the local Ethics Committee of Shiraz University of Medical Sciences number (IR.SUMS.REC.1391.S5530) with and also before the start of the study; informed consents were obtained from the participants. The research proposal No. 91-5530 was financially supported by student research center, Shiraz University of Medical Sciences. Besides, the participants were assured of the confidentiality of all their personal information. The researchers tried to observe all the participants' rights in accordance to the Helsinki ethical convention.

Results

The mean ages of the studied women and their husbands were 24.59 (0.307) and 29.03 (1.01) years, respectively.

The results of the Independent t-test showed no significant difference between the two groups regarding the women's and their husbands' age distribution ($P=0.218$ and $P=0.388$, respectively). The most and least frequent women age groups were 30-26 years (44.7%) and 36-40 years (5.3%), respectively. Both groups were matched in terms of education ($P= 0.254$), and a list was presented which was sorted by educational attainment; the highest and lowest belonged to diploma (67%) and high school (8%), respectively. Table 1 shows the various aspects of violence against women in both groups before the intervention and controls. According to independent t-tests, no significant difference was reported in the psychological violence ($P= 0.077$), physical violence ($P= 0.836$), or economic violence ($P= 0.598$). However, a significant difference was reported in the social violence ($P= 0.022$), sexual violence ($P= 0.045$), and overall score ($P= 0.036$) (Table 2).

Discussion

The present study showed a significant relationship between the mean score of violent behaviors between the two groups. A study was done to investigate the

Table 1. Mean and standard deviation of various aspects of violence against women in both groups before the intervention and controls

Forms of violence	Group		P*
	Educational Mean (SD)	Control Mean (SD)	
Psychological violence	2.41 (3.56)	2.49 (3.03)	0.88
Physical violence	0.38 (1.31)	0.20 (0.61)	0.26
Social violence	0.05 (0.36)	0.24 (0.80)	0.06
Economic violence	1.12 (1.60)	1.05 (1.89)	0.81
Sexual violence	0.90 (1.54)	1.14 (1.72)	0.37
Overall violence	4.88 (6.35)	5.12 (5.38)	0.80

*Independent t-test

Table 2. Mean and standard deviation of various aspects of violence against women in both groups after the intervention and controls

Forms of Violence	Group		P*
	Educational Mean (SD)	Control Mean (SD)	
Psychological violence	1.78 (2.95)	2.78 (3.18)	0.77
Physical violence	0.25 (0.88)	0.28 (0.66)	0.38
Social violence	0.04 (0.25)	0.32 (1.01)	0.02
Economic violence	0.98 (1.43)	1.31 (1.92)	0.59
Sexual violence	0.74 (1.31)	1.28 (1.87)	0.04
Overall violence	3.80 (5.03)	5.65 (5.68)	0.03

*Independent T-test

effects of domestic violence on the link between the mother and infant during pregnancy. It studied 204 pregnant outpatients in Portugal hospitals with a mean age of 29 years within their third trimester of pregnancy. The relationship between the mother and baby was assessed by the fetal-maternal attachment questionnaire, marital adjustment forum, and maternal violence one. About 107 pregnant women (52.4%) were faced with domestic violence. The results of the Almeida et al.'s study showed that domestic violence had a poor relationship with maternal-fetal attachment, which was not significant.³²

In other words, women who are victims of domestic violence have a lower attachment to the embryo and more negative attitude regarding the pregnancy and fetus.³¹ In another study conducted in 2005, women with domestic violence indicated lower fetus attachment. Therefore, an additional intervention (the education of pregnant women and their spouses) is required besides the routine pregnancy care.⁴ In the study conducted by Quinlivan, the participants who had been subject to domestic violence had a greater attachment to infants, which is consistent with the results of the present study. However, this research studied the embryonic attachment,⁴ similar to Bloom's study³³ Besides, in another section of this study, the results of which have not been reported in this paper, we found that there was a relationship between the dimensions of violence (social, physical, and sexual violence) and attachment subsets (maternal-infant caring behavior

and emotional behaviors of the mother toward the infant).³⁴ Drawing on the findings of certain studies, we might be able to conclude that domestic violence can endanger different domains of fetal-maternal link.³⁵⁻³⁷ This is a serious issue which, if ignored, can increase the risks faced by both mothers and fetuses.

Thus it is assumed that one of the effective ways to prevent this social and health problem in the long run is to provide life education, with a particular emphasis on the relationship between couples in an attempt to reduce the harm caused by domestic violence.^{38,39} Women who experience domestic violence are at increased risk of developing mental illness, such as worry and depression.^{40,41}

Thus, the hypothalamus-pituitary-adrenal axis is activated⁴² and studies have shown that cortisol levels in the morning of violent people who had high stress were significantly higher than that for non-violent ones.^{43,44} On the other hand, there is a widespread belief that domestic violence is a matter of confidentiality and should be kept secret and hence, the continuing problems of women. The cause of maternal and fetus serious complications.⁴⁵ Therefore, since the awareness of domestic violence during pregnancy is among the priorities of the American College of Obstetricians and Gynecologists, the American Medical Association and other health professionals.⁴⁶ The present study supported the hypothesis that the education of the process of attachment to the father and the transfer of concepts taught to the pregnant mothers may reduce domestic violence against pregnant women and prevent the negative impact of violence on mental health in pregnancy and postpartum.

In the present study, the fathers' training attachment was found to affect the physical and mental health in mothers and fathers, fetus development, maternal anxiety in the parents besides increasing the fathers' contribution to the pregnancy process and post-partum care, alongside their knowledge and potential skills, data transition (from husbands to pregnant women), parents' readiness in pregnancy, all of which ultimately led to a significant reduction in the fathers' violence in certain cases. The difference in fetal-maternal attachment in the case and control groups implies the possible effect of education on the fathers' reduced violence, and transition of educated content into mothers. The first hour of birth is the most critical time in affecting fetal-maternal attachment. Paternal affectionate care leads to a secure attachment and reduced violence. The more time the fathers spend on it, the stronger this effect will grow.¹³

Conclusion

This study showed that training the father's attachment skills and transferring to their pregnant wives reduced the score of some aspects of domestic

violence (social violence and sexual violence). Also, reduce the overall average score of violence in intervention group, was more than control group.

Father attachment training seems to be of the modern obstetric education in this regard. Thus, this educational technique is suggested to all midwives and other health care team members who are in contact with pregnant mothers and their husbands as a component of prenatal care since it is simple, inexpensive, and enjoyable. Its achievement is a short step toward mental health in mothers and children by bringing about a reduction in the violence against women. The trend of patient detection is a good start to protect pregnant women against prenatal violence and helps to improve pregnancy outcomes.

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Ethical issues

None to be declared.

Conflict of interest

The authors declare no conflict of interest in this study.

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