

# Neonatal-Maternal Attachment and Self-compassion in Postpartum Period

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## ABSTRACT

**Background:** between mother and her neonatal reflects the quality of maternal emotional feelings and behaviors toward her baby. This attachment emerges in behaviors, which indicate the mother's attention and care. Self-compassion is the extension of compassion to oneself in instances of perceived inadequacy, failure, or general suffering. Regarding this, the aim of the present study was to determine the relationship between maternal-neonatal attachment and self-compassion in postnatal period.

**Methods:** This cross-sectional study was conducted on 335 primiparous women, referring to health care centers in Mashhad city in 2014. The study population was selected using the cluster and convenience sampling methods. The research tools were maternal/neonatal demographic form, self-compassion scale, and neonatal-maternal attachment questionnaire. The data were analyzed by Pearson correlation coefficient and linear regression model in SPSS software (version 22).

**Results:** The results of the Pearson correlation coefficient test showed a positive correlation between the total score of maternal-neonatal attachment and self-compassion in postpartum period ( $r=0.22$ ,  $P=0.012$ ). Accordingly, as the score of self-compassion increased, the maternal-neonatal attachment score also enhanced.

**Conclusion:** As the findings indicated, there was a correlation between self-compassion and maternal-neonatal attachment in postnatal period. Therefore, the provision of caregivers with education regarding psychological problems by community health midwives during postnatal period can be effective in the early diagnosis and identification of such disorders.

**Keywords:** Attachment, Compassion, Maternal, Neonatal, Postnatal

## Introduction

neonatal period is one of the most important periods in an individual's life in terms of growth and development. The mental health of a neonate is related to his/her physical health (1, 2). Mothers show their emotional attachment to their neonates by such behaviors as calling their names, smiling, giving attentive responses to their movements, touching, hugging, establishing direct eye contact, and kissing (3). maternal and neonatal attachment reflects the quality of maternal emotional feelings and behaviors toward her neonate. This bonding emerges in behaviors, which indicate the mother's care, supportive and attention. These behaviors include affection, proximity, and caring behaviors (4).

mother and her baby attachment refers to the relationship between mother and fetus, which is associated with the mother's mental image of the infant. This type of attachment is shaped in prenatal periods, gradually improves in the third trimester, and continues after childbirth (5, 6). The emerging maternal-fetal attachment could be a predictor for the attitude and performance of mothers after childbirth, also post-birth mother-infant interaction and attachment patterns (7).

attachment theory has been increased recognition over the past 20 years that the relationship between a mother and her child starts to develop before a child is born; in other words, during the fetal period. However, the

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significance of this subject is not as well studied as that of mother-neonatal attachment(8,9).

In a classic article, Cranley (1981) suggested that the physical development of the fetus occurs along with the transformation of a woman into a mother during the nine months of gestation. She stated, "integral to that development is the consideration of the woman's identity, her role identity, the identity of her developing fetus, and perhaps most importantly, the relationship between her fetus and herself" (9).

The nature of this relationship has been referred to as prenatal attachment Whereas some

maternal and fetal characteristics can be related to psychological factors such as mother's views. The development of this relationship is a matter of critical importance; accordingly, research has demonstrated a correlation between prenatal and postnatal attachment (10-12). Moreover, optimal attachment in early neonatal periods has been identified as an integral component in the future development of a child (13).

Self-compassion is referred to the extension of compassion to oneself in instances of perceived inadequacy, failure, or general suffering. According to Neff's definition, self-compassion is composed of 3 main components, namely mindfulness common humanity, , and self-kindness . Self-kindness entails being warm towards oneself when encountering pain and personal shortcomings , rather than ignoring them or hurting oneself with self-criticism. Common humanity also involves recognizing that suffering and personal failure is part of the shared human experience. Finally, mindfulness requires taking a balanced approach to one's negative emotions so that feelings are neither suppressed nor exaggerated. In this regard, negative emotions and imaging and thoughts are observed with openness so that they are held in mindful awareness (14).

Self-compassion is a state of think or emotional response of a person believing to be a lacking the confidence and victim and competence to cope with an adverse situation. Research indicates that self-compassionate individuals experience greater psychological health than those lacking self-compassion (15-19). Although psychologists have extolled the benefits of self-esteem for many years, recent research showed that costs associated with high level of self-esteem, including narcissism,

distorted self-perceptions, contingent and/or unstable self-worth, as well as violence and anger toward those threatening the ego (20, 21). It appears that self-compassion suggests the same psychological health benefits as self-esteem. However, it entails fewer drawbacks, such as ego-defensive , anger, narcissism, inaccurate self-perceptions, self-worth contingency, or social comparison (16).

A postpartum or postnatal period is the period beginning immediately after the neonatal delivery and extending for about 4-6 weeks. Puerperium and puerperal period are the less frequently used terms. based on The World Health Organization (WHO),the postpartum period is the most critical and and neglected stage in the lives of mothers and neonates since most of deaths occur during this period (22). Postnatal period is the time after birth, a period in which the mother's physiology, including hormone levels and uterus size, returns to a non-pregnant state. (23).

Self-compassion is known as one of the issues assisting the improvement of psychological health. Moreover, this state can play an important role in improving relations with others during experiencing important life events, such as pregnancy and entering into the postpartum period (18). In a study conducted by mohamadirizi et al., the results of Pearson correlation coefficient test (2014) revealed that maternal-fetal attachment had a positive correlation with the total score of self-compassion and its dimensions (24).

In another study performed by Cohen et al. (2010) at Columbia University on pregnant women, there was a positive correlation between the score of self-compassion and a maternal-fetal attachment during pregnancy (25). To the best of our knowledge, there is no study in Iran investigating the relationship between self-compassion and maternal attachment to the neonate in postnatal period. Given the importance of postpartum period, especially the psychological aspects in this period (e.g., attachment, social anxiety, eating disorder and other psychological problems), for women and neonates (26, 27), the present study aimed to determine the relationship between maternal-neonatal attachment and self-compassion in postnatal period.

## Methods

This cross-sectional study was conducted on 335 primiparous women referring to the health

care centers of Mashhad, Iran. For sampling from 3 Healthcare Centers in Mashhad, a center (cluster) was using table of random numbers randomly selected. Subsequently, the sample size proportional to the population of each center was selected from that healthcare center using convenience sampling method.

The inclusion criteria were: 1) being in postnatal period, 2) informed consent to enter into the study, 3) Iranian nationality, 4) primiparity, and 5) no stressful or unpleasant incident during pregnancy and postnatal period. On the other hand, the exclusion criteria included: 1) consumption of the medications affecting mental functioning, 2) history of any mental illness diagnosed by a psychiatrist over the past year or taking medications affecting mental functioning, and 3) no chronic diseases (e.g., renal, respiratory, cardiac, diabetes, hypertension, asthma, headache, migraine, thyroid, anemia, and neuro-psychological problems).

The research tools included the maternal/neonatal demographic information, self-compassion scale, and maternal-neonatal attachment questionnaire. Self-compassion scale includes 26 items rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). The total score of self-compassion is obtained by calculating the mean scores of six subscales (including: self-kindness, self-judgment, the presence of mind, against replication, extreme sympathy, human commonalities, isolation). (24). The reliability and validity of this questionnaire have been confirmed by Saedi (2012) and Abolghasemi

(2012), reporting the reliability coefficients of 0.84 and 0.81, respectively (28, 29).

The maternal-neonatal attachment questionnaire in postpartum period consists of 21 items rated on a 4-point Likert scale ranging from 4 (almost always) to 1 (almost never). The minimum and maximum scores in this instrument are 21 and 84, respectively. This questionnaire has been reported to be both valid and reliable by mohamadirizi (2014) (26). The data were analyzed by Pearson correlation coefficient and linear regression model in SPSS, version 22.

## Results

According to the results, the mean age and mean gestational age of the participants were  $25.12 \pm 0.3.2$  years and  $36.14 \pm 1.43$  weeks, respectively. Furthermore, they had the mean body mass index of  $23.59 \pm 2.12$  kg/m<sup>2</sup>. In addition, 316 subjects (80%) had an average level of economic and social status. Furthermore, 85% of the mothers and 90% of their husbands had academic education, and most of the mothers (85%) were housewives. About 60% of the neonates were male. The mean total scores of self-compassion and mother-neonatal attachment were  $57.21 \pm 4.23$  and  $80.21 \pm 4.01$ , respectively.

The results of Pearson correlation coefficient test showed a positive correlation between the total score of self-compassion and maternal-neonatal attachment ( $P=0.012$ ,  $r=0.22$ ). In order to control the confounding variables, all variables were entered into the general linear regression model (Table 1).

**Table 1.** Linear regression between predictor variables and dependent variable

Predictor variables	Coefficients <sup>a</sup>			P-value
	Coefficients unstandardized		Standardized coefficients	
	B	SE	$\beta$	
Maternal age	0.124	0.58	0.213	0.061
Maternal body mass index	-0.35	0.12	0.412	0.085
Neonatal gender	0.265	0.54	0.365	0.123
Self-compassion score	0.023	0.75	0.203	0.045

a. Dependent variable: maternal-neonatal attachment, SE: standard error

## Discussion

Maternal-neonatal attachment is an important part of pregnancy that facilitates the future communication of the mother and her neonate (30). More attached mothers are able to keep their fetus and neonate healthy, whereas less attached mothers experience various

problems and are unable in this regard (31). In a study conducted by Mohamadirizi et al. (2014), the results of Pearson correlation coefficient test demonstrated that mother-fetal attachment was positively correlated with the total score of self-compassion and its

dimensions. In this regard, as the score of self-compassion increased, the mother-fetal attachment score also enhanced ( $r=0.3$ ,  $P<0.005$ ) (24).

Similarly, in another study performed by Cohen et al. (2010) on pregnant women, there was a positive correlation between the score of self-compassion and maternal-fetal attachment both during pregnancy ( $r=0.18$ ,  $P<0.001$ ) and postnatal periods ( $r=0.3$ ,  $P<0.001$ ) (25). Zare et al. (32) Brockie Milan et al. (33), and Wren et al. (34) emphasized on the effectiveness of group therapy, including cognitive self-compassion, on the improvement of self-efficacy. Self-compassion sympathy is a capability that is acquired along with self-efficacy by learning and performing the related skills (33).

According to Alan and Lori (2010), self-compassion has appropriate coping resources that help individuals deal with the negative event of their lives. In sum, it can be argued that the individuals who are more kind and compassionate to themselves and others are more likely to deal with kindness, acceptance, and conceptualization of their imperfections and shortcomings. Furthermore, they can consciously accept and understand the difficulties of life as part of the shared experience of all human beings. Consequently, they are less likely to suffer from the excitement and its consequences, and therefore can properly perform all their responsibilities.

Nagata et al. (2002) also observed a significant correlation between postpartum attachment and attachment one year after childbirth (35). In a study carried out by Vakilian et al. (2007), emotional behaviors had the maximum score among other attachment behaviors (36). On the other hand, Cranley found no relationship between maternal-fetal attachment and maternal feelings within the first three days after birth (9). The reason behind this discrepancy could be the application of different instruments for observing mother-infant attachment behaviors and the short follow-up period, which was only 2-3 days after birth in these studies.

Cassano et al. (2005) studied attachment behaviors in Brazilian and Japanese populations and concluded that women's feelings are similar, although there are some differences in behaviors between these women. For instance, Japanese mothers mostly looked at their neonates without touching them, while Brazilian mothers looked at their neonates less

and spent more time on taking care of their neonates. These behaviors were related to cultural and socioeconomic differences between these countries (37).

The present study entailed several limitations. Despite the researchers' effort to eliminate and control the confounding factors, some of them were out of control. Furthermore, the differences in participants' personalities and emotional status might have affected their answers to the questionnaires; however, this problem was relatively controlled by the random selection of healthcare centers.

Additionally, despite assuring the participants about the confidentiality of the data and providing proper conditions for answering the questions, some participants might have answered the questions less precisely, and this was uncontrollable by the researcher.

## Conclusion

The results of this study revealed a relationship between psychological self-compassion and maternal-neonatal attachment.

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## Conflicts of interests

There is no conflict of interest.

## References

1. Mohamadirizi S, Fahami F, Bahadoran P. The effect of E-Learning education on primipar women's knowledge about neonatal care. *Iran J Neonatol.* 2013; 4(1):24-7.
2. Kliegman RM, Behrman RE, Jenson HB, Stanton BM. *Nelson textbook of pediatrics.* 17<sup>th</sup> ed. Philadelphia: Saunders; 2004. P. 157-61.
3. Carter-Jessop J. Promoting maternal attachment through prenatal intervention. *MCN Am J Matern Child Nurs.* 1981; 6(2):107-12.
4. Colin VL. *Infant attachment: what we know now.* Washington, DC: US Department of Health and Human Services; 1991.
5. Pillite A. *Maternal and child health nursing: care of the childbearing & childrearing family.* 4<sup>th</sup> ed. Philadelphia: Lippincott Williams & Wilkins; 2003. P. 201-26.

6. Lawson K, Turriff-Jonasson S. Maternal serum screening and psychosocial attachment to pregnancy. *J Psychosom Res.* 2006; 60(4):371-8.
7. Foster SF, Slade P, Wilson K. Body image, maternal-fetal attachment and breast-feeding. *J Psychosom Res.* 1996; 41(2):181-4.
8. Bowlby J. *Attachment, separation and loss.* New York: Basic Books; 1969.
9. Cranly MS. Development of a tool for the measurement of maternal attachment during pregnancy. *Nurs Res.* 1981; 30(5):281-4.
10. Fleming AS, Ruble DN, Flett GL, Shaul DL. Postpartum adjustment in first-time mothers: relations between mood, maternal attitudes, and mother-infant interaction. *Dev Psychol.* 1988; 24(1):17.
11. Mohamadirizi S, Mohamadirizi S, Khani B. Prenatal optimism and its relationship with fetal and maternal characteristics in primiparous women. *Int J Pediatr.* 2015; 3(5.1):897-901.
12. Muller ME. Prenatal and postnatal attachment: a modest correlation. *J Obstet Gynecol Neonat Nurs.* 1996; 25(2):161-6.
13. Oppenheim D, Koren-Karie N, Sagi-Schwartz A. Emotion dialogues between mothers and children at 4.5 and 7.5 years: Relations with children's attachment at 1 year. *Child Dev.* 2007; 78(1): 38-52.
14. Neff KD. The development and validation of a scale to measure self-compassion. *Self Identity.* 2003; 2(3):223-50.
15. Adams CE, Leary MR. Promoting self-compassionate attitudes toward eating among restrictive and guilty eaters. *J Soc Clin Psychol.* 2007; 26(10):1120-44.
16. Leary MR, Tate EB, Adams CE, Allen AB, Hancock J. Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *J Pers Soc Psychol.* 2007; 92(5): 887-904.
17. Neff K, Rude SS, Kirkpatrick K. An examination of self-compassion in relation to positive psychological functioning and personality traits. *J Res Personal.* 2007; 41(4):908-16.
18. Neff KD, Kirkpatrick KL, Rude SS. Self-compassion and its link to adaptive psychological functioning. *J Res Personal.* 2007; 41(1):139-54.
19. Neff KD, Hseih YP, Dejithirat K. Self-compassion, achievement goals, and coping with academic failure. *Self Identity.* 2005; 4(3):263-87.
20. Bushman BJ, Baumeister RF. Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *J Personal Soc Psychol.* 1998; 75(1): 219-29.
21. Sedikides C. Assessment, enhancement, and verification determinants of the self-evaluation process. *J Personal Soc Psychol.* 1993; 65(2): 317-38.
22. World Health Organization. WHO recommendations on postnatal care of the mother and newborn. Geneva: World Health Organization; 2014.
23. Thom D, Rortveit G. Prevalence of postpartum urinary incontinence: a systematic review. *Acta Obstet Gynecol Scand.* 2010; 89(12):1511-22.
24. Mohamadirizi S, Kordi M. The relationship between multi dimensional self compassion and fetal-maternal attachment in prenatal period in referred women to Mashhad Health Centres. *J Educ Health Promot.* 2016; 5:21.
25. Cohen JS. Mindfulness and self-compassion in the transition to motherhood: a prospective study of postnatal mood and attachment. [PhD Dissertation]. New York: Columbia University; 2010.
26. Kordi M, Mohamadirizi S, Shakeri MT, Modares Gharavi M, Rashidi F. Relationship between social anxiety symptoms and eating disorder symptoms in referred nulliparous women. *Iran J Obstet Gynecol Infertil.* 2014; 17(109):9-15.
27. Kordi MA, Mohamadirizi SH. The relationship between mindfulness and maternal attachment to the fetus and neonate in prenatal and postpartum periods: a cross sectional study. *Koomesh.* 2016; 17(4):e829-35.
28. Saeedi Z, Ghorbani N, Sarafranz MR. The effect of inducing self-compassion and self-esteem on the level of the experience of shame and guilt. *Contemporary Psychol.* 2013; 8(1):91-102.
29. Abolghasemi A, Taghipour M, Narimani M. The relationship of type "D" personality, self-compassion and social support with health behaviors in patients with coronary heart disease. *Quart J Health Psychol.* 2012; 1(1):5-19.
30. Andrade S, Atkins M, Battersy S, Buchanan P, Cowbrough K, Duncan J. National institute for health and clinical excellence. a peer-support programme for women who breastfeed commissioning guide implementing NICE guidance. Bristol: University of The West of England; 2008.
31. Sandbrook S, Adamson-Macedo EN. Maternal-fetal attachment: searching for a new definition. *Neuro Endocrinol Lett.* 2004; 25(1):169-82.
32. Zare H, Mehmannaavazan A. The effectiveness of encouragement training on promotion of general self-efficacy and resiliency of female-headed households. *Woman Fam Stud.* 2015, 3(1):37-57.
33. BrockieMilan H, Kamarzarrin H, Zare H. Effectiveness of cognitive-behavioral therapy in the improvement of coping strategies and addiction symptoms in drug-dependent patients. *Res Addict.* 2014, 8(30):143-55.
34. Wren AA, Somers TJ, Wright MA, Goetz MC, Leary MR, Fras AM, et al. Self-compassion in patients with persistent musculoskeletal pain: relationship of self-compassion to adjustment to persistent pain. *J Pain Sympt Manage.* 2012, 43(4):759-70.
35. Nagata M, Nagai Y, Sobajima H, Ando T, Honjo S. Depression in mother and maternal attachment results from a follow-up study at 1years postpartum. *Psychopathology.* 2002; 36(3):142-51.

36. Vakilian K, Khatamidoost F, Khorsandi M. Effect of Kangaroo mother care on maternal attachment behavior before. *Biom J J Hormozgan Univ Med Sci.* 2007; 11(1):57-63.

37. Cassano CA, Maehara SJ. Japanies and Brazilian maternal bonding behavior to word preterm infant: a comparative study. *J Neonat Nurs.* 1998; 4(1):23-2.