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The Relationship between Premenstrual Syndrome Symptoms and Alexithymia with Hypochondria: Mediating Role of Marital Satisfaction in Women Attending a Women's Clinic

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Abstract

This study was conducted to determine the relationship between Premenstrual Syndrome (PMS) symptoms and alexithymia with hypochondria, with marital satisfaction as a mediator, in women attending women's clinics in Tehran city. The research, in terms of objective, is applied and, in terms of methodology, is descriptive-correlational, similar to Structural Equation Modeling (SEM). The research population included all women who visited women's clinics in Tehran in the year 2024. The sampling method used was purposive sampling, selecting participants based on convenience and their willingness to participate. Among the visitors to 10 selected women's clinics in Tehran (chosen based on the number of visits related to premenstrual symptoms), a sample size of 210 women was selected, which satisfies the minimum requirement for SEM analysis. Data were collected using questionnaires designed to measure premenstrual symptoms, hypochondria, alexithymia, and marital satisfaction. Descriptive statistics (mean and standard deviation) and inferential statistics from the SEM hypothesis test were utilized based on path analysis. The results indicated that PMS has a direct effect on hypochondria in women, and alexithymia also directly influences hypochondria in women. Additionally, premenstrual symptoms indirectly affect hypochondria through the mediating role of marital satisfaction, and emotional suppression indirectly impacts self-care agency through the mediating role of marital satisfaction.

Keywords: Premenstrual syndrome symptoms, Alexithymia, Hypochondria, Marital satisfaction.

1 | Introduction

Among all institutions and social organizations, family plays a special role and importance. All those who have thought about society emphasize the importance of family and its vital role in society. Indeed, no society can claim to be healthy if it does not have a healthy family. None of the social problems are free from the influence of the family [1].

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Considering that the purpose of forming a family is not to create a place for conflict, collapse, and divorce, but we are witnessing an increase in incompatibility and divorce among couples, the question arises: what factors lead to marital dissatisfaction? to answer this question, it is necessary to examine the grounds for strengthening the family unit and the factors leading to incompatibility, as well as the areas where marital conflict and incompatibility arise. One of the effective factors in marital satisfaction is the individual recognition of spouses. If the couple tries to understand the ethical characteristics better and comprehend each other's emotional conditions with knowledge and awareness of each other's qualities, marital satisfaction increases, and marital conflicts decrease [2].

One factor that affects the mental and emotional state of women is premenstrual symptoms. It is said that the root of premenstrual symptoms lies in hormonal changes, but a woman's feelings and emotions are also affected. Premenstrual symptoms in relation to a woman's reaction to the ups and downs of family life, personal environment, job conditions, her spouse's behavior, and, most importantly, the pressures of daily life are changeable. If premenstrual symptoms are severe, they can have psychological effects on a person's life, including various aspects of life, with the most important being relationships with other family members and others the person is in contact with.

Personal performance and daily tasks, taking care of household affairs, and ultimately entrusted tasks at work have a more severe impact on women who are responsible for motherhood and marriage duties. This is because a woman is the center of the family, so when every month she experiences premenstrual symptoms, this issue affects the entire family. It can include a wide range of issues such as absent-mindedness, irritability, hitting children, decreased interest in household chores, reduced energy and irritability, decreased attention to appearance, decreased sexual desire, and forgetfulness. These changes can, in turn, affect marital relationships and their satisfaction [3].

Due to the high prevalence of this condition, with 12% to 52% of women affected by it, and the disruptive symptoms it carries, it can have wide-ranging negative effects on the life of the affected individual, especially when they are not fully aware of their condition. One of the areas that can be particularly affected is the marital life of the individual. Lack of awareness of premenstrual symptoms can have different effects on various aspects of satisfaction with marital life.

Behavior during the menstrual cycle's secretory phase and ending with the start of menstruation or a day or two after it can have unpleasant physical, mental, and behavioral changes during the luteal phase of the menstrual cycle, leading to disturbances in interpersonal relationships and disruption of normal and natural activities of women [4].

Although premenstrual symptoms have multiple forms (generally many premenstrual symptoms), some researchers believe that these unique patients present to doctors with a unique combination of symptoms varying in intensity and duration. Some of the most commonly reported symptoms before menstruation include Mood and emotional symptoms such as sadness, anxiety, anger, irritability, and unnecessary crying, as well as restlessness.

Neurological symptoms include insomnia, hypersomnia, loss of appetite, cravings for certain foods, and feelings of fatigue. Physical symptoms include headaches, breast tenderness, joint and muscle pain, weight gain, and cognitive symptoms, including lack of concentration and memory, loss of decision-making power, suspicion, weakness, and indecisiveness. Changes in sexual desire and autonomous symptoms such as nausea, diarrhea or constipation, heart palpitations, sweating, and skin symptoms such as acne and oily hair [5].

The difficulties and problems caused by premenstrual symptoms not only affect the individual themselves but also create problems for their spouse, other family members, and society. Sometimes, the symptoms become so severe that they lead the individual to self-harm or harm others. These symptoms are known to cause reduced activity, lack of motivation, decreased attention to tasks, and breakdown in marital life. They can also create disturbances in self-image and self-confidence. Women's mood swings can disrupt the functioning of the entire family. These symptoms continue to be an unresolved issue in human life. Family

conflicts, mistreatment of children, absenteeism from work, and job incompetence resulting from these disorders in women have led public media in recent years to pay much attention to premenstrual symptoms that affect the quality of individuals' lives.

Most people say that their activities at home and work interfere. This impact is considered an important variable that varies in each individual in such a way that it affects their social personality, daily activities, and physical dimensions, and in some individuals, leads to mental tensions, stress, sleep disorders, emotional problems, and loss of self-confidence. Since these symptoms are common among women and, in many cases, cause problems in social relationships and, most importantly, in families, there is no specific social or psychological theory about premenstrual symptoms. In this research, we have considered a cognitive behavioral approach as a theoretical framework that can, to some extent, analyze the problem [6].

Women in the premenstrual stage experience disorders in that they cannot meet the expectations of their spouses, and when women cannot meet the expectations of their spouses for various reasons, their marital relationships are disrupted. One of the symptoms of premenstrual symptoms is a decrease in sexual desire and compatibility in sexual relationships, and balance in the amount of sexual desire in women and men is one of the most important reasons for happiness and success in marital life [7].

Some researchers believe that the main cause of 80% of marital conflicts is the sexual dissatisfaction of the husband and wife, which disrupts women's relationships before menstruation, leading to disturbances. On the other hand, incompatibility in marital relationships can lead to social disturbances, inclinations towards social deviations, and a decline in cultural values between husband and wife.

These symptoms not only affect the individual but also have a significant impact on his family, and in severe cases, they can be the cause of changes in women's behavior as a disease. The result of this change in behavior may affect the interactions between women and other family members. Since women play a key role in the family, the emergence of these symptoms can have a significant impact on their performance. These effects include incompatibility with the spouse and misconduct towards the child [8].

Tavassoli and Eman Elahi [9] state that the research aims to examine the effect of couples' awareness of symptoms before menstruation on marital satisfaction. Assali et al. [10] state that the research aims to investigate the effect of pre-menstrual symptoms on marital relationships. Shaahmadi et al. [11] conducted research on the relationship between marital satisfaction of couples and awareness and performance of men in relation to pre-menstrual symptoms in Kerman city in the year 2018.

Alijani et al. [12] conducted research with the aim of explaining the structural model of pre-menstrual symptoms based on marital satisfaction and personality traits with the mediation of initially incompatible schemata. Toorani et al. [13] state that the main goal of this research is to investigate the relationship between premenstrual symptoms and resilience in predicting marital conflicts among married women in Tehran.

Modares Gharavi et al.' [14] study aimed to determine the effectiveness of therapy in analyzing reciprocal behavior in reducing pre-menstrual symptoms and improving emotional intolerance. Galeh dar and Mohtasham [15] state that the purpose of the research is to investigate the relationship between awareness of premenstrual symptoms and marital compatibility. Assali et al. [10] conducted a study to examine the effect of pre-menstrual symptoms on marital relationships, which was conducted on 96 employees and confirmed by pre-menstrual symptoms centers.

Nanakaar [16] present a study aimed to investigate the relationship between premenstrual distress disorder and the quality of marital relationships among married students. Zadbagher et al. [17] stated that the research aimed to investigate the effectiveness of traditional music therapy in reducing depression, anxiety, and aggression in women with premenstrual symptoms. Given that women are considered the foundation pillar of the balance, peace, and excellence of the family and society, reducing their activities and roles can disrupt this balance [3].

The potential theoretical and practical benefits, as well as the materials, methods, or processes that may be used in this research, premenstrual symptoms, experienced some physical and mental symptoms periodically during the luteal phase of the menstrual cycle, which are only observed in the days leading up to menstruation, and in some women can be very disabling and interfere with their occupational, social, and family relationships [14].

These symptoms are manifested in a group of physical, cognitive, emotional, and behavioral signs. Physical symptoms include swelling, breast tenderness, headaches, appetite changes, heart palpitations, and mental and behavioral symptoms, including depression, irritability, fatigue, suicidal tendencies, mood swings, etc [3].

Premenstrual symptoms are classified as a mental disorder, sharing many similarities with major depression. One of the diseases that may be associated with premenstrual symptoms is dysphoric-impulsive disorder or alexithymia [18]. Since individuals with alexithymia also report significant levels of anxiety, depression, psychological stress, and emotional and physical distress, it can be said that alexithymia is likely to be associated with premenstrual symptoms; however, further studies are needed to determine the potential role of dysphoric-impulsive disorder in the pathology of premenstrual symptoms [19].

Considering the prevalence of symptoms related to depression, anxiety, and stress in premenstrual symptoms and alexithymia, some stress-coping approaches can enhance individuals' ability to reduce stress and adapt effectively to stressful situations. Cognitive-behavioral stress management intervention, as one of these approaches, is a group intervention that includes cognitive-behavioral therapy, coping skills training, social support enhancement techniques, and teaching various relaxation techniques, including mindfulness [6].

Due to the negative consequences of premenstrual symptoms on various aspects of individual's lives and their association with dysphoric-impulsive disorder, educating psychological interventions and counseling in this area seemed necessary [7].

The menstrual cycle is a normal physiological process that all women experience and is characterised by tightly orchestrated changes in the levels of ovarian estrogen and progesterone. Researchers have confirmed that diverse body systems (e.g., cardiovascular system 1, central nervous system 2, endocrine system 1, female reproductive system 1, and immune system 3) are replete with estrogen receptors and that progesterone also acts on numerous tissues. Therefore, cyclically fluctuating levels of estrogen and progesterone have a significant biological effect on the female body, one with both physical and emotional ramifications 1. Studies related to the impacts of the menstrual cycle on women's emotional changes have been primarily conducted among patients who suffer from Premenstrual Syndrome (PMS) and its severe predominantly psychological form, Premenstrual Dysphoric Disorder (PMDD) [20].

Therefore, given the sensitivity of premenstrual symptoms and their numerous consequences on individuals and their families, as well as the lack of studies in the field of marital satisfaction and premenstrual symptoms and their relationship with dysphoric-impulsive disorder, the present study was conducted to determine the relationship between premenstrual symptoms and emotional dysphoria with self-reporting with the mediating role of marital satisfaction in women attending women's clinics in Tehran. Thus, this study addressed the following hypotheses:

- I. First hypothesis: PMS symptoms are related to hypochondria in women.
- II. Second hypothesis: alexithymia is related to hypochondria in women.
- III. Third hypothesis: PMS symptoms are related to hypochondria in women through the mediating role of marital satisfaction.
- IV. Fourth hypothesis: alexithymia is related to hypochondria in women through the mediating role of marital satisfaction

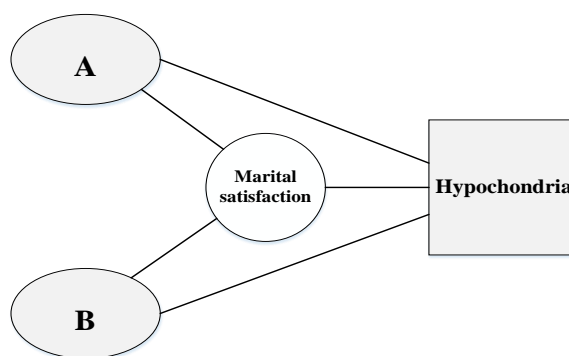


Fig. 1. Research conceptual model.

This chart illustrates the direct and indirect factors causing hypochondria, in which letters A and B represent symptoms of PMS and alexithymia, respectively.

2 | Research Methodology

From the perspective of practical purpose and methodologically descriptive-correlational approach, the research is based on the Structural Equation Modeling (SEM) method. The research population includes all women attending women's clinics in Tehran in 2024.

Among the attendees who will visit women's clinics in Tehran (10 selected clinics based on the number of visits related to premenstrual symptoms), a sample will be taken based on their willingness to participate in this research in an availability sampling method. In the SEM method, a minimum sample size of 210 individuals will be considered, who will be selected through the availability sampling method. Therefore, the sample will consist of 210 women attending the clinics.

Before conducting the research, the necessary permits to enter the community under study were obtained from the Tehran University of Medical Sciences of the Islamic Azad. Then, the statistics of women attending selected women's clinics in Tehran (10 selected clinics based on the number of visits related to premenstrual symptoms) in 2024 were obtained. According to the research method in the realm of SEM, which requires a minimum sample size of 210, a sample of 210 individuals will be selected; in other words, 210 individuals will be selected as research samples.

After a specified time, the questionnaires will be collected, and the data will be prepared for analysis using statistical software. Descriptive statistical methods such as frequency, percentage, mean, and standard deviation will be used in this research. Correlation and structural equation methods using LISREL software will be used for hypothesis testing in the research.

2.1 | Method and Data Collection Tools

Considering the research objective and its nature, the most appropriate method for collecting the necessary information is completing a questionnaire. Therefore, for data and information collection, first by referring to library resources and research literature, and then after confirming the questionnaire with the supervisor and determining the sample size as well as the validity and reliability of the questionnaire, the necessary permits to enter the community under study were obtained from the Tehran University of Medical Sciences of the Islamic Azad before conducting the research. Then, the statistics of women attending women's clinics in Tehran (10 selected clinics based on the number of visits related to premenstrual symptoms) in 2024 were obtained.

The instruments employed in this study encompassed a premenstrual symptoms questionnaire, comprising 27 items designed to assess both psychological and physical aspects of PMS. Participants responded using a 5-point Likert scale, with higher cumulative scores indicating a greater likelihood of experiencing premenstrual

symptoms. The questionnaire demonstrated high reliability, evidenced by a Cronbach's alpha coefficient of 0.90.

The development and validation of this questionnaire were detailed in a study by Shirzadegan et al. [21], titled "designing and validating a questionnaire for the symptoms of pre-menstrual syndrome among Iranian women", published in the Iranian journal of nursing and midwifery research. This study confirmed the instrument's validity and reliability within the target population.

Additionally, Shirzadegan et al. [21] conducted a study titled "association of PMS with temperaments and ethnicities: an evidence-based traditional medicine study in west of Iran", which further supported the validity and reliability of the premenstrual symptoms questionnaire. Their research, published in the Journal of research in medical sciences, reinforced the questionnaire's applicability across diverse groups.

These studies collectively affirm the questionnaire's robustness as a tool for assessing premenstrual symptoms in Iranian women.

The Evans hypochondria questionnaire (1980) was designed by Evans in 1980 to assess patients' perceptions of illness. The questionnaire consists of 36 questions and uses a Likert scale to assess illness perception (to what extent do you believe you have been exposed to various diseases compared to your age group?). Participants are categorized into healthy (0-20), borderline (21-30), mild (31-40), moderate (41-60), and severe (above 60) based on their scores. This questionnaire is not valid for individuals over 70 years old and will not reflect the illness perceptions of individuals with severe illnesses.

Toronto Alexithymia scale is a 20-item test with three subscales measuring difficulty in identifying emotions, difficulty in describing emotions, and externally oriented thinking. Scoring of the questionnaire is based on a 5-point Likert scale ranging from completely disagree to completely agree. The components and questions related to each component are as follows, difficulty in identifying emotions subscale evaluates the individual's ability to recognize his emotions and differentiate between emotions and physical sensations, including questions 1, 3, 6, 7, 9, 13, and 14.

Difficulty in describing emotions subscale measures the person's ability to express emotions and whether they can articulate their emotions in words or not, including questions 2, 4, 11, 12, and 17. Externally oriented thinking subscale examines the level of introspection and depth of the individual's internal and others' emotions, including questions 5, 8, 10, 15, 16, 18, 19, and 20. The questionnaire scoring method is done in a Likert style. A response of completely disagree corresponds to a score of 1, and a response of completely agree corresponds to a score of 5. Items 4, 5, 10, 18, and 19 have reversed scoring, completely disagree corresponds to a score of 5, and completely agree corresponds to a score of 1.

The higher the scores individuals receive in these subscales, the more difficulty they have in expressing and identifying emotions. Based on this method, add up the obtained scores and make judgments according to the table provided. Note that the points below are for one questionnaire; if you have, for example, 10 questionnaires, you should multiply the points below by 10. The psychometric properties of the Toronto Alexithymia scale have been examined and confirmed in numerous studies.

In the Persian version, the Cronbach's alpha coefficients for total alexithymia were 85%. For the three subscales of difficulty in identifying emotions, 82%, difficulty in describing emotions, 75%, and externally oriented thinking, 72% were calculated, showing good internal consistency of the scale. The concurrent validity of the Toronto Alexithymia scale has been confirmed through correlation with subscales of emotional intelligence, psychological well-being, and cognitive therapy.

The Henry marital satisfaction questionnaire (1998) is a 47-item questionnaire developed by Olson (1998) which consists of 12 scales, including contractual response, marital satisfaction, personality issues, marital communication, conflict resolution, financial supervision, leisure activities, sexual relationships, marriage and children, relatives and friends, equity roles and ideological orientation. This tool is considered as a five-option

Likert scale (completely agree, agree, neither agree nor disagree, disagree, completely disagree), with each option scoring from one to five points.

The questions in this scale are modified from the edmund agreement and customs questionnaire (1967). This scale measures the orientation of couples in responding to questions based on preferred social behaviors. A high score indicates an unrealistic relationship attitude toward marital relationships. The reliability coefficient of the Henry questionnaire in the report of olson, forinro, and drakman (1989) for the subscales of distorted ideals, marital satisfaction, personality issues, communication, conflict resolution, financial management, leisure activities, sexual relationships, children and parenting, family and friends, equity roles are as follows: 0.93, 0.81, 0.73, 0.68, 0.75, 0.74, 0.76, 0.48, 0.77 respectively. The reliability coefficient of the Henry subscales in several different studies ranges from 0.68 (for equity roles) to 0.86 (for marital satisfaction) with an average of 0.79. The retest reliability of the questionnaire ranges from 0.77 (for leisure activities) to 0.92 (for sexual relationships and distorted ideals) with an average of 0.86.

In our country, Suleimani [22] reported internal consistency correlations for the long form as 0.93 and for the short form as 0.95. Suleimani [22] in a study entitled “investigating the relationship between irrational thoughts and marital satisfaction” expresses the validity of this questionnaire and states that for use in research, the questionnaire was first translated. After translation, psychology experts reviewed the questions, and the content validity of the questionnaire was confirmed.

In the next step, the questionnaire was administered to a group of 11 people, and its reliability coefficient was calculated using alpha, resulting in a 93% reliability score. This selection was equally taken from various questionnaire scales. Thus, a total of 47 questions were selected, and the reliability coefficient of the 47-item form was calculated again on a group of 11 people using alpha, resulting in a 95% reliability score. After reviewing and studying the original questionnaire and calculating its reliability and validity, the mentioned method was approved by the supervisor and used to assess marital satisfaction.

Some questions were unclear, and modifications were made to them, and the supervisors and consultants ultimately confirmed their content validity. The correlation coefficient of the Henry questionnaire with family satisfaction scales ranges from 0.41 to 0.60, and with life satisfaction scales from 0.32 to 0.41, indicating structural validity. All the subscales of the Henry questionnaire differentiate between satisfied and dissatisfied couples, indicating that the questionnaire is a good criterion of validity.

Scoring on the scale is done in two ways, total marital satisfaction score: For this purpose, individuals are scored on all 47 items according to the scores given in the questionnaire, i.e., questions 9, 7, 5, 3, 2, 1, 29, 28, 27, 26, 25, 17, 10, 33, 34, 36, 44. In this way (completely agree scores 5 and completely disagree scores 1) are given, and questions 15, 14, 13, 12, 11, 8, 6, 4, 42, 41, 40, 39, 38, 39, 35, 32, 31, 30, 24, 23, 22, 21, 20, 19, 18, 16 are scored in this way (completely agree scores 1 and completely disagree scores 5), the scores of the 47 questions are summed up to get a raw score, and for its conversion to a standard score and interpretation of marital satisfaction status, it is sufficient. In this scale, the analysis is based on raw scores, and a higher score indicates higher satisfaction.

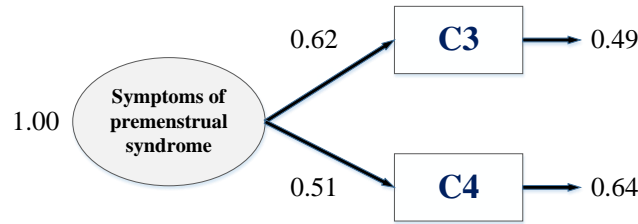
3 | Findings

In the current study, 4 indices (hypochondria, alexithymia, premenstrual symptoms, and alexithymia) have been used. In this section, descriptive statistics of each index are examined.

Table 1. Descriptive statistics of the variable of hypochondria.

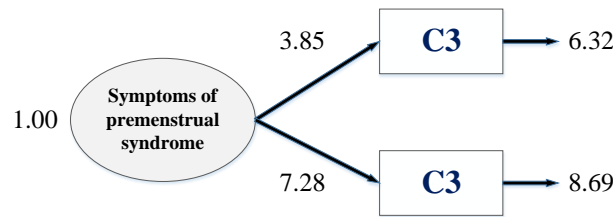
Variant	Average	Diversio
Hypochondria	12.68	2.839
Alexithymia	89.86	7.971
Premenstrual symptoms	111.76	10.096
Marital satisfaction	143.27	18.299

According to *Table 1*, the hypochondria index has a mean of 68.12 and a standard deviation of 8.392. The alexithymia index has a mean of 86.89 and a standard deviation of 9.717. The PMS index has a mean of 76.11 and a standard deviation of 0.961. Additionally, the marital satisfaction index has a mean of 27.143 and a standard deviation of 2.991.



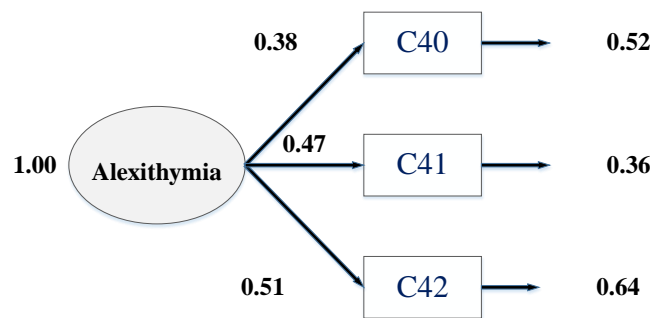
Chi-Squaare = 316.25 , df = 202 , P-value = 0.0000 , RMSEA = 0.026

Fig. 2. The factor loading of the confirmatory factor analysis of the independent variable (Premenstrual Syndrome).



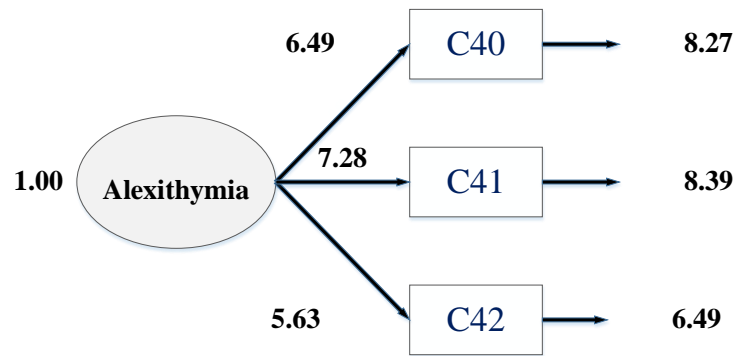
Chi-Squaare = 316.25 , df = 202 , P-value = 0.0000 , RMSEA = 0.026

Fig. 3. The value of the t statistic (significance) in confirmatory factor analysis (indicators before loadings).



Chi-Squaare = 316.25 , df = 202 , P-value = 0.0000 , RMSEA = 0.026

Fig. 4. Standard factor loading of confirmatory factor analysis for the independent variable (Alexithymia).



Chi-Square = 316.25 , df = 202 , P-value = 0.0000 , RMSEA = 0.026

Fig. 5. The value of t-statistic (significance) of confirmatory factor analysis (Alexithymia).

The next step is the goodness of fit model. One of the common indicators for taking into account the free parameters in calculating the fit indices is the Chi-Square to degree of freedom ratio, which is calculated by dividing the simple Chi-Square by the degrees of freedom of the model. If this value is between 1 and 5, it is desirable. In this research, the normalized Chi-Square value is 1.56. Additionally, the RMSEA index is commonly used as a primary fit index in most confirmatory factor analyses and structural equation models. This index should be less than 0.05. In the current saturated model study, the RMSEA index is calculated as 0.026, indicating a good fit of the model (saturation was done in two stages).

Based on the observed results, the factor loading t-values of the measurement items for each of the studied dimensions have values greater than 1.96 at a 5% confidence level, indicating significant correlations. The confirmatory factor analysis has been saturated in three stages. Therefore, the fit indices indicate desirable values. The RSMEA fit index is calculated as 0.053, which is even less than the strict value of 0.05. The normalized chi-square value is calculated as 1.84, which is very close to 1. Therefore, the observed structural model is a good fit.

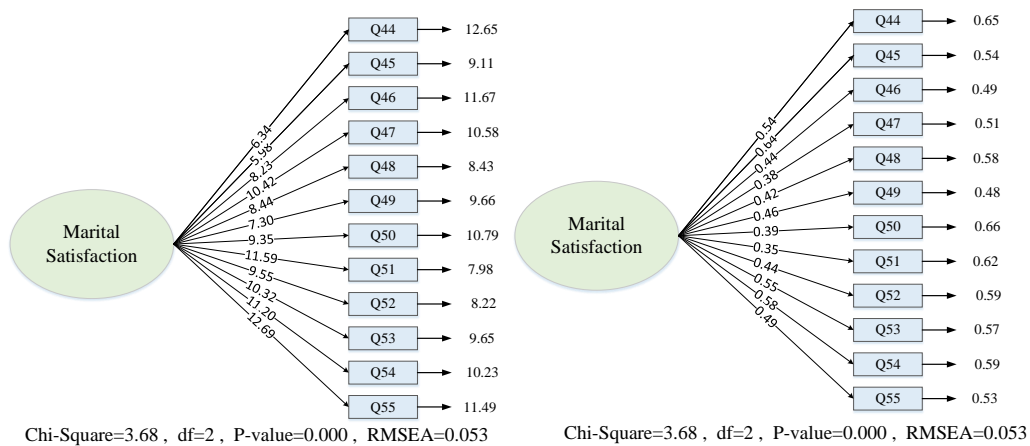
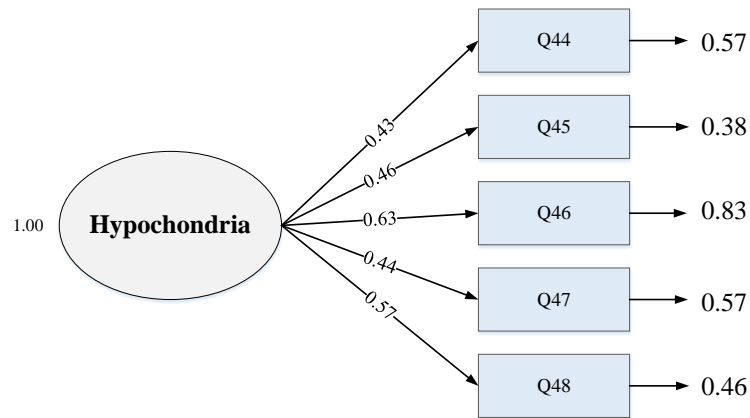


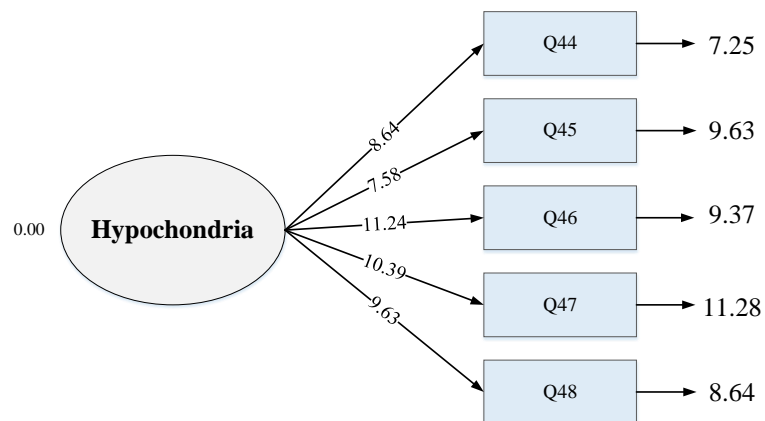
Fig. 6. Factor loading and t-value of the mediator variable.

Confirmatory factor analysis of the resilience scale has been saturated in three stages. Therefore, the fit indices indicate desirable values. The RMSEA fit index is 0.031, which is smaller even than the strict value of 0.05. The Normed Fit Index (NFI) is also 0.298, which is close to one. Therefore, the observed structural model has a satisfactory fit.



Chi-Square=4.59 , df=2 , P-value=0.000 , RMSEA=0.031

Fig. 7. Independent variable load.



Chi-Square=4.59 , df=2 , P-value=0.000 , RMSEA=0.031

Fig. 8. T-value statistic of the intermediate variable.

After confirming the factorial structure of research constructs, SEM was used to investigate the relationships between variables. The results of the analysis are presented separately.

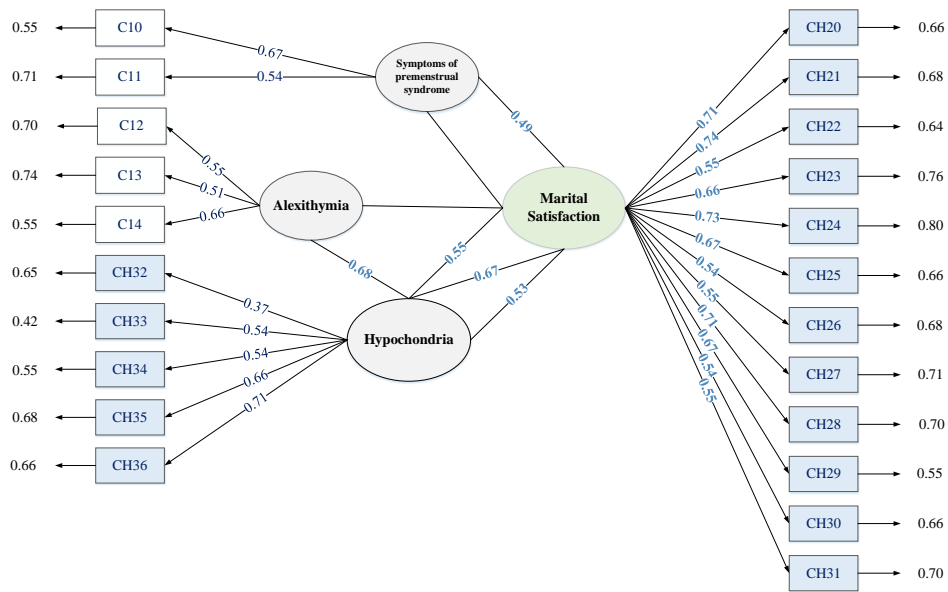


Fig. 9. Standard factor loadings for testing research hypotheses.

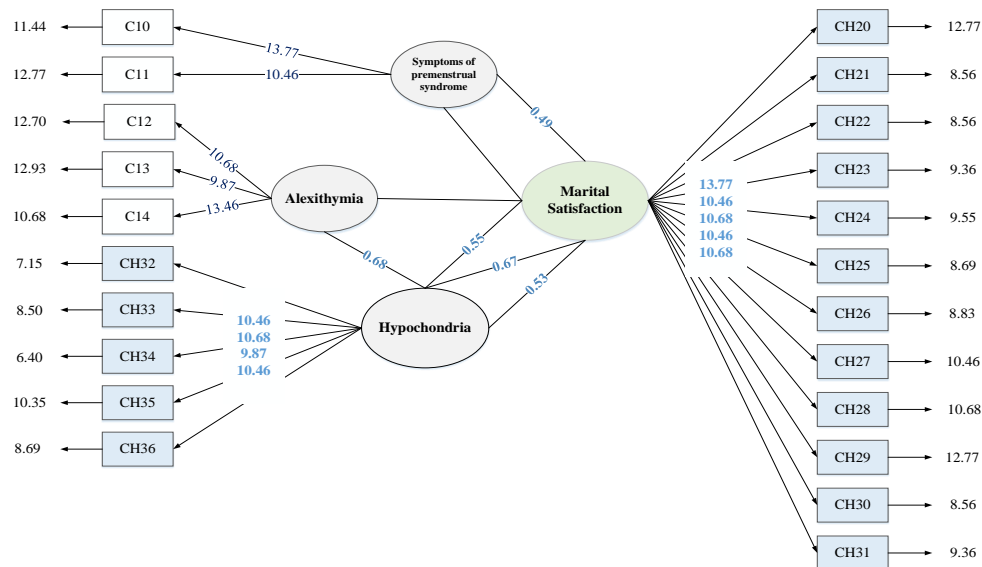


Fig. 10. T-value statistics of research hypotheses test.

The normalized chi-square index (χ^2/df) has been calculated to be 1.862, which is less than 2, indicating a good fit. Additionally, the RMSEA index is 0.032, which is less than 0.05, further confirming the good fit of the model. Other goodness-of-fit indices also fall within acceptable ranges.

Table 2. Goodness-of-fit indices for the structural model.

Performance Indicator	χ^2/df	RMSEA	GFI	AGFI	NFI	NNFI	IFI
Acceptable values	<2	<0.1	>0.9	>0.9	>0.9	>0.9	0 – 1
Calculated values	1.399	0.024	0.99	0.97	0.99	0.96	0.99

The results of the structural model analysis showing the relationship between two variables are shown in Fig. 11. The standardized factor loading of the variable premenstrual symptoms on hypochondria in women is

found to be 0.49. On the other hand, a significant value of 0.64 has been obtained, which is greater than the value of 1.96 and indicates that the observed correlation is significant. Therefore, with 99% confidence, premenstrual symptoms have a direct effect on hypochondria in women.

Table 3. Standardized factor loading of the effect of premenstrual symptoms on hypochondria in women.

Impact	Load Factor	T-Statistic
Pre-menstrual syndrome symptoms in hypochondria of women.	0.49	4.63

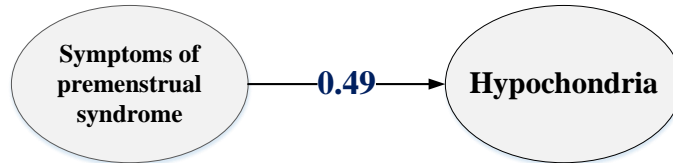


Fig. 11. The effect of PMS symptoms on hypochondria in women.

The power of the relationship between alexithymia and hypochondria in women is calculated as 0.68. The test statistic is also obtained as 5.69, which is greater than the critical value of t at a 5% error level, meaning 1.96, indicating that the observed correlation is significant. Therefore, with 99% confidence, there is a significant relationship between alexithymia and hypochondria in women.



Fig. 12. Factorial effect of alexithymia on hypochondria in women.

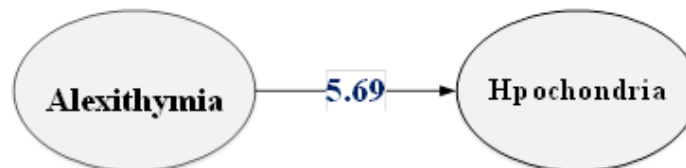


Fig. 13. T-value statistic of the effect of emotional suppression on hypochondria in women.

For the third hypothesis testing, a structural model has been designed between the variables. The standardized coefficient between the indicators of premenstrual symptoms and marital satisfaction mediated by hypochondria in women is 0.67. A significant value of 5.49, greater than 1.96, was also obtained, indicating that the observed correlation was significant. Therefore, with 99% confidence, the relationship between premenstrual symptoms and marital satisfaction mediated by hypochondria in women is significant.

Table 4. Standardized coefficient of the effect of premenstrual symptoms on hypochondria in women through the mediation of marital satisfaction.

Impact	Load Factor	T-Statistic
Pre-menstrual symptoms through the mediating role of marital satisfaction in women's hypochondria	0.67	5.49

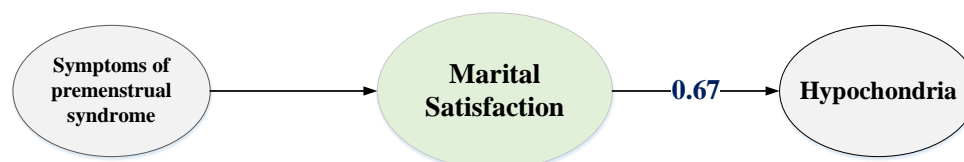


Fig. 14. The effect of premenstrual symptoms on self-care behaviors in women through the mediation of marital satisfaction.

A structural model has been designed for the fourth hypothesis test, with standardized loadings between variables. The standardized factor loading of alexithymia on self-care through the mediating role of marital satisfaction among women is 0.55. A significant value of 5.50, greater than 1.96, was also obtained, indicating that the observed correlation was significant. Therefore, with 99% confidence, the relationship between alexithymia through the mediating role of marital satisfaction on self-care among women is influential.

Table 5. Standardized factor loading of alexithymia through the mediating role of marital satisfaction on self-care among women

Impact	Load Factor	T-Statistic
Alexithymia attachment through the intermediary role of marital satisfaction on self-patient identification in women.	0.55	5.50

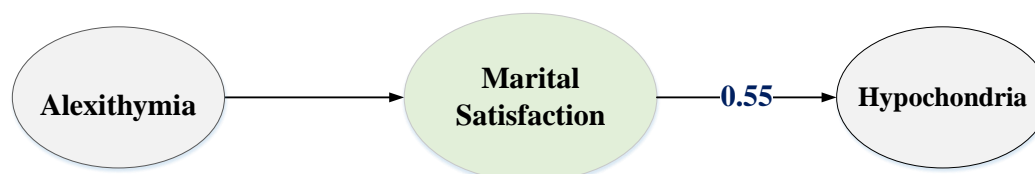


Fig. 15. The mediating role of alexithymia on the relationship between marital satisfaction and self-reported illness in women.

4 | Conclusion

The main hypothesis: there is a relationship between premenstrual symptoms and alexithymia with hypochondria with a mediating role in marital satisfaction in women attending women's clinics in Tehran city.

The results of the present study showed that the proposed model is a good fit. Although no study has examined all variables in the form of a causal model, the results of the present study are consistent with the results of studies that have had some of the variables of the present study, such as Assali et al. [10], Shaahmadi et al. [11], Alijani et al. [12], Modares Gharavi et al. [14], Zadbagher et al. [17].

In explaining this hypothesis, it can be stated that self-blame often starts with the loss of a body part that makes the individual susceptible to this disorder, so these individuals are always concerned about a specific body part.

For example, they are always concerned about their heart or lungs and pay more attention to a specific body part. Serious illnesses, especially during childhood and a family member's illness in the past, are related to the occurrence of hypochondria. It is believed that psychosocial stressors, especially the death of a loved one in some cases, maybe the background for hypochondria. Individuals with self-blame are often also affected by other mental disorders (especially anxiety disorders, depression, and other somatic disorders).

Mutual expression of ethics in couples creates a sense of support and leads to greater self-disclosure. Emotional repression, in its original sense, refers to the lack of words to name and describe emotions derived from the Greek root of emotions. Individuals with this trait have difficulty understanding the emotional states of others and show limited empathy in relationships. Effective communication plays a prominent role in marital satisfaction and can play an important role in creating a sense of security in couples. Expressing ethics

is a fundamental factor in differentiating between satisfied and dissatisfied couples, as it plays a crucial role in intimacy growth.

The mutual expression of ethics in couples creates a sense of support and leads to further self-disclosure in the relationship. Inadequacy in regulating and managing emotions is a characteristic of emotional repression. This inadequacy threatens and weakens mental health, decreases psychological well-being, increases psychological distress, and negatively affects interpersonal interactions, communication skills, and coping strategies [23]. Studies have shown that individuals with emotional repression have difficulty in correctly identifying emotions in the faces of others [24]. A correct understanding of emotions is considered an essential component of interpersonal relationships.

Inadequacy in understanding emotions presents individuals with multiple problems in interpersonal relationships. For example, social interaction and establishing intimate relationships with others require the ability to understand one's own and others' emotions. Based on this, emotional repression is associated with problems in interpersonal relationships through deficiencies and an inability to understand emotions and ethics. Due to indifference and lack of interest in others, these individuals face multiple interpersonal problems. They have difficulty expressing their needs to others and cannot cope with interpersonal challenges in social situations.

These studies confirm the findings of Besharat et al. [23] on the relationship between emotional repression and avoidance of intimacy. Individuals with emotional repression have a limited capacity for empathy with the emotional states of others. The limitations and inability of individuals to empathize and bond with others affect interpersonal relationships, especially in the areas of social interaction and intimacy, and pose challenges. Therefore, it can be argued that emotional repression, through deficiencies and inability in empathy and bonding, increases interpersonal problems.

When emotional information cannot be processed cognitively in the perception and evaluation process, individuals experience confusion and distress both emotionally and cognitively. This inability disrupts the individual's ethical and cognitive organization. This disorder affects interpersonal communication problems in both personal and interpersonal behaviors. This disorder also explains some of the interpersonal problems. According to these two explanations, interpersonal problems may be directly influenced by disorders in processing cognitive emotional information and regulating emotions or may be created through mental health disorders in individuals [23].

Secondary hypothesis: pre-menstrual symptoms have a direct impact on hypochondria in women.

The results of the current study showed that pre-menstrual symptoms have a direct impact on hypochondria in women. The results of the current study are consistent with other research in this area, such as, Nanakaar [16], Modares Gharavi et al. [14], Toorani et al. [13], Assali et al. [10]. In explaining this hypothesis, it can be said that the occurrence of hypochondria disorder depends on various factors, including personality and temperament traits, parental upbringing styles, and some specific psychosocial conditions.

Here, we explain each of these factors to you. Usually, temperament traits provide a suitable background for the occurrence of this disorder; individuals with self-harm tendencies have specific psychological traits that make them more susceptible to this condition than others. Nervous individuals (self-critical, introverted, and self-centered), individuals who are sensitive to issues around them and do not easily overlook various life issues and consider everything a problem, or those who are excessively interested in processing various matters or have a very low tolerance threshold and are considered to be type a personalities, are more likely to be exposed to hypochondria behavior compared to others.

Typically, such individuals interpret a small failure as a major setback and become preoccupied with it, constantly engaging with it, but ultimately, the inability to solve this mental concern and find a suitable solution leads the individual to negative mental and intellectual thoughts. In other words, these individuals tend to have negative thoughts and attach more importance to them, even though they may also have higher sensitivities and more inappropriate reactions to stressful factors and psychological pressures.

Human communication is the cornerstone of human society, and without it, culture would never emerge as a characteristic of human society. On the other hand, the expansion of electronic communications has differentiated the new society so much from previous societies that some call the modern era the era of communications. Linguistically, the word communication is an Arabic word derived from the verb communicate, which in Persian is used as a gerund meaning connection, relationship, attachment, and relation. Edwin Emery defines the concept of communication in the sense of science (with particular emphasis on social communication) as follows, communication is the art of transferring information, ideas, and human behaviors from one person to another. In general, each individual uses various means to establish communication with others and convey their messages to them.

On the other hand, Charles Cooley regards communication as a mechanism through which human relationships are established and developed. Therefore, communication is the transfer of messages to others and is the foundation of the formation of society. In general, we want to share our thoughts and coordinate our beliefs with the message recipient on a specific issue and subject.

Human communication is the source of culture as the basis for human movement and development. The lack of communication means relative stagnation in human life and an obstacle to any kind of social progress. The importance of communication can be measured not only by the index of the lack of communication and its effects but also through the effects and consequences that arise from deficiencies in human communication.

The more social knowledge advances, the more it becomes clear that an isolated individual, alone and lacking communication with others, is exposed to many social harms, including suicide. Emile Durkheim reached the same conclusion in his work on suicide. From his perspective, suicide stems not only from personal narrow-mindedness or even physical defects but also from the gap between the individual and society or the lack of human relations. This is why talk of group therapy is prevalent today.

Secondary hypothesis: alexithymia directly affects somatic hypochondria in women.

The results of the current study showed that alexithymia directly affects somatic hypochondria in women. The results of the present study are consistent with other studies in this field, such as Tavassoli and Eman Elahi [9], Assali et al. [10], Shaahmadi et al. [11], and Galeh dar and Mohtasham [15]. It can be stated in clarifying this finding that individuals with somatic self-awareness have constant intellectual engagement and concerns about their health status or the condition of their body organs, as well as multiple complaints regarding their digestive system, reproductive system, limbs, and body parts. Every bodily function that most people consider natural and do not pay attention to, they perceive as a sign of a serious and incurable illness: pulse rate fluctuations, bowel movements, normal headaches, even exaggerated perceptions of fatigue, insomnia, loss of appetite, or excessive appetite disturb them and preoccupy their minds.

There is no observable cognitive impairment process in their examination, but their attention is focused abnormally on their bodies. It seems that somatic hypochondria is a result of transferring anxiety from unconscious mental sources to the body. Individuals with somatic self-awareness have learned in childhood interactions to attract sympathy and compassion with illness or to evade their responsibilities through illness. Sometimes, a person who does not receive adequate attention from the outside world and others compensates by paying excessive attention to their body and considers the smallest sign as a sign of illness. In the language of silence, they say, if you did not pay attention to me, I will compensate for it by paying excessive attention to myself.

The feeling of insecurity can also lead to somatic hypochondria; a person interprets an unknown threat felt by the environment towards themselves as a threat to their physical health. Therefore, elderly individuals may develop somatic hypochondria when facing a change in their psychological outlook on life, inevitable physiological deficiencies, and a sense of decline in their biological mental abilities. Somatic hypochondria is sometimes a part of depression; in such cases, treating depression can make somatic hypochondria disappear.

Proper treatment, in most cases, includes insight-oriented psychotherapy conducted by a psychiatrist, which makes the symbolic concept of the disease apparent. In cases of anxiety or depression symptoms, taking anti-

anxiety or antidepressant medications prescribed by a psychiatrist can be helpful. In the field of psychiatry, a person who is physically healthy but perceives themselves as ill is called hypochondriac or somatic self-aware. This condition is diagnosed when, despite medical assurance for a minimum of six months, the person convinces themselves that they are ill or fears that they are ill.

The patient believes that there is a disease or dysfunction in their body functions. Clinical examination or negative test results temporarily reassure the patient. However, symptoms reappear later (in hypochondriasis, reassurance cannot be given to the patient, and the disorder lasts for at least six months. Belief in hypochondria does not have a delusional intensity. Hypochondria means excessive concern about health, like any other serious clinical diagnosis. Simply dispelling concerns about physical illness is not enough for a diagnosis; the presence of excessive anxiety must also be identified in the individual.

The prevalence of hypochondriasis is the same in both women and men and can appear in all age groups and social classes. It can occur at all ages, with the peak incidence in men in their thirties and women in their forties. Hypochondriasis is often a response to stress or mental illnesses such as anxiety and depression. Hypochondriasis can be observed in different conditions and short-term and long-term forms. Long-term means that some individuals have been affected by it since childhood. These individuals have been anxious since childhood, and their anxiety has become a habit that causes stress. They unknowingly make illness a pretext for avoiding activities that cause them anxiety, and they spend a lot of time and money seeing medical specialists. In the case of short-term hypochondriasis, for example, a person who has lost a loved one due to a brain tumor may develop chronic headaches and think that they also have the same disease [25].

Third subsidiary hypothesis: pre-menstrual symptoms indirectly affect self-criticism in women's hypochondria through the mediator role of marital satisfaction.

The results of the current research showed that pre-menstrual symptoms may have an indirect effect on hypochondria in women's self-care through the mediator role of marital satisfaction. The results of this research are consistent with other studies in this area, such as Toorani et al. [13], Tavassoli and Eman Elahi [9], Assali et al. [10], Nanakaar [16].

One can explain this hypothesis by stating that the mutual expression of ethics in couples creates a sense of support and leads to greater self-awareness. Neuroticism, in its original sense, refers to the lack of words to name and describe emotions derived from the Greek root of emotions. Individuals with this trait have difficulty understanding the emotional states of others and show limited empathy in relationships. Effective communication plays a prominent role in marital satisfaction and can play an important role in creating a sense of security in couples.

Expressing ethics is a fundamental factor in distinguishing between satisfied and dissatisfied couples, as it plays a crucial role in fostering intimacy growth. Mutual expression of ethics in couples creates a sense of support and leads to greater self-awareness in the relationship. Emotional dysregulation is a feature of neuroticism. This deficiency threatens and undermines mental health, as it negatively affects personal behavior, reducing psychological well-being and increasing psychological distress.

Research has shown that individuals with neuroticism have difficulty in accurately identifying the emotions on other people's faces. Proper recognition of emotions is considered an integral part of interpersonal relationships. Deficiency in recognizing emotions poses multiple problems in interpersonal relationships. For example, socializing and establishing intimate relationships with others requires the ability to understand one's own and other's emotions and ethics.

Therefore, neuroticism is associated with problems in interpersonal relationships due to deficiencies in understanding emotions and ethics. Due to the indifference and lack of interest in others in these individuals, multiple interpersonal problems have been observed. These individuals have difficulty expressing their needs to others and cannot cope with interpersonal challenges in social situations. Research findings from Besharat et al. confirm the relationship between neuroticism and avoidance of intimacy.

Individuals with neuroticism have a limited capacity for empathy with others' emotional states. Limitations and inability to empathize and sympathize with others particularly affect interpersonal relationships in terms of socializing and intimacy and create challenges. Therefore, it can be suggested that neuroticism increases interpersonal problems through deficiencies in empathy and sympathy. When emotional information cannot be processed in cognitive processing, perception, and evaluation, individuals suffer from cognitive and emotional disorders. This incapacity disrupts personal ethics and cognition.

This disorder affects interpersonal interactions and explains some interpersonal problems. Based on these two explanations, interpersonal problems may directly arise due to cognitive processing disorders of emotional information and emotional regulation, or mental health disorders may cause them.

Alexithymia refers to the inability to process emotional information and regulate emotions. Alexithymia is a multi-faceted construct consisting of difficulty in identifying emotions, difficulty in describing emotions to others, and externally oriented thinking. The main characteristics of alexithymia are the inability to recognize and verbally describe personal emotions, severe lack of symbolic thinking that restricts the manifestation of behaviors, emotions, desires, and drives, inability to use emotions as signs of emotional problems, abstract thinking about trivial external realities, reduced memory of dreams, difficulty distinguishing between emotional states and bodily sensations, lack of facial emotional displays, limited capacity for empathy and self-awareness. Moreover, deficiency in emotional regulation and management is also a characteristic of emotional deficiency. Fourth subsidiary hypothesis, alexithymia veness through the mediating role of marital satisfaction has an indirect effect on self-reported symptoms in women.

The results of the present study showed that alexithymia through the mediating role of marital satisfaction may have an indirect effect on self-reported symptoms in women. The results of the present study are in line with other studies in this area, including. Alijani et al. [12], Modares Gharavi et al. [14], and Nanakaar [16], the present study aimed to examine the relationship between PMS and the quality of relationships. In explaining this hypothesis, it can be said that mutual expression of ethics in couples creates a sense of support, leading to greater self-awareness. Emotional inexpressiveness, in its original sense, refers to the absence of words to name and describe emotions derived from the Greek root of emotion.

Individuals with this trait have difficulty understanding the emotional states of others and show limited empathy in relationships. Effective communication plays a prominent role in marital satisfaction and can play an important role in creating a sense of security in couples. Expressing ethics is a key factor in distinguishing between satisfied and dissatisfied couples, as it plays an important role in intimacy growth. Mutual expression of ethics in couples creates a sense of support, leading to greater self-awareness in the relationship. Lack of emotion regulation is a characteristic of emotional inexpressiveness. This deficiency threatens and weakens mental health by reducing psychological well-being and increasing psychological distress. It negatively affects interpersonal interactions, communication skills, and coping mechanisms.

Research has shown that individuals with emotional inexpressiveness have difficulty in correctly identifying the emotions on the faces of others. Proper understanding of emotions is considered an inseparable component of interpersonal relationships. Inadequacy in understanding emotions leads to multiple problems in interpersonal relationships. For example, empathy and establishing intimate relationships with others require the ability to understand one's own and others' emotions.

Therefore, emotional inexpressiveness through a lack of understanding of emotions and ethics is associated with interpersonal problems. Due to their indifference and lack of interest in others, these individuals experience multiple interpersonal problems. They have difficulty expressing their needs to others and cannot cope with interpersonal challenges in social situations.

Individuals with emotional inexpressiveness have a limited capacity for empathy with the emotions of others. Limitations and inability to empathize and sympathize with others, particularly in the areas of empathy and intimacy, affect interpersonal relationships and lead to problems. Therefore, it can be suggested that emotional inexpressiveness, due to a lack of empathy and sympathy, increases interpersonal problems. When

emotional information cannot be processed cognitively, the individual becomes confused and distressed emotionally and cognitively. This incapacity disrupts the individual's ethical and cognitive organization. This disorder imposes interpersonal problems on the individual. Regulation and management of emotions also involve the enactment of emotions in personal and interpersonal behaviors. This disorder also explains some interpersonal problems. According to these two explanations, interpersonal problems may directly result from disruptions in the cognitive processing of emotional information and emotional regulation or may arise indirectly through disruptions in the individual's mental health.

According to all research, this research has not been exempt from limitations, and the limitations of the research include limited access to clinics and obtaining permission from female physicians, lack of cooperation from patients, and inability to control the socio-economic and educational status of research participants. In this research, data collection was done using a questionnaire; therefore, some individuals may have refrained from providing their real answers and given misleading responses. The large number of questionnaire items extended the time of execution, which did not affect the accuracy of participants' responses.

In order for the results of this research to be applicable and to assist future research, it is suggested that such research should be conducted in target groups with different geographical conditions. It is suggested that random sampling be used in future research, as well as longitudinal studies. Since the main hypothesis of the research was to examine the relationship between premenstrual symptoms of alexithymia with hypochondria mediated by marital satisfaction in women attending women's clinics in Tehran, and the sub-hypotheses investigated whether premenstrual symptoms have a direct effect on hypochondria in women and alexithymia has a direct effect on hypochondria in women as well as whether premenstrual symptoms indirectly affect hypochondria in women through the mediating role of marital satisfaction and similarly, alexithymia indirectly affects women's self-compassion through the mediating role of marital satisfaction, it is proposed to, organize workshops and counseling centers to raise awareness about premenstrual symptoms and teach methods that reduce premenstrual symptoms.

Conduct educational workshops for women to acquire necessary knowledge about the characteristics and types of emotional neglect. Healthcare providers and doctors in clinics should receive the necessary training on recognizing premenstrual symptoms and preventing severe manifestations to prevent internal and external disorders. Consultants and psychologists in clinics should screen women with premenstrual symptoms and hypochondria and take steps toward correction and treatment. Educational workshops in clinics are set up to recognize different types of hypochondria for women of different age groups so they can become familiar with the characteristics of each type. Psychologists and consultants in clinics should identify factors influencing women's marital dissatisfaction. If there is a problem in this area, they should take steps to correct it and provide necessary training.

Author Contributions

Najla Norouzi contributed to the conceptualization and design of the study, led the data collection process, and drafted the manuscript. Mehdi Manouchehri conducted the statistical analysis, interpreted the results, and critically reviewed and revised the manuscript. Both authors read and approved the final manuscript.

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Data Availability

The data used in this study are available upon reasonable request from the corresponding author.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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