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# Comparison of Antenatal Maternal Mental Representations Between Depressed and Non-depressed Pregnant Mothers

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## Abstract

**Background:** Depression is the most prevalent mental health problem in the pregnant women with significant implications for mother and infant's health. The content of maternal antenatal representations may be related to their depressive symptoms during the perinatal period.

**Objectives:** This study aimed to compare maternal mental representations between depressed and non-depressed groups of pregnant women.

**Methods:** In a causal-comparative study, participants were selected using an inverse stratified sampling method among pregnant women in the last trimester of pregnancy (depressed mothers = 93, and non-depressed mothers = 97). All participants completed Edinburgh Postnatal Depression Scale (EPDS), Dépistage Anténatal de la Dépression Postnatale (DADP), and semi-structure Interview-R after the consent form. Independent- samples *t*-test, Two-way ANOVA, and Pearson correlation coefficient were applied to compare maternal mental representations subscales between groups, using SPSS-26.

**Results:** The results showed significantly fewer positive ratings for all subscales of Interview-R, including child, partner, self as mother, and mother as own mother in the depressed group ($P < 0.05$). In the group of depressed mothers, 57% and 32% of the correlations among the representations of child/self as mother and child/partner were significant, while in the non-depressed group, 28% and 48% of the correlations between child/self as mother and child/partner were significant ($P < 0.05$), respectively. The characteristics of self as mother and own mother showed significant differences in the depressed group compared to the non-depressed group ($P < 0.05$).

**Conclusions:** Depressed pregnant mothers are less likely to differentiate themselves from their children compared to non-depressed pregnant mothers. Besids, depressed pregnant mothers perceive themselves as mothers more positively than their own mothers, while the opposite is true for non-depressed pregnant mothers.

*Keywords:* Pregnancy, Motherhood, Antenatal Depression, Mental Representation

## 1. Background

Pregnancy and transition to motherhood is an experience that has the most transformative power in a woman's life (1). In addition to physical transformations, pregnancy is associated with changes in mood, roles, relationships, and identity, which help the mother to adjust herself to the new circumstances, so that be prepared for her child (2-4). Transition to motherhood as a challenging period of imbalance is very stressful for a new mother as numerous studies have confirmed that pregnancy is a period of increased vulnerability to psychological problems (5-10).

Literature shows that depression is the most common psychological problem among perinatal mothers (6, 10-12). It can begin during pregnancy, which is called antenatal depression (AD), or after the infant birth known as postnatal depression (PD).

Although PD has been well documented, there is less research about AD. There is more concern about AD in developing countries, because of its higher prevalence. According to available data, AD prevalence varies among countries with different incomes and ranged from 4 to 81% (11-17). Based on a meta- analysis including 40 studies conducted in Iran, the prevalence of depression in Iranian pregnant women was estimated to be 41.2% (18). This rate

may be doubled or tripled if there are other risk factors, such as poverty or medical problems. As alarming as these rates may seems, they may underestimate the prevalence of AD, as up to 50% of all PD cases are undiagnosed and untreated (19). Untreated depression during pregnancy can have serious consequences for both mother and fetus. AD was repeatedly proven to be a strong predictor of PD (20-25). AD increases the risk of preeclampsia, edema, premature rupture of membranes, hemorrhage, for pregnant women (26-30). Excessive weight gain, increased substance use, and severe headaches are other problems of AD for pregnant women (31). For the offspring, AD can not only lead to preterm birth or low birth weight, but also has a persistent adverse effect on their neurological, behavioral, and emotional development (30, 32, 33).

A maternal mental representation (MMRs) during pregnancy is one of the psychological mechanisms through which maternal depression affects the fetus. MMRs are both conscious and unconscious, and include the mother's fantasies, fears, and hopes; expectations and perceptions concerning herself, her husband, or companion, her parents, and, in particular, her baby (34). The concept of maternal representations was first introduced by the works of Winnicott (35) and Bion (36) from independent schools of Object Relations. They introduced the mother's fantasy life about her infant as one of the main components of building a child's sense of identity (37).

Although other authors have described maternal representations, Stern (37) has focused on a useful and comprehensive description of maternal representations in terms of schemas-of-being-with infant, herself, her wife, and her own mother. He introduced the concept of "motherhood constellation" as a new and unique psychic organization that a woman is placed on with her first pregnancy, and include certain psychological tasks that need to be mastered.

Beginning in the second trimester of pregnancy, as the fetus becomes more vigorous, the woman comes to differentiate herself from the baby inside, and from her internal mother. This usually leads to a change in perspective which affects the external relationship to her mother if she is still alive. "Paradoxically, acknowledgment of herself as joined to, yet different from, the mother in whom she herself grew, can increase a woman's sense of responsibility for her own well-being, and therefore for that of the baby inside her" (38). The difficult main task of a woman is to rebuild the relationship with her mother while at the same time creating a feeling of connection with the child and recognition of being separated from him or her (39). The process of identification and differentiation from the baby and her own mother modifies the characteristics and capacities of maternity.

According to Stern (37), the importance of maternal representations for early mother-infant-interaction is considered to lie in the fact that the most active representations are played out in interactive behavior. Maternal representations can influence the baby only through the mother's overt interactive behavior and in a potentially meaningful form to the infant. For instance, a mother who represents herself as being rejected by her own mother, tends to reject her baby first, to protect herself; for example, this can take the form of breaking mutual eye contact with the child.

Previously Ammaniti et al. (40) during a study with the aim of studying the content and the organization of maternal representations of a sample of non-clinical pregnant women, showed that primiparous mothers (i.e., mothers having their first babies) from the eight months of pregnancy, have representations of their babies that are different from their representations of themselves. They reported that these mothers tended to rate their own mothers lower than themselves. It is assumed that this is a way for new mothers to define their identity by idealizing their parents' characteristics and abilities. Adding a wide body of literature on the tendency toward differentiation from the maternal grandmother, Dieckmann and Pierrehumbert as cited in Wendland and Miljkovitch (41) found that maternal representations reflect Infant's identification with its father during pregnancy, but the identification with the mother is stronger in the postpartum. Fava Vizziello et al. (42) observed that from late pregnancy to the baby's fourth month, the mother's representation of her infant tended to become more different than that of herself as a woman and that of his partner as a man. It is a fact that authors interpreted it as a progressive creation of psychic space for the child.

Surprisingly, despite the importance of MMRs during pregnancy, only few studies (43-45) were conducted in this field on at-risk and clinical populations, such as depressed antenatal mothers. Pajulo et al. (46) compared the content of maternal representations by IRMAG (Interview of Maternal Representations during Pregnancy) between a psychosocial risk group (n = 84) and a low-risk group (n = 296) of pregnant women. The representation profiles of the groups were different. In particular, the ratings of representation of partner and own mother-as-mother were more consistently and strongly negative among the risk mothers. In another study, Ammaniti et al. (39) compared the MMRs of pregnant women in non-risk group to depressed and/or at psychosocial risk group. They reported a prevalence of Integrated/Balanced representations in non-risk mothers and a higher frequency of Not Integrated/Ambivalent representations in at-risk mothers.

In the most recent study Ahlqvist-Bjorkroth et al. (47), by conducting a study to investigate the relationship among mothers' prenatal representations of marital distress and depressive symptoms, concluded that the level of maternal depressive symptoms was associated with

the classification of prenatal representations. Hence, the mothers in the group with a high number of depressive symptoms more often had distorted prenatal representations (57%) than mothers in the group with a low number of depressive symptoms (14%). Ahlqvist-Bjorkroth et al. (47) covered only the representations that the mother had towards her child. In both studies (39, 46), risk factors were generally considered and the risk of depression was not distinguished from other psychosocial risk factors. On the other hand, in the mentioned studies (39, 46, 47) the representations of women with depression symptoms were studied more in terms of structure than content.

Therefore, according to all considerations, our aim was to more accurate study of MMRs through the comparison of contents of maternal representations between depressed and non-depressed AD pregnant women. The hypothesis of the study was that depressed mother differs from non- depressed mothers in terms of their mental representations of themselves, the child, their partner, and their own mother. In particular, following questions were addressed:

- Are the representations depressed mothers have of their babies, themselves as mothers, their own mothers and their partners less positive or highly positive than those of non-depressed mothers?

- Is there a difference between depressed and non-depressed mothers in whether the representation of the child is more dependent on the representation of the spouse or on the representation of the self as a mother?

- Is there a difference between depressed and non-depressed women in terms of how they linked their representations of themselves as mother to their representations of their own mothers? (Identification or counter-identification)

Stern (37), on the other hand, believes that cultural conditions play an important role to form the motherhood constellation. Apart from the study of Ilicali and Fisek (48) that has done in Turkish society, little attention was paid to the cultural contexts differences and study of the representations of pregnant women in different societies. Therefore, according to the need to repeat these researches in different cultures, translating the Interview-R, version adapted for the antenatal period (49) into Persian, along with drawing a preliminary content profile representing Iranian pregnant women, will be another aims of the present study.

## 2. Methods

### *2.1. Statistical Population and Sampling*

Current study was designed as a Correlation study. The statistical population included women between the 26 and 34 weeks of pregnancy who were referred to the antenatal clinic of Shohadaye-e- Tajrish Hospital in Tehran, Iran. Participants were selected by inverse sampling method. In this method, sampling continues until the completion of a certain number of rare samples (50). In the current study, the depressed pregnant women are considered as a rare population. Ninety-seven women without depressive symptoms [non-depressed mothers (NDM)] and 93 women with depressive symptoms [depressed mothers (DM)] were assigned to the study as study's groups. First, all of women were examined by a prenatalogist and a PhD of clinical psychology according to in/exclusion criteria of this study. The inclusion criteria for both groups were being in the first pregnancy; age ranging from 18 to 40 years, having a single and healthy fetus based on screening results; being in the beginning of the last trimester of pregnancy (26 to 28 weeks of pregnancy); educated at least eight class. The inclusion criteria for DM group were to have depression symptoms based on depression questionnaire [Edinburgh Postnatal Depression Scale (EPDS) and Dépistage Anténatal de la Dépression Postnatale (DADP)]. The exclusion criteria for both groups were unwanted pregnancies; having medical diseases related to pregnancy and childbirth, such as blood pressure, diabetes, thromboembolism and infectious diseases; having psychotic disorders; consumption of alcohol, drugs, cigarettes, medicine, or addiction to them in the past year; having a history of brain damage and head trauma leading to anesthesia; being treated with any type of psychiatric medication, based on their reports and medical records.

All participants were screened for depressive symptoms using two questionnaires, the Persian version of EPDS developed by Cox et al. as cited in Ramchandani et al. (45) and the Persian translation of DADP (46). Women who scored positive on both of questionnaires (i.e., EPDS $\geq$ 12 and DADP $\geq$ 3) were assigned to the DM group. Meeting cut-off point in one questionnaire doesn't accomplish the severity that is required for inclusion criteria. Five participants had the required cut-off point for only one of the questionnaires and were excluded from the study. Women who did not meet any criteria for AD were assigned to the NDM group. Then, Persian translation of the Interview-R version, adapted for the antenatal period (49) to explore and compare the maternal representations between DM and NDM. Interview-R was performed and recorded by a trained PhD of clinical psychology. This procedure was performed in a private room, individually, and lasted approximately 40 to 50 minutes. Current study was approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences. All participants signed an informed consent form stating that they understood that they were participating in the study and agreed to publish the research results as a group analysis within an academic context. Participants were given the right to terminate their participation at any time.

### 2.2. Measure

#### 2.2.1. Interview-R Version Adapted for the Antenatal Period

The Interview-R (49) is a method to evaluate maternal representations. It includes an initial section that asks open-ended questions about important events that had a positive or negative effect on the life of the mother and family during and before pregnancy; the amount of emotional support received from others; and questions about pregnancy itself and baby waiting to be born that includes representations of the mother of the future child, herself as the mother, the wife as the father of the child, own mother-as mother, and changes in her relationship with her mother since she became pregnant and her current emotions. The mother is asked to rate the descriptions provided for each representation in the context of a set of identified adjectives on a Likert bipolar scale. For example, the mother is asked to rate her perception of her child by placing a mark on points along the continuum (Figure 1).

Data are quantified by calculating the distance between the negative pole (i.e., aggressive) and the mother's mark. The scale of answers varies from 0 to 100. Two independent translators translated the French version of the questionnaire into Persian. Both translations synthesized by a clinical psychologist fluent in both languages and presented in the final format. Based on the purpose of the study, it is necessary to mention that only the quantitative parts of the interview-R were used in the current study. Questions about therapy and qualitative parts were not included since our study is non- interventional, and intervention efficacy was of no concern.

### 2.3. Edinburgh Postnatal Depression Scale (EPDS)

EPDS is a self-report scale that is widely used for measuring and screening of depressive symptoms during the perinatal period (both antenatal and postnatal). Each of the 10 items is scored on a four-point scale (0 to 3), with an overall score of 0 to 30. According to Murray and Carothers (51), EPDS is a reliable tool for identifying depressive mothers (sensitivity 81.1% with a limit of 12.5). It was validated during pregnancy (52). We used the Persian version that Cronbach's $\alpha$ coefficient and test–retest reliability were found to be 0.86 and 0.80, respectively (53). Scores below 12 are considered non-depressed, and scores equal to 12 or higher are considered depressed.

### 2.4. Dépistage Antenatal de la Dépression Postnatale (DADP)

The DADP (54) is a questionnaire to assess antenatal depression from an epidemiological perspective. The DADP contains six items, including four psychological aspects (blaming oneself, difficulty to fall asleep or to stay asleep, feeling lonely and feeling that others do not understand you or others do not empathize with you) and two somatic items (for example presence of itching and lower back pain). In the final version, DADP (31) includes the same six items enhanced with a better presentation for easier implementation. It has a supplement item that assesses a pregnant woman's relationship with her own mother during pregnancy. Pregnant women experiencing their first pregnancy should have a score of 3 or higher in the first 6 items, and their complementary item should also be positive to identify at risk for postpartum depression. This questionnaire enables rapid detection of pregnant women with mild and unrecognizable symptoms of depression and recognizes the importance of somatic issues during pregnancy. The reliability of DADP was confirmed for Persian sample with Cronbach's $\alpha$ coefficient of 0.51.

## 3. Result

T-test comparisons were carried out to compare Interview-R adjectives scores of the DM and NDM groups. It revealed significant differences among the groups for 72% (13 of 33) of adjectives (Table 1). Compared to NDM, the overall ratings of child, self, partner, and own mother were significantly less positive in all four representational areas of DM (Table 1). The correlation between groups (the intergroup correlation) of adjectives are presented in more details in Tables 2 - 4, among the ratings of self and child, child and partner , self and partner, self and own mother. In DM group, the characteristics of self as mother and child were highly intercorrelated (28 of 49 were significant), see Table 2. Compared to NDM where only 16 of 49 characteristics were significant (Table 3). On the other hand, there was a less significant correlation among the characteristics of the partner and of the child in the DM (14 of 49) compared to NDM, in which in the NDM rating had the highest association between child and partner (24 of 49). In other words, in DM group, representation of child was relatively dependent on representation of themselves and at the same time independent of representation of partners, while it was the opposite in the NDM group.

As Table 4 shows, the correlations among the adjectives of the self-as-mother and own-mother shows high significant links among perceived qualities of self-as-mother and those of her own mother in both groups (31 of 84 in DM and 29 of 84 in NMD) were significant. Two-way ANOVA was performed to assess the difference among mother's attributions of herself as a mother and attributions of her mother in the DM and NDM groups (Table 5). When both groups of DM and NDM were compared in their common traits, the characteristics of self as-mother and own mother showed a significant difference. Depressed mothers in fearful/confident, available/busy or preoccupied and controlling/Laissez-faire, gave themselves higher scores as mothers while non-depressed group gave their mothers higher scores. The pattern of differences between DM and NDM was statistically significant (Table 5).

**Table 1.** Demographic Characteristics, Means, Standard Deviations, and *t*-Test Results of Adjectives Lists of Interview-R of DM and NDM

| Characteristics | DM Group (N = 93), Mean ± SD | NDM Group (N = 97), Mean ± SD | *t* | P |
|---|---|---|---|---|
| **Age** | 26.67 ± 4.48 | 26.60 ± 4.65 | 1.61 | NS |
| **Weeks of pregnancy** | 29.61 ± 4/00 | 30.30 ± 3.63 | 1.24 | NS |
| **Years of education** | 11.55 ± 2.45 | 10.95 ± 2.12 | 0.14 | NS |
| **Child** | | | | |
| Inactive/Active | 76.82 ± 13.80 | 78.64 ± 15.41 | 0.85 | 0.39 |
| Quiet/Excited | 66.93 ± 20.78 | 76.19 ± ± 14.89 | 3.52 | 0.00* |
| Aggressive/Peaceful | 68.76 ± 27.20 | 85.31 ± 13.54 | 5.31 | 0.00* |
| Extravert/Introvert | 77.09 ± 16.91 | 75.31 ± 19.94 | -0.66 | 0.50 |
| Beautiful/Ugly | 88.11 ± 15.95 | 78.85 ± 11.83 | -3.99 | 0.00* |
| Affectionate/Not very affectionate | 74.40 ± 18.50 | 78.64 ± 15.95 | 1.68 | 0.00* |
| Fearful/Confident | 78.27 ± 13.07 | 84.79 ± 8.42 | 4.08 | 0.05* |
| **Self as mother** | | | | |
| Not very affectionate/Affectionate | 80.16 ± 15.83 | 88.30 ± 10.15 | -0.18 | 0.00* |
| Fearful/Confident | 72.74 ± 15.31 | 72.34 ± 14.72 | -2.66 | 0.85 |
| Available/Busy or preoccupied | 89.83 ± 15.20 | 84.29 ± 13.34 | -1.09 | 005* |
| Controlling/Laissez-faire | 81.66 ± 18.85 | 78.38 ± 22.08 | 1.89 | 0.27 |
| Happy in the mother role/Unhappy in the mother role | 82.17 ± 13.70 | 82.17 ± 13.70 | 1.89 | 0.06 |
| Carefree/Worried | 83.49 ± 18.03 | 87.91 ± 13.44 | 1.01 | 0.05* |
| Role of mother difficult/Role of mother easy | 67.49 ± 9.82 | 62.44 ± 9.97 | -3.50 | 0.00* |
| **Own mother** | | | | |
| Not very affectionate/Affectionate | 87.31 ± 15.82 | 94.37 ± 13.12 | -0.18 | 0.00* |
| Tolerant/Not very tolerant | 88.22 ± 10.52 | 95.33 ± 13.77 | -2.66 | 0.00* |
| Fearful/Confident | 76.02 ± 14.66 | 84.63 ± 13.88 | -1.09 | 0.00* |
| Available/Busy or preoccupied | 70.86 ± 19.58 | 85.15 ± 17.29 | 1.89 | 0.00* |
| Carefree/Worried | 70.86 ± 19.58 | 89.79 ± 13.53 | 1.89 | 0.00* |
| Impatient/Patient | 86.66 ± 13.54 | 91.25 ± 14.67 | 1.01 | 0.02* |
| Authoritarian/Permissive | 69.73 ± 17.12 | 73.44 ± 16.89 | -3.50 | 0.13 |
| Serious/Playful | 75.48 ± 23.24 | 81.51 ± 15.54 | 2.10 | 0.03* |
| Not very giving/Giving | 80.10 ± 18.85 | 86.97 ± 15.22 | 2.76 | 0.00* |
| Controlling/Laissez-faire | 53.81 ± 29.43 | 64.16 ± 21.18 | 2.78 | 0.00* |
| Happy in the mother role/Unhappy in the mother role | 79.89 ± 20.54 | 90.31 ± 14.46 | 4.04 | 0.00* |
| Role of mother difficult/Role of mother easy | 57.41 ± 13.00 | 56.79 ± 8.64 | -0.39 | 0.69 |
| **Partner** | | | | |
| Inactive/Active | 76.34 ± 16.84 | 72.96 ± 13.48 | -1.52 | 0.12 |
| Calm/Excited | 63.70 ± 23.03 | 85.11 ± 18.72 | 6.99 | 0.00* |
| Aggressive/Peaceful | 60.32 ± 16.23 | 75.93 ± 16.72 | 6.51 | 0.00* |
| Introvert/Sociable | 72.63 ± 28.95 | 75.06 ± 21.64 | 0.65 | 0.51 |
| Beautiful/neither beautiful nor ugly | 71.93 ± 15.28 | 78.33 ± 15.50 | 2.85 | 005* |
| Receptive/Not very receptive | 69.06 ± 24.28 | 79.35 ± 16.95 | -3.38 | 0.00* |
| Fearful/Confident | 76.34 ± 16.84 | 85.79 ± 11.82 | -1.20 | 0.23 |

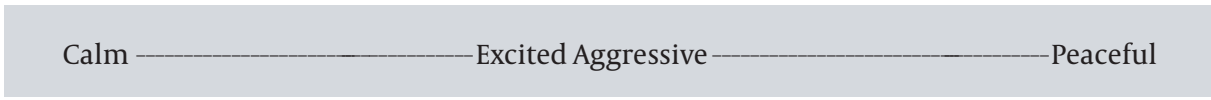


**Figure 1.** Likert Bipolar Scale

**Table 2.** Correlations Between Representations of Self as Mother/Child in DM and NDM Groups

| Representations of Child | Representations of Self as Mother | | | | | | |
|---|---|---|---|---|---|---|---|
| | Affectionate/Not Very Affectionate | Fearful/Confident | Available/Buy or Preoccupied | Controlling/Laissez-Happy/Unhappy Faire | | Carefree/Worrid | Role of Mother Difficult/Role of Mother Easy |
| **Inactive/Active** | | | | | | | |
| DM | 0.56** | - | - | 0.54** | - | - | - |
| NDM | - | - | - | 0.29** | - | - | - |
| **Quiet/Excited** | | | | | | | |
| DM | - | 0.32** | - | 0.20* | 0.49** | - | - |
| NDM | 0.48** | 0.31** | - | - | - | 0.28** | - |
| **Aggressive/Peaceful** | | | | | | | |
| DM | 0.40** | -0.25* | - | - | - | 0.31** | - |
| NDM | 0.43** | 0.35** | - | - | 0.30** | 0.28** | - |
| **Extravert/Introve** | | | | | | | |
| DM | - | - | 0.45** | 0.35** | 0.37** | 0.41** | -0.34** |
| NDM | - | 0.39** | -0.31** | - | 0.27** | -0.23** | -0.31** |
| **Beautiful/Ugly** | | | | | | | |
| DM | 0.24** | - | 0.38** | 0.59** | 0.52** | 0.81** | -0.36** |
| NDM | 0.32** | - | 0.33** | - | - | - | - |
| **Affectionate/Not very affectionate** | | | | | | | |
| DM | 0.49** | -0.23** | - | 0.26* | - | - | - |
| NDM | - | - | - | - | - | - | - |
| **Fearful/Confident** | | | | | | | |
| DM | - | 0.42** | 0.37** | 0.48** | 0.31** | 0.58** | -0.45** |
| NDM | - | - | - | - | - | - | - |

[a] *P < 0.05; ** P < 0.01

## 4. Discussion

This study aimed to compare the contents of antenatal maternal representations between DM and NDM. According to the results, DM described their children less with traits such as calm and peaceful, but they described them very beautiful children. Moreover, DM described themselves as highly available, worried, happy, and controlling mothers. Although DM, described their spouses as confident men, they less characterize them with characteristics, such as calm, peaceful, receptive. They described their own mothers as, patient, happy and moderately affectionate mother but also, less confident and authoritarian. While NDM described their children as very peaceful and confident, themselves as very emotional, happy, worried, and less controlling mothers, and their husbands as calm, peaceful, and receptive men. NDM characterized their mothers as very emotional, patient, happy, less controlling, and mothers who found their role as mothers very difficult. In general, DM significantly differed from NDM in representations of (child, self-as-mother, partner, and own mother-as-mother.) which is to confirm our hypothesis. Consistent with our finding, Pajulo et al. (46) has in-

**Table 3.** Correlations Between Representations of Partner/Child in DM and NDM Groups [a]

| Representations of Child | Representations of Partner | | | | | | |
|---|---|---|---|---|---|---|---|
| | Inactive/Active | Exited/Calm | Aggressive/Peaceful | Introvert/Sociable | Beautiful/Ugly | Receptive/Not Very Receptive | Fearful/Confident |
| **Inactive/Active** | | | | | | | |
| DM | - | 0.46** | - | - | - | -0.46** | - |
| NDM | 0.30** | -0.30* | 0.25* | - | - | 0.50** | 0.36** |
| **Quiet/Excited** | | | | | | | |
| DM | - | - | - | - | 0.56** | 0.29** | -0.42** |
| NDM | 0.34** | 0.28** | - | 0.38** | - | 0.29** | 0.42** |
| **Aggressive/Peaceful** | | | | | | | |
| DM | 0.32** | - | - | 0.52 | - | 0.29** | - |
| NDM | - | - | - | - | - | - | 0.46** |
| **Extravert/Introvert** | - | - | - | - | - | - | |
| DM | - | - | - | - | 0.51** | 0.60** | - |
| NDM | - | 0.27** | - | 0.23** | - | 0.28** | - |
| **Beautiful/Ugly** | | | | | | | |
| DM | - | - | 0.37** | - | - | 0.21** | - |
| NDM | 0.46** | 0.21** | 0.38** | 0.46** | - | 0.24** | 0.26** |
| **Affectionate/Not very affectionate** | | | | | | | |
| DM | 0.30** | - | - | -0.29** | 0.23* | - | - |
| NDM | - | -0.42** | - | 0.26** | 0.23* | -0.73** | - |
| **Fearful/Confident** | | | | | | | |
| DM | - | 0.29* | - | - | - | - | - |
| NDM | - | - | 0.29** | - | -0.53** | 0.53** | 0.21* |

[a] *P < 0.05; ** P < 0.01

dicated that all representations (child, self as mother, own mother, and partner) in the risk group are significantly different from the low-risk group. While Flykt, et al. (55) found significant differences only in self as woman and partner. To answer our research questions, we found DM rated the child less positively than NDM, with one exception (beauty). The tendency to rate the child less positively in the DM group is consistent with the results of Ammanitt et al. (39, 56), but Pajulo et al. (46) reported that the depressed mothers rated their child more positive than non-depressed mothers which can be a sign of idealization defense in the depressed mothers. Moreover, the less positive attitude toward their child is supported by the less positive attitude toward their spouse, which is consistent with the results of previous studies (39, 40, 55, 56). Comparing the representation of child and the self as a mother between DM and NDM indicated that the characteristics/traits that DM attribute to their future child are more closely related to the characteristics/traits that they attribute to themselves. On the other hand, among NDM, traits attributed to the child are more correlated with traits attributed to the spouse. This finding is consistent with the literature (39, 40, 46, 47).

Results of our study showed that DM tended to give lower scores to their mothers than themselves, which is consistent with previous studies (46, 47, 55). NDM, on the other hand, found their mother more positive than themselves, which is not supported by previous studies. The results make different profiles from mother and own mother representation in our study of the DM and NDM group, so that in the ratings of availability, control and confident, as common traits, self as mother was more positive than own mother in DM, unlike non-NDM who saw their mothers as more positive than themselves. The new finding of this research compared to other studies is that, DM was less differentiated from their child. In other words, they create the image of their child more by projecting their own characteristics on the child. Therefore, by placing the results

**Table 4.** Correlations Between Representations of Self As Mother/Own Mother in DM and NDM Groups [a]

| Representations of Own Mother | Representations of Self as Mother | | | | | | |
|---|---|---|---|---|---|---|---|
| | Not Very Affectionate/Affectionate | Fearful/Confident | Available/Busy or Preoccupied | Controlling/Laissez-Faire | Happy in the Mother Role/Unhappy in the Mother Role | Carefree/Worried | Role of Mother Difficult/Role of Mother Easy |
| **Not very affectionate/Affectionate** | | | | | | | |
| DM | -0.23* | -0.24* | -0.25* | -0.55** | -0.45** | -0.43** | 0.65** |
| NDM | - | -0.31* | 0.24* | - | - | 0.31** | 0.49** |
| **Tolerant/Not very tolerant** | | | | | | | |
| DM | - | - | - | -0.27* | - | - | - |
| NDM | - | - | - | -0.22** | - | - | - |
| **Fearful/Confident** | | | | | | | |
| DM | - | - | - | -0.28** | - | - | - |
| NDM | - | - | - | 0.38** | - | - | - |
| **Available/Busy or preoccupied** | | | | | | | |
| DM | 0.49** | - | - | 0.36** | 0.22** | 0.52** | - |
| NDM | - | 0.20* | - | - | - | -0.27* | - |
| **Carefree/Worried** | | | | | | | |
| DM | 0.39** | -0.21* | - | - | 0.33** | - | - |
| NDM | - | - | -0.29** | -0.35** | -0.20* | - | - |
| **Impatient/Patient** | | | | | | | |
| DM | - | - | - | - | - | 0.35** | - |
| NDM | -0.23* | - | -0.33** | - | -0.35** | - | - |
| **Authoritarian/Permissive** | | | | | | | |
| DM | - | -0.25* | - | - | 0.45** | - | - |
| NDM | - | 0.38** | - | -0.54** | - | - | - |
| **Serious/Playful** | | | | | | | |
| DM | 0.48** | - | - | 0.27** | 0.41** | - | - |
| NDM | - | -0.55** | - | - | - | -0.55** | - |
| **Not very giving/Giving** | | | | | | | |
| DM | 0.52** | - | - | - | - | - | - |
| NDM | -0.26* | -0.55** | - | -0.49** | -0.55** | - | -0.49** |
| **Controlling/Laissez faire** | | | | | | | |
| DM | - | -0.35** | - | - | 0.20* | - | - |
| NDM | - | - | -0.27** | -0.49** | - | - | - |
| **Happy/Unhappy** | | | | | | | |
| DM | - | - | -0.74** | 0.20* | 0.22* | - | 0.25* |
| NDM | - | - | - | -0.34** | - | - | - |
| **Role of mother difficult/Role of mother easy** | | | | | | | |
| DM | - | - | - | -0.21* | - | 0.30** | - |
| NDM | - | -0.33** | - | 0.50** | - | 0.31** | - |

[a] *P < 0.05; **P < 0.01

of this research next to other studies in this field, it can be said, cautiously, that DM had less identification with their own mothers and less differentiation from their children. On the other hand, NDM had more identification with their own mothers and more differentiation from their children. These findings appear consistent with literature (37-39) and some clinical experiences (57) which underline the view that, in every woman, the emotional experience of the first pregnancy and parenthood reactivates the problems related to separation - individuation from her own mother. The internal identification with her own mother is heightened by the normal experienced regression in preg-

**Table 5.** Representations of Maternal Characteristics [a]

| Commen Adjectives | Group | Self as Mother (M ± SD) | Own Mother (M ± SD) | Comparison of the Groups | | | Comparison of the Target Views | | | Comparison of the Groups in Target View Distances | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | F | df | p | F | df | p | F | df | P |
| Not very affection-ate/Affectionate | DMNDM | 94.30 ± 13.30 /88.30 ± 10.15 | 87.31 ± 15.82/80.67 ± 15.87 | 19.309 | 1 | 0.000 | 25.829 | 1 | 0.000 | 0.049 | 1 | 0.825 |
| Fearful/Confident | DMNDM | 84.56 ± 13.92/72.34 ± 14.72 | 76.02 ± 14.66/73.17 ± 15.42 | 24.826 | 1 | 0.000 | 6.506 | 1 | 0.011 | 9.521 | 1 | 0.002 |
| Available/Busy or preoccupied | DMNDM | 85.430 ± 17.10/84.291 ± 13.34 | 70.860 ± 19.58/89.42 ± 15.57 | 26.258 | 1 | 0.000 | 7.695 | 1 | 0.06 | 33.567 | 1 | 0.000 |
| Controlling/Laisse faire | DMNDM | 63.76 ± 21.08/78.38 ± 22.08 | 53.81 ± 29.43/81.510 ± 18.93 | 78.698 | 1 | 0.007 | 2.045 | 1 | 0.154 | 7.509 | 1 | 0.006 |
| Happy in the mother role/Unhappy in the mother role | DMNDMd | 90.107 ± 14.63/82.177 ± 13.705 | 79.89 ± 20.54/77.552 ± 23.20 | 7.306 | 1 | 0.007 | 15.253 | 0 | 0.000 | 2.164 | 1 | 0.142 |
| Carefree/Worried | DMNDM | 90.215 ± 13.01/87.916 ± 13.44 | 77.52 ± 19.47/83.281 ± 18.16 | 1.066 | 1 | 0.30 | 26.777 | 0 | 0.000 | 5.786 | 1 | 0.017 |
| Role of mother difficult/Role of mother easy | DMNDM | 56.78 ± 8.70/62.44 ± 9.97 | 57.41 ± 13.00/67.166 ± 9.91 | 50.757 | 1 | 0.000 | 6.125 | 1 | 0.014 | 3.565 | 1 | 0.060 |

[a] *P < 0.05; ** P < 0.01

nancy. What we saw in this research about non-depressed women. For a non-depressed woman" whose experience with her own mother was good enough, the temporary regression to a primary identification with the omnipotent, fertile, life giving mother as well as with herself as if she were her own child, is a pleasurable developmental phase in which further maturation and growth of self may be achieved" (57). While, in a depressed mother, maternal preconceptive ambivalences and unresolved conflicts with the pregnant woman's mother may distort identification with her own mother for them, and the inevitable regression occasioned by pregnancy and motherhood may be a painful and frightening experience. Consequently, they feel the need to be independent emotionally from their own mothers and attempt to define their own new identity by idealizing their own characteristics and parental skills (51). or to be the 'opposite' to her mother, and parallel to the problem in identification with her own mother, positive and negative aspects of the self and her internal mother may be projected on to unseen fetus. In fact, in line with some results of clinical experiences (57) that emphasizes the dialectic during this period between desire to fusion and the desire to individuality.

In our study, NDM sees her child more like her husband than herself. This may help the mother avoid the risk of fusion with her child if she projects her own characteristics on her child. On the other hand, in DM, we saw that the mother's representations of her child were more dependent on the representation of herself which is a sign of less differentiation of these women with their children.

Regarding the small sample size and methodological constraints, these results should be interpreted with great caution. Although, the continuation of the difference between the contents of representations between depressed and non-depressed mothers from antenatal to the postnatal periods was not investigated, when the baby is born is very critical for women who have experienced depression during pregnancy. When they encounter the child in real situations the effects of the representations being enacted becomes essential at this point.

Eventually, the findings of this research validate the importance of further studies of maternal representations in antenatal women, especially among women with depressive symptoms. As well as study of the pre/postnatal change of maternal representations in depressed samples are recommended for further research. Furthermore, the results of this study can provide important information for clinical purposes, such as screening during pregnancy and designing preventive and therapeutic interventions to reduce the negative effects of depression during pregnancy and transfer to the postpartum period and the mother-baby interaction.

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## Footnotes

**Authors' Contribution:** Study concept and design: R.A and SH.SH.; acquisition of data: R.A; analysis and interpretation of data: R.A., and SH.SH.; drafting of the manuscript:

R.A., and SH.SH.; critical revision of the manuscript for important intellectual content: R.A., and SH.SH., and M.P.T; statistical analysis: R.A., and SH.SH., and M.M; administrative, technical, and material support: R.A., and M.A; study supervision: SH.SH.

**Conflict of Interests:** The authors declare that they have no conflict of interest.

**Data Reproducibility:** I have uploaded my research data as well as my research tools throughout this submission, but - due to restrictions, eg privacy or ethics - I don't want it to be openly available to readers.

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