Original Article

Access this article online

Quick Response Code:

Website: www.jehp.net

DOI: 10.4103/jehp.jehp_1038_22

The mediating role of body image concern in the relationship between immature defense mechanisms and postpartum depression in Iranian women

Rana Shakib Haji Agha, Mohsen Kachooei

Abstract:

BACKGROUND: Postpartum depression leaves irredeemable impacts on a mother's mental health and her child. Little is known about the relationship between immature defense mechanisms and body image concerns or postpartum depression. The present study examines the mediating role of body image concerns in the relationship between immature defense mechanisms and postpartum depression.

MATERIALS AND METHODS: In a correlational study, 227 women were selected through a convenience sampling method from all women in the postpartum period in medical centers in 2021 in Tehran, Iran. The participants were asked to fill out the Edinburgh Postnatal Depression Scale (EPDS), the Defense Style Questionnaire-40 (DSQ-40) by Andrews *et al*., and the Body Image Concern Inventory (BICI). The collected data was analyzed using the IBM SPSS Amos 24 and SPSS 21 software.

RESULTS: There was a positive correlation between body image concern, immature defense mechanisms, and postpartum depression. Furthermore, body image concern was a mediator in the relationship between immature defense mechanisms and postpartum depression. The immature defense mechanisms had an indirect positive impact on depression due to the concerns over one's body image after giving birth ($P > 0.05$).

CONCLUSION: Immature defense mechanisms and body image concerns can increase the risk of postpartum depression. Therefore, providing mental health and psychiatric services to expecting mothers is an effective tool to decrease the activation of immature defense mechanisms, which would reduce their body image concerns and prevent them from falling into postpartum depression.

Keywords:

Body image, defense mechanisms, depression, postpartum

Introduction

According to DSM-5-TR, postpartum depression (PPD) occurs when one is diagnosed with major depressive disorder (MDD) in the first four weeks of the postpartum period. Some experts consider any depressive episode in the first 18 months of the postpartum period within the category of postpartum depression.[1,2] In Iran, the prevalence of postpartum depression is reportedly between 16% and 40%.[3] Its significant symptoms include low mood, anhedonia, irritability, forgetfulness, guilt, sleep disorders, anxiety, and lack of productivity.[4] The postpartum stage is the transitory stage to another realm of experience that introduces mothers to new roles, patterns, and communications, which

Department of Psychology, Humanities Faculty, University of Science and Culture, Tehran, Iran

Address for correspondence:
Dr. Mohsen Kachooei, Department of Psychology, Humanities Faculty, University of Science and Culture, Tehran, Iran.
E-mail: kachooei.m@usc.ac.ir

Received: 21-07-2022
Accepted: 30-11-2022
Published: 31-10-2023

How to cite this article: Shakib Haji Agha R, Kachooei M. The mediating role of body image concern in the relationship between immature defense mechanisms and postpartum depression in Iranian women. J Edu Health Promot 2023;12:344.

mothers need to accommodate.[5] A depressed mother lacks the sense of responsibility and responsiveness necessary to care for all of her child's needs. She faces many difficulties in interacting with the child, which threaten the baby's emotional and cognitive development to a great degree and might even lead to negligence in the child's caregiving.[6] On the other hand, children of mothers who had postpartum depression are 3 to 5 times more likely to suffer from depression than their peers.[2]

Multiple psychological, social, and cultural factors can contribute to postpartum at different periods.[7] One of the most important contributing factors to postpartum depression is defense mechanisms.[8] Freud defines defense mechanisms as subconscious measures that one's "self" takes to deal with negative emotions, especially anxiety, when they arise. These measures do not alter the tense environment. Instead, they only change one's understanding and approach to the situation. Therefore, defense mechanisms can be defined as the mental processes one uses to cast away painful feelings and thoughts from one's conscious mind.[9] Andrews *et al*. introduced 20 defense mechanisms based on Vaillant's hierarchical selection in the following styles: immature, neurotic, and mature. Immature and neurotic defense mechanisms are the inappropriate and ineffective measures one takes to deal with problems, and mature defense mechanisms are the appropriate and effective measures one takes to deal with issues.[1,2] There is a significant and positive relationship between immature defense mechanisms and mental distress.[10] There is also a relationship between immature defense mechanisms and depression.[11] Therefore, due to the significant association observed between immature defense mechanisms and depression, it is essential to assess this relationship in a new light and examine the contributing factors in said relationship.

One of the possible contributing psychological factors is one's body image concern. Body image is how one sees one's physical attributes and body.[12] The fact of the matter is that through different stages of their life, one forms an image of one's appearance inside one's head wormed by biological, environmental, and psychological factors.[13]

Body image concern indicates a mental occupation about a specific appearance. This flaw is either non-existent in the real world, or one tends to blow it out of proportion even if such a flaw does exist, and this creates much pain for the individual.[14] The difference between one's ideal body image and one's actual body image can cause issues for the individual, resulting in several mental disorders. Therefore, dissatisfaction with one's body image can lead to depression and hurt their self-image and self-esteem.[15,16] Multiple studies have indicated a relatively strong and significant relationship between one's body image and depression.[17] Furthermore, dissatisfaction with one's body image poses severe risks to women's emotional, mental, professional, and social lives and increases the risk of depression.[18]

Therefore, it can be concluded that immature defense mechanisms and body image concerns impact postpartum depression. We need to understand these factors better and study the relationship between immature defense mechanisms, body image concerns, and postpartum depression. This study attempts to discover the mediating role of body image concern on the relationship between immature defense mechanisms and postpartum depression.

Materials and Method

Study design and setting

This is a descriptive and correlational study, and the population for this study was chosen from all the women who were in the postpartum period in 2021 in Tehran, Iran.

Study participants and sampling

After receiving ethical code from the committee of ethics in research in Royan Institute, and also after obtaining Iran University of Medical Sciences's license for obtaining samples from healthcare facilities under its direction in the west and northwest of Tehran, the researchers visited these facilities with prior notice. Since the statistical population consisted of new mothers, and for the sake of keeping peace of mind of these women, the process of completing questionnaires was carried out by female colleagues. Also, the situation caused by the COVID-19 pandemic in all parts of the country, and particularly the healthcare system, left us no choice but to send questionnaires as Google Forms to participants. Questionnaires were distributed among people who were willing to participate in the research. As such, participants declared their consent to take part in it. Then, introductory explanations about filling questionnaires were given to participants. Finally, the participants were reminded that they could quit of their own will at any time.

To determine the size of the sample population, multivariable regression models were followed. To select the size of the sample population using multivariable regression models, for each variable that is analyzed, 5 to 15 observations are taken into account.[19] Since the number of the analyzed variables equals 12 subscales, the size of the sample population should be at least 60, and the ideal height should be estimated at 180. Since there is always a chance that some participants may exit the study amid evaluations,

the number of the participants was chosen as 230. The participants were selected through the convenience sampling method and based on the entry and exit criteria for regression testing. After removing the distorted data from the study, the collected data of 227 participants were analyzed. The entry criteria for the study included the participants' consent for participating in the study, being in the age range of 20–45 years, having at least a high school diploma, having given birth at least two weeks ago till two months ago, having no prior history of being diagnosed with mental disorders, and having no history of substance abuse or drugs that would affect one's mood. And the exit criteria included the participant's unwillingness to continue participating in the study and handing out distorted questionnaires.

Data collection tool and technique

The data collection tools that were used in this study are listed below:

Demographic Questionnaire: The participants of the study were asked to fill in their reliable demographic information (e.g., age, education, occupation, and the type of childbirth) and information about the entry and exit criteria in the questionnaire.

Edinburgh Postpartum Depression Scale (EPDS): This scale was introduced by Edinburgh in 1987 to examine postpartum depression and consists of 10 items. The score on this scale varies from 0 to 30, and the participants who score 12 or more suffer from postpartum depression. The higher the participants' scores, the more depression symptoms are observed in them and vice versa. Peindl *et al*.[20] estimated the reliability of the EPDS to be 88%–91% and its validity to be 76%. In Iran, Behboudi reported the test-retest reliability of this questionnaire as 88% and its internal reliability as 90% using Cronbach's alpha or coefficient alpha. Furthermore,[3] Mazhari reported the reliability of this questionnaire to be 95.3% and its validity as 87.9%.[4]

Defense Style Questionnaire-40 (DSQ-40): Andrews *et al*.'s Defense Style Questionnaire has 40 items that are evaluated within a nine-point Likert scale (from "totally agree" to "totally disagree") and examines the three mature, neurotic, and immature defense mechanism styles. Items 2, 3, 5, 7, 21, 24, 29, and 35 examine mature defense mechanisms, items 1, 6, 11, 17, 28, 33, 34, and 40 examine neurotic defense mechanisms, and the rest examine immature defense mechanisms. Andrews *et al.* reported significant Cronbach's alpha coefficients for each questionnaire subscale, including 0.83%–0.94% for mature defense mechanisms, 0.81%–0.92% for immature defense mechanisms, and 0.79%–0.91% for neurotic defense mechanisms. Furthermore test-retest reliability for mature defense mechanisms was reported to be 0.73%–0.87%, for immature defense mechanism 0.71%–0.84%, and for neurotic defense mechanism 0.69%–0.78%.[21]

Body Image Concern Inventory (BICI): This inventory was introduced by Littleton *et al.* in 2005 and has 19 items, the answers to which are designed within the range of "never' to "always". Littleton *et al*. reported the Cronbach's alpha coefficient for this questionnaire to be 0.93% and the reliability of this questionnaire based on the Padua Obsessive-Compulsive Inventory (0.52) and the Eating Disorder Examination Questionnaire (0.40) at a significant rate ($P > 0.001$).[5] Furthermore, the correlation coefficient of this questionnaire and the Multidimensional Body–Self Relations Questionnaire was reported to be 0.63.[22] In Iran, Basak Nezhad and Ghafari, who conducted a study on a sample of university students, reported the reliability of Cronbach's alpha coefficient for the BICI as 0.93, 0.95, and 0.95 for female students, male students, and the entire body of students, respectively.[6] The Fear of Negative Evaluation Scale was used to calculate the validity coefficient.[23] The correlation coefficient between the BICI and the Fear of Negative Evaluation Scale was $r = 0$, which was significant at $P > 0.001$.[24]

The collected data was analyzed using IBM SPSS Amos 24 and SPSS 21 software. First, the correlation between the variables was estimated using the Pearson correlation coefficient. Then, to examine the mediating role of body image concern on the relationship between immature defense mechanisms and postpartum depression, the theoretical pattern in Figure 1 was introduced. The Chi-squared test results proved to be insignificant, and the following equation χ^2/df resulted in scores lower than 3 proving the goodness of fit for the pattern introduced in this study.[25,26] Since the Chi-squared score is sensitive to the size of the sample population and to examine the goodness of fit for the patterns, the Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Square Error of Approximation (RMSEA) were used. Scores higher than 0.95 for CFI, GFI, and AGFI and scores lower than 0.05 for RMSEA indicate

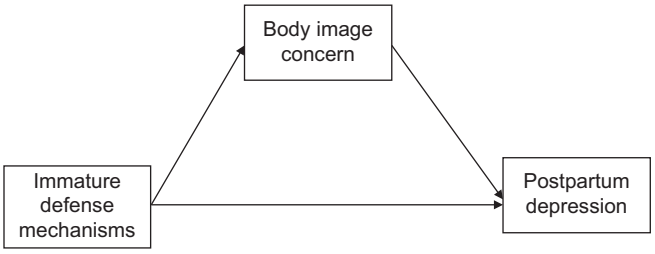

Figure 1: The contextual pattern of the mediating role of body image concern in the relationship between immature defense mechanisms and postpartum depression

the desired goodness of fit displayed by the pattern.[27,28] To determine the indirect significance, the bootstrap method was used.

Ethical considerations

The research was approved by the committee of ethics in research in Royan Institute with the code IR.ACECR.ROYAN.REC.1398.232, and then permission was obtained from the Iran University of Medical Sciences to conduct sampling in the affiliated health centers of this university in the west and northwest of Tehran.

Results

The mean and standard deviation of variables related to the two groups of participants are shown in Table 1. The mean and standard deviation of the variables of immature defense mechanisms, body image concern, and postpartum depression, along with their correlation coefficients, are demonstrated in Table 2.

The path analysis method was used to test the patterns introduced in Figure 1. In this pattern, the direct path from the immature defense mechanisms to postpartum depression was statistically significant ($P = 0.018$). The GFI of this model is demonstrated in Table 3. The final model's GFI score indicates that the presumed pattern showed the desired goodness of fit with the collected data [Figure 2]. The indirect impact using the bootstrap method, demonstrated in Table 4, suggests the mean role of the body image concern in significantly predicting the emergence of postpartum depression because of the immature defense mechanisms. The indirect impact of immature defense mechanisms on postpartum depression is estimated at 0.11, which is statistically significant ($P < 0.001$). In the final model, the mediating role of body image concern predicts 0.13% of the variance of body image concern by immature defense mechanisms and predicts 0.16 of the variance of postpartum depression by immature defense mechanisms, mediated by body image concern

The examination of the indirect impact using the bootstrap method, detailed in Table 4, indicates the mediating role of body image concerns in significantly predicting the relationship between immature defense mechanisms and postpartum depression.

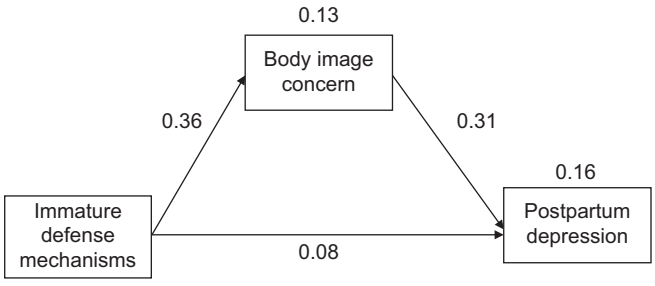

Figure 2: The model of the mediating role of body image concern in the relationship between immature defense mechanism and postpartum depression

Discussion

The current study attempts to study the mediating role of body image concerns on the relationship between immature defense mechanisms and postpartum depression. The results of this study indicate that there is a significant and positive correlation between immature

Table 1: Ethnographic characteristics of participants

Variables		Number	%
Education	High school graduate	31	13/7
	Associate degree	35	15/4
	Bachelor's degree	92	40/5
	Master's degree	57	25/1
	PhD	12	5/3
Occupation		22	9/7
Government sector			
	Private sector	29	12/8
	Freelancers	38	16/7
	Homemaker	121	53/3
	University student	17	7/5
Type of childbirth	Cesarian	127	55/9
	Natural	100	44/1
Age (20–45)		Mean=28/44	
		Standard deviation=4/55	

Table 2: Mean, standard deviation, and Pearson correlation coefficients between the variables

Variable	1	2	3	Mean (Standard Deviation)
1. Immature defense mechanisms	1			4.23 (0.95)
2. Body image concern	0.357**	1		39.84 (13.95)
3. Postpartum depression	0.271**	0.371**	1	10.09 (5.99)

Pearson correlation coefficient (>0.01* *P*>0.05**)

Table 3: The Goodness of Fit Indexes of the final model to examine the relationship between immature defense mechanisms and postpartum depression: The mediating role of body image concern

	X^2	df	*P*	X^2	CFI	GFI	AGFI	RMSEA
Final model	0.30	1	0.99	0.30	1.000	1.000	0.99	0.00
Acceptable values	-	-	<0.05	<3	<0.95	<0.95	<0.95	>0.05

Table 4: The results of the bootstrap method on the indirect impact of the relationship between immature defense mechanisms and postpartum depression: The mediating role of body image concern

Designated Path	Indirect impact	Level of significance
Immature defense mechanisms → body image concern → postpartum depression	0.11	0.001

defense mechanisms and postpartum depression. The findings of this study fall in line with the results of other similar studies.[10,11,29] Stern indicated that by giving birth to a newborn baby, the mother enters a new and unique mental structure that is closely related to the representations, unconscious processes, emotions, and neglected experiences that were ignored at other moments of life. Therefore, giving birth and the need to reconstruct the conscious and unconscious aspects of one's image of oneself and others may trigger previously unprocessed experiences, including loss and grief. For instance, giving birth to a child might suddenly start the unprocessed experience of losing one's mother in early childhood, the death of a family member to a depressed mother, or one's unavailable and negligent mother. Furthermore, a mother who had previously lost her baby to abortion, while being extremely happy with her new baby, might fall into the depression of losing her child again or experience anxiety about losing her newborn baby.[30,31] On the other hand, primary defense mechanisms function according to one's unconscious pathological instincts, based on one's "self" that is not separately defined from others and cannot form a uniform identity for one. As a result, the individual can be afflicted with several mental disorders, including anxiety and depression.[32]

Furthermore, the findings of this study indicate that there is a significant and positive relationship between body image concern and postpartum depression. The results of this study fall in line with the findings of similar studies in the field.[15-18,33,34] The findings of this study suggest that the most critical role that defense mechanisms play is when individuals cannot find solutions for their problems and what is causing them anxiety using their rational capacity and direct solutions. That is why they will resort to indirect solutions called defense mechanisms to combat what is causing them anxiety. Studies on the predictive feature of defense mechanisms on one's self-acceptance and self-image indicate that women who are in the postpartum period suffer from a lower level of self-acceptance and have a distorted body image and employ defense mechanisms, including denial of a higher degree. In fact, because of their diminished levels of "self," they are prone to internalizing values advocated by others and the media instead of their own.[33] Furthermore, the results of one study conducted on this matter indicate a relatively solid and negative relationship between one's body image and depression.[17,18,34-36] On the other hand, a significant and positive association was observed between one's body image and self-esteem,[37,38] and an opposite relationship was observed between one's self-esteem and depression.[38] The women in the postpartum period had a negative body image. They suffered from a lower level of self-esteem and satisfaction from their appearance because of the fear of others' negative appraisals. The damage to one's self-esteem as the overall feeling of one's self-worth and self-respect results in an increasing negative mood, rumination, and self-blame about one's physical features, which would ultimately cause postpartum depression in women.

It is important to note that no studies have studied the mediating role of body image concern on the direct relationship between immature defense mechanisms and postpartum depression. Therefore, the current research has provided an innovative and hypothetical model to demonstrate the relationship between immature defense mechanisms and postpartum depression. The study results confirm the validity of the theoretical model; therefore, it can be concluded that immature defense mechanisms have a direct and positive impact on body image concerns and an indirect and positive impact on postpartum depression.

Limitations and suggestions for further studies

The limitations of this study include using a self-report questionnaire which may have been subjected to personal bias. Furthermore, since the study participants were selected through convenience sampling, they cannot accurately represent the entire population of women between the ages of 19 and 45 who were in the postpartum period in Tehran. Further studies may be carried out on women under 19 years of age or teenage mothers to study their defense mechanisms. Furthermore, the sample group be chosen from other City of Iran in the months 4-9 after giving birth to better understand the cultural factors contributing to postpartum depression in mothers.

Conclusion

The results of this study indicates that women who suffer from postpartum depression experience more body image concerns and dissatisfaction due to immature defense mean mechanisms, ultimately leading to postpartum depression. By discovering these immature defense mechanisms in women who are in the postpartum period and notifying mothers about their functioning in various situations and the necessary measures to combat them, mental health consultants can help women face the reality of their lives and alter their body image in a way that would help them experience less body image concerns and dissatisfaction. This process would ultimately decrease the risk of postpartum depression in such women.

Ethical consideration

The current study has received the code of ethics from the ethics committee of Royan Research

Center at The Academic Center for Education, Culture, and Research (ethics code: IR.ACER.ROYAN.REC.1398.232).

Acknowledgments

We would like to thank all those who have helped in this research, especially the committee of ethics in research in Royan Institute (IR.ACECR.ROYAN.REC.1398.232), assistant director of research in Iran University of Medical Sciences, healthcare facilities directed by the university, and all mothers who have patiently and earnestly filled out questionnaires.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Barekatain M, Tavakkoli M, Kheirabadi G, Maracy MR. The relationship between life-time prevalence of bipolar spectrum disorders and incidence of postnatal depression. Iran J Psychiatry Clin Psychol 2009;15:183-92.
2. Gharacheh M, Ranjbar F, Azadi S. Women's quality of life and postpartum depression. Iran J Nurs 2018;30:68-77.
3. Nikpour M. Relationship between delivery method and postpartum depression. Journal of Fundamentals of Mental Health. 2012;14(53):46-53.
4. Stuchbery M, Matthey S, Barnett B. Postnatal depression and social supports in Vietnamese, Arabic and Anglo-Celtic mothers. Soc Psychiatry Psychiatr Epidemiol 1998;33:483-90.
5. Stocky A, Lynch J. Acute psychiatric disturbance in pregnancy and the puerperium. Baillieres Best Pract Res Clin Obstet Gynaecol 2000;14:73-87.
6. Shafiee M, Davoodyzade Jolgeh H, Dabirifard M, Dabirifard S, Shafiee M. The relationship between social support and postpartum depression in mothers with premature newborn infants: A critical survey (Persian). Tolooebehdasht 2018;17:81-93.
7. Ghaedrahmati M, Kazemi A, Kheirabadi G, Ebrahimi A, Bahrami M. Postpartum depression risk factors: A narrative review. J Educ Health Promot 2017;6:60.
8. McMahon C, Barnett B, Kowalenko N, Tennant C. Psychological factors associated with persistent postnatal depression: Past and current relationships, defence styles and the mediating role of insecure attachment style. J Affect Disord 2005;84:15-24.
9. Freud S. The ego and the id. In: Strachey J, editor (Trans.). The Standard Edition of the Complete Psychological Works of Sigmund Freud. Vol 19. London: Hogarth Press; 1923. p. 3-59.
10. Crașovana DI, Farcașb LP. Variables associated with the modalities of psychic adaptation (coping mechanisms and psychic defense mechanisms) in depressive disorders. Journal of Educational Sciences & Psychology. 2021;11(1): 234-245.
11. Carvalho AF, Hyphantis TN, Taunay TC, Macêdo DS, Floros GD, Ottoni GL, *et al.* The relationship between affective temperaments, defensive styles and depressive symptoms in a large sample. J Affect Disord 2013;146:58-65.
12. Sears LA. Body Image and Behavior in NCAA Division III Female Athletes Involved in Team Sports in the Midwest. The Ohio State University; 2007.
13. Sheikh M, Nejad MM. Comparison of body image anxiety of athletic and nonathletic elder women: The mediator role of body index with relation to self-respect and body image anxiety. J Psychol Sci 2016;15:98-112.
14. Forman EM, Butryn ML, Hoffman KL, Herbert JD. An open trial of an acceptance-based behavioral intervention for weight loss. Cogn Behav Pract 2009;16:223-35.
15. Walter O, Shenaar-Golan V. Effect of the parent–adolescent relationship on adolescent boys' body image and subjective well-being. Am J Mens Health 2017;11:920-9.
16. Wasylkiw L, MacKinnon AL, MacLellan AM. Exploring the link between self-compassion and body image in university women. Body Image 2012;9:236-45.
17. Chaiton M, Sabiston C, O'loughlin J, McGrath J, Maximova K, Lambert M. A structural equation model relating adiposity, psychosocial indicators of body image and depressive symptoms among adolescents. Int J Obes (Lond) 2009;33:588-96.
18. Brytek-Matera A. Body image among obese women: Consequences and degree of body dissatisfaction, relationship with low self-esteem and coping strategies. Psychiatr Pol 2010;44:267-75.
19. Hooman HA. Structural equation modeling using LISREL software. Tehran: SAMT Publication. 2005.
20. Peindl KS, Wisner KL, Hanusa BH. Identifying depression in the first postpartum year: Guidelines for office-based screening and referral. J Affect Disord 2004;80:37-44.
21. Besharat MA, Hajiaqazadeh M, Ghorbani N. Analysis of the relationship between emotional intelligence, defense mechanisms and general intelligence. Biannu J Iran Psychol Assoc 2007;2:49-58.
22. Cash TF, Deagle EA 3rd. The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. Int J Disord 1997;22:107-26.
23. Lundgren JD, Anderson DA, Thompson JK. Fear of negative appearance evaluation: Development and evaluation of a new construct for risk factor work in the field of eating disorders. Eat Behav 2004;5:75-84.
24. Basaknejad S, Ghafari M. The relationship between fear of physical deformity and psychological disorders in students. Journal of behavioral sciences. 2008;1(2):8-17.
25. Kline RB. Principles and Practice of Structural Equation Modeling. Guilford Publications; 2015.
26. Tabachnick BG, Fidell LS, Ullman JB. Using Multivariate Statistics. MA: Pearson Boston; 2007.
27. Hu Li-tze, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ J 1999;6:1-55.
28. MacCallum RC, Browne MW, Sugawara HM. Power analysis and determination of sample size for covariance structure modeling. Psychol Methods 1996;1:130-49.
29. Khan MJ, Gul S. Differences in defense mechanisms between depressive patients and non-depressive individuals. Pak J Soc Clin Psychol 2016;14:47-51.
30. Raphael-Leff J. 'Climbing the Walls': Therapeutic Intervention for Post-Partum Disturbance 1. 'Spilt milk': Routledge; 2018. p. 60-81.
31. Stern D. The Motherhood Constellation. A Unified View of Parent-Infant Psychotherapy. New York (Basic Books); 1995.
32. Caligor E, Kernberg OF, Clarkin JF. Handbook of Dynamic Psychotherapy for Higher Level Personality Pathology. American Psychiatric Pub; 2007.
33. Cramer P, Jones CJ. Defense mechanisms predict differential lifespan change in self-control and self-acceptance. J Res Pers 2007;41:841-55.
34. Sweeney AC, Fingerhut R. Examining relationships between body dissatisfaction, maladaptive perfectionism, and postpartum depression symptoms. J Obstet Gynecol Neonatal Nurs 2013;42:551-61.

35. Hartley E, Fuller-Tyszkiewicz M, Skouteris H, Hill B. A qualitative insight into the relationship between postpartum depression and body image. J Reprod Infant Psychol 2021;39:288-300.
36. Jones MM, Kimble LP. Body image, depression symptoms, and health-related quality of life in black women with systemic lupus erythematosus. Nurs Womens Health 2022;26:363-70.
37. Daniali S, Azadbakht L, Mostafavi F. Relationship between body satisfaction with self esteemand unhealthy body weight management. J Educ Health Promot 2013;2:29.
38. Dishman RK, Hales DP, Pfeiffer KA, Felton GA, Saunders R, Ward DS, *et al.* Physical self-concept and self-esteem mediate cross-sectional relations of physical activity and sport participation with depression symptoms among adolescent girls. Health Psychol 2006;25:396-407.