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

Please cite this paper as:
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 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). The reliability and validity of this questionnaire have been confirmed by Saiedi (2012) and Abolghasemi (2012), reporting the reliability coefficients of 0.84 and 0.81, respectively.

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. The 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±0.3.2 years and 36.14±1.43) weeks, respectively. Furthermore, they had the mean body mass index of 23.59±2.12 kg/m². 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±4.23 and 80.21±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>
<thead>
<tr>
<th>Predictor variables</th>
<th>Coefficients</th>
<th>Coefficients</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>Standardized coefficients</td>
</tr>
<tr>
<td>Maternal age</td>
<td>0.124</td>
<td>0.58</td>
<td>0.213</td>
</tr>
<tr>
<td>Maternal body mass index</td>
<td>-0.35</td>
<td>0.12</td>
<td>0.412</td>
</tr>
<tr>
<td>Neonatal gender</td>
<td>0.265</td>
<td>0.54</td>
<td>0.365</td>
</tr>
<tr>
<td>Self-compassion score</td>
<td>0.023</td>
<td>0.75</td>
<td>0.203</td>
</tr>
</tbody>
</table>

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.

Acknowledgments
This study was part of a research project approved in September 2013 at Mashhad University of Medical Sciences, and was financially sponsored by the Deputy of Research in the related university. We greatly appreciate the support and cooperation of this Research Deputy, as well as all mothers participating in this study.

Conflicts of interests
There is no conflict of interest.

References