

## **A study of the effect of domestic violence on maternal-neonatal attachment in prim gravida women referred to hospitals affiliated to Shiraz University of Medical Sciences.**

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### **Abstract**

**Introduction:** Domestic violence during pregnancy is a threat that may affect the relationship of mothers and babies. This study aimed to determine the effect of domestic violence severity on neonatal-maternal attachment.

**Materials and methods:** This is an analytic-descriptive study carried out on 150 pregnant women aged between 18 to 35 years by purposive sampling. Research tools included the violence questionnaire and Avant's checklist. Spearman correlation test was used for data analysis.

**Results:** No significant difference was reported between maternal-neonatal attachment and total score of violence ( $p=0.742$ ). However, the correlation between violence and maternal-neonatal attachment was statistically significant in some subtitles. Analysis of Variance (ANOVA) showed a statistically significant correlation between maternal-neonatal attachment and social violence ( $p=0.006$ ). Therefore, based on t-test, no significant difference was reported between maternal anxiety levels and total score of violence ( $p=0.094$ ).

**Conclusion:** No significant difference was reported between the maternal-neonatal attachment and mother's anxiety with total score of violence.

**Keywords:** Attachment, Domestic violence, Neonatal.

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### **Introduction**

Mothers' attachment to unborn baby starts with the initiation of pregnancy and continues until the end of pregnancy [1]. Some behaviors represent the Maternal-Fetal Attachment (MFA) or interaction, including eating well, avoiding harmful substances such as alcohol, having positive conception about the fetus, talking to fetus, and caring about fetal movements [2]. There is evidence suggesting the predictor role of MFA emergence on postpartum attitudes, practices, interactions, and attachment patterns [3]. The impacts of increased maternal attachment include more confidence in her role functions during pregnancy, more compatibility with labor conditions and more positive response to infants' behavior [4]. According to Leifer, mothers' more adaptation and less difficulty in accepting her mothering role after birth and new conditions is the result of her established relationship with the embryo [5]. The violence of husband toward his pregnant women is of the leading factors to lower marital quality and reduced child and maternal attachment [6]. During pregnancy, domestic violence is not

only a serious public health issue but also endangers the health of both mother and fetus [7]. Regarding the studies on assessing various dimensions of this phenomenon and its consequences, this study aimed to determine the effect of domestic violence severity on neonatal-maternal attachment (another aspect of violence, which was less scrutinized).

### **Materials and Methods**

This is an analytic-descriptive study done on 150 pregnant women referred to Shiraz University of Medical Sciences affiliated hospitals using purposive sampling. Inclusion criteria were nulliparous women, age between 18 to 35 years, live singleton pregnancy with gestational age of 28-34 weeks, no history of maternal mental disorders (psychosis, schizophrenia) according to medical records, and no history of maternal chronic diseases (pulmonary-heart disease, hypertension, and diabetes). Mothers would remain as a part of study in the case of caesarean section. Exclusion criteria were lack of willingness to cooperate, 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 includes 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). The questionnaire's reliability and validity were determined by the study done by Bagherzadeh [8]. The level of neonatal-maternal attachment was assessed by Avant's checklist.

Avant's checklist is an instrument with 11 items in three behavioral domains [9]. The first domain is emotional behaviors or loving behaviors (staring, fondling, kissing, and talking) containing 5 behavioral items which were evaluated 15 times with total score of 75.

The second domain is keeping close behaviors (tight arm curling around the baby and sticking him/her to herself, close body contact of the mother and baby) includes 3 behaviors Any behavior is evaluated 15 times with a total score of 45. The third domain is caring behavior (patting the baby's back to help him belch, changing nappies and baby clothes). The number of behavior and its assessment is similar to the second domain. The mother and baby interacted for 15 minutes and the behaviors were observed without the mother's awareness of [9]. The validity and reliability of Avant's questionnaire were determined by the study done by Khoramrody [10]. The level of anxiety was assessed based on Spielberger state-trait Anxiety Inventory. Anxiety is scored from 20 to 80. Spielberger test has been used in many Western research papers [11,12].

According to Kolmogorov-Smirnov, data was not distributed normally; therefore, violence Spearman correlation test was used to determine the relationship between attachment and violence.

**Results**

According to the results, the mean age of the participants was  $24.59 \pm 3.8$ , the most frequent age group 21-25 years (50%),

and the least frequent was in the age group 31-35 years (6.7%), 12.7% in the age group 18-20 years. 34.6% of the women had high school education, 44.7% diploma and 20.7 had university education. 95.3% of them were housewives and 4.7% were employee while the rest were householder. Regarding education, about 20.7% and 44.7% had university degree and diploma, respectively, while the rest had high school education. The most frequent study population (92%) had moderate anxiety. An attachment level in the majority of cases (95.3%) was average (Table 1).

**Table 1.** Prevalence of anxiety and attachment level at the community.

Variable	level	N (%)
Level of anxiety	Mild	12 (8)
	Moderate	138 (92)
Total		150 (100)
Level of attachment	Low	7 (4.7)
	Moderate	143 (95.3)
Total		150 (100)

The mean score of violence was  $4.9333 \pm 5.85927$ . The mean score of psychological, physical, social, financial and sexual violence was  $2.3533 \pm 2.94499$ ,  $0.2733 \pm 0.97552$ ,  $0.1667 \pm 0.78078$ ,  $1.1000 \pm 1.76373$ , and  $1.0400 \pm 1.64206$ , respectively.

There was no significant difference between maternal-neonatal attachment and total score of violence ( $p=0.742$ ). However, a significant link was reported between total ( $p=0.041$ ) and sexual violence ( $p=0.002$ ), with third dimension of behavior (caring behavior); also, physical violence and second dimension of behavior (keeping close behaviors) ( $p=0.021$ ). So, social violence and total score of attachment ( $p=0.004$ ) and first dimension of attachment (loving behaviors) ( $p=0.002$ ). Finally, according to ANOVA regression, the only significant relationship between mother-infant attachments and social violence was ( $t=-2.814$ ,  $p=0.006$ ). (Table 2) 92% of mothers showed moderate anxiety and based on t-test no significant difference was reported between maternal anxiety levels and total score of violence ( $p=0.094$ ) (Table 3).

**Table 2.** The correlation between domestic violence and mother-infant attachment.

Mother-Neonatal Attachment (MNA)	Total score (MNA)	First aspect (Emotional behaviors)	Second aspect (Keeping close behaviors)	Third aspect (Caring behavior)
Domestic Violence (DV)				
Total score (DV)	-0.027	0.016	-0.014	-0.167*
	0.74	0.848	0.868	0.041
	150	150	150	150

**Table 3.** The correlation between domestic violence and mother's anxiety level.

Anxiety violence	N (%)	Mean ± SD	PV
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Mild	12 (8)	$5.8333 \pm 9.14363$	$f=2.844$ $P=0.094$
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## Discussion

According to our findings, there was no significant association between violence and fetal-maternal attachment. However, the result of the study done by Quinlivan and Evans revealed a significant difference in fetal-maternal attachment among mothers who were subjected to violence during pregnancy compared with those who were not [13]. Another study stated that the history of exposure to violence was along with less prenatal care or home visits. Therefore, they were more exposed to prenatal and neonatal mortality dangers (2.37 and 2.59 times higher) [14]. However, the link between the parent's relationship and fetal-maternal attachment (at first 48 h) was not reported in some studies; this is consistent with our findings [15].

Victorian did a study on 175 fathers over 18 years who were married and expecting their child birth with singleton pregnancy. The couples who attended Lamaze classes were divided randomly into one of three groups: massage therapy, palliative care, relaxation therapy and control. The study lasted from weeks 24 to 32. The results declared a reduced level of anxiety in the group receiving massage therapy with improved birth outcomes. No significant difference was reported in the parental-fetal attachment score between the intervention and control groups, but fathers who had married with love presented more attachment to their fetus as well [16]. Since the level of violence was low in our study, it didn't cause a negative impact on the relationship between mother and baby. In the Islamic societies like Iran, about 99 percent of people are Muslim with religious thoughts and fathers' role function reflects an important responsibility, which includes new conscientiousness in wider arena. According to Iranian culture, men are the head of family with an especial status. Moreover, women's employment has made father's role much more sensitive and important. According to Golian, all fathers stated that they were happy once they heard about their wife's pregnancy. For example: "Hearing that my wife is pregnant made me so happy that I was about to cry. I wish I had a pair of wings and fly. During pregnancy, some fathers stated a stronger sense of belonging and attention into his wife and child, which makes them try more in providing necessary comfort and safety, which is called "child attachment" and "family attachment" [17]. In the present study, low level of domestic violence in pregnancy seems to show the place of pregnant woman and fatherhood in Iran.

Research shows that men, who have planned for their new expected roles during wife's pregnancy, have more adaptation with mother and child after birth compared to those who ignore their spouse pregnancy [16]. Other researchers also reported the effects of fraternal-fetal relationship on maternal-fetal attachment [6,18]. Klaus states the fact that fetal care by the parents and talking to the embryo represent fetal- parental attachment and help to have neonatal conception [19,20].

According to Muller, pregnancy attachment can predict an attachment of 4 to 6 months after birth [21], which will last till adulthood and even the end of life [22,23]. Some studies also reported no effects of fraternal-fetal relationship on maternal-neonatal attachment within the first 48 h after birth [15].

Therefore, the fathers' involvement seems important on health-educational and therapeutic process and labor/delivery to improve paternal role, pregnancy involved emotion and interaction, the experience of having child, decrease in violence, and promotion of maternal-neonatal attachment.

Religious concepts were applied in the educational courses due to our Islamic culture, the presence of various verses in Qur'an, which address men to have a balanced behavior in human interaction and moral relationship with the spouse (no violence) and couples invitation to a flexible and rational intimacy, being defender, resort, and supporter for each other [24].

## Conclusion

According to this study, there was no significant association between domestic violence and maternal-fetal attachment, but there was a significant relationship between mother-infant attachments and social violence. Fathers' participation in the training programs and also appliance of religious concepts besides scientific contents is recommended to reduce violence despite their attachment increase.

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## References

1. Lawson KL, Turrieff-Jonasson SI. Maternal serum screening and psychosocial attachment to pregnancy. *J Psychosom Res* 2006; 60: 371-378.
2. Salisbury A, Law K, Ladasse L, Lester B. maternal-fetal attachment. *JAMA* 2003; 289: 1707-1723.
3. Moein Z. Maternal health in pregnancy. Tehran Cultural Prevention Assistance Publ (1st edn.) 2000; 1120-1126.
4. Siddiqui A, Hagglof B. Does maternal prenatal attachment predict postnatal mother-infant interaction? *Early Hum* 2000; 59: 13-25.
5. Leifer M. Psychological changes accompanying pregnancy and motherhood. *Genet Psychol Monogr* 1977; 95: 55-96.
6. Soltanifar A, Moghadam Hoseini V, Jafarnejad F, Ebrahimzadeh S. Study of the relationship between domestic violence intensity during pregnancy and mother-infant attachment. *J Sabzevar Univ Med Sci* 2009; 1: 35-42.

7. Finnbogadóttir H, Dykes AK, Wann-Hansson C. Prevalence and incidence of domestic violence during pregnancy and associated risk factors: a longitudinal cohort study in the south of Sweden. *BMC Pregnancy Childbirth* 2016; 16: 228.
  8. Bagherzadeh R, Keshavarz T, Sharif F, Dehbashi S, Tabatabaei H. Relationship between domestic violence during pregnancy and complications of pregnancy, type of delivery and birth weight on delivered women in hospital affiliated to Shiraz University of Medical Sciences. *Horizon Med Sci* 2008; 13: 51-58.
  9. Toosi M, Akbarzadeh M, Sharif F, Zare N. The reduction of anxiety and improved maternal attachment to fetuses and neonates by relaxation training in primigravida women. *Women Health Bull* 2014; 1: e18968.
  10. Khoramrody R. The effect of mothers touch on maternal foetal attachment. *Iran Nursing Midwifery J* 2000; 13: 33-41.
  11. Gedney JJ, Glover TL, Fillingim RB. Sensory and affective pain discrimination after inhalation of essential oils. *Psychosom Med* 2004; 66: 599-606.
  12. Hur MH, Cheong N, Yun H, Lee M, Song Y. Effects of delivery nursing care using essential oils on delivery stress response, anxiety during labor, and postpartum status anxiety. *Taehan Kanho Hakhoe Chi* 2005; 35: 1277-1284.
  13. Quinlivan A, Evans SF. Impact of domestic violence and drug abuse in pregnancy on maternal attachment and infant temperament in teenage mothers in the setting of best clinical practice. *Arch Womens Ment Health* 2005; 8: 191-199.
  14. Sarkar NN. The cause and consequence of domestic violence on pregnant women in India. *J Obstet Gynaecol* 2013; 33: 250-253.
  15. Carlson LL. Maternal attachment in the early postpartum period. Relationship with adult attachment style and the partner relationship. Dissertation for degree or doctor nursing science. Louisiana State University Health Science Center School Nursing 2003.
  16. Victoria L, Debra BE, Tiffany F, Joseph PB. Fathers massaging and relaxing their pregnant wives lowered anxiety and facilitated marital adjustment. *J Bodywork Mov Ther* 2005; 9: 277-282.
  17. Golian Tehrani S, Bazzazian S, Dehghan Nayeri N. Pregnancy experiences of first-time fathers in Iran: a qualitative interview study. *Iran Red Crescent Med J* 2015; 17: e12271.
  18. Bloom KC. Perceived relationship with the father of the baby and maternal attachment in adolescents. *J Obstet Gynecol Neonatal Nurs* 1998; 27: 420-430.
  19. Klaus MH, Jerauld R, Kreger NC, McAlpine W, Steffa M. Maternal attachment. Importance of the first post-partum days. *N Engl J Med* 1972; 286: 460-463.
  20. Rafiee B, Akbarzade M, Asadi N, Zare N. Comparison of attachment and relaxation training effects on anxiety in third trimester and postpartum depression among primipara women. *Hayat* 2013; 19: 76-88.
  21. Muller ME. Development of the prenatal attachment inventory. *West J Nursing Re* 1993; 15: 199-215.
  22. Nelson AM. Transition to motherhood. *J Obstet Gynecol Neonat Nurs* 2003; 32: 465-477.
  23. Alhusen JL. A literature update on maternal-fetal attachment. *J Obstet Gynecol Neonatal Nurs* 2008; 37: 315-328.
  24. Gomshai A. The Holy Quran. Surah 2 Versa 187; 228-231.
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