



The Consequences of Premenstrual Syndrome on the Quality of Life from the Perspective of Affected Women: A Qualitative Study

Shiva Siahbazi¹, Ali Montazeri², Ziba Taghizadeh^{3*}, Raziye Masoomie³

¹Phd candidate in reproductive health, Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Tehran University of Medical science, Tehran, Iran

² Mental Health Research Group, Health Metrics Research Center, Iranian Institute for Health Sciences Research. ACECR. Tehran, Iran

³ Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Tehran University of Medical science, Tehran, Iran

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ABSTRACT

Premenstrual syndrome is one of the most common disorders of reproductive age which impact on affected women lives but how this syndrome affects the quality of life not well described. Understanding health-related quality of life from affected women perspective is essential to support them and improve their quality of life. Thus, this study aimed to discover the experiences of affected women about quality of life. The qualitative study using conventional content analysis method. For data collection, semi-structured and in-depth individual interviews of 21 Iranian women in reproductive age were performed at Tehran university and some high schools in Tehran. Interviews continued until to saturation data. The MAXQDA10 software was used to manage qualitative data analysis. Four main categories were extracted from the study discovered that the most effective consequences on quality of life quality in affected women with the data included: (1) Physical consequences with 7 subcategories including "Cardiovascular", "Genitourinary", "Neurological", "skin and hair", "Digestive", "Musculoskeletal" and "General health disorder", (2) Psychological consequences with 3 subcategories including "Mood", "Cognitive" and "Emotional disorder" (3) Behavioral consequences with 2 subcategories "Sleep patterns changes", "Nutritional patterns changes" and (4) Familial-Social consequences with 3 subcategories "Defective interpersonal relationships", "Sexual dysfunction" and "Social isolation". The results of the study identified challenges at quality of life in women with Premenstrual syndrome. Therefore, it is necessary to create a supportive setting that improves the quality of life in affected women.

Key words: Premenstrual syndrome- Health-related quality of life- Qualitative study

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Corresponding author: Ziba Taghizadeh
e-mail✉: zibataghizadeh@yahoo.com
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INTRODUCTION

Premenstrual syndrome is one of the most common disorders of reproductive age that can be seen in different intensities in 90-85% of women [1]. PMS is approximately defined as the group of symptoms occurring only during the luteal phase of a woman's menstrual cycle[2] meaning that

occurs 14 day before menstrual period and decrease with the onset of the menstrual[3,4]. Premenstrual syndrome typically occurs between the ages of 25-45 years[5]. It is accompanied by different symptoms that affect health[6,7]. In some studies has been reported the prevalence of premenstrual syndrome between 90-45%[8]. Prevalence of this syndrome in Iran also has been different, for example was 33.3% with the PSST questionnaire[9]. Premenstrual syndrome is associated with a decline in the quality of life of about 20-8% of women of reproductive age [10].

Quality of life is usually considered critical to measures of life satisfaction and the global outcome of health care [11]. The cyclical nature of these symptoms can cause impact of negative in affected women [12]. Premenstrual syndrome is related to health status and quality of life [13]. Particularly important in people with specific physical and mental conditions [14]. Today, Quality of life has been announced as an important outcome at Comparing the effectiveness and relative value of different treatments, research, evaluation of health services. Therefore, its measurement is important [15]. Effective Consequences on quality of life is also different due to cultural and social factors in each community [16]. From where understanding experience quality of life is important to developing the appropriate interventions for the improvement

or keep of it in women with PMS and there have been few studies in this context, Therefore this study is done with the goal of discovery effective consequences on quality of life from the perspective of Iranian women with premenstrual syndrome and provide more insight on the topic.

MATERIALS AND METHODS

This was a qualitative study for explore perception of women with premenstrual syndrome about quality of life using a conventional content analyze. Out of the 34 women who invited to participate in the study, that 21 of them (including 10 unmarried women and 11 married women) agreed for interview. The characteristics of the sample are detailed in Table 1

Table 1. Participant Demographics

No	Age	marital status	Occupation	number of children	education	Husband job	economic situation
1	39	Married	Employed	2	PHD student	Engineer	Good
2	27	Single	Housekeeper	-	BS	-	Good
3	40	Married	Employed	2	PHD	Engineer	Good
4	30	Single	Employed	-	MSc student	-	Average
5	16	Single	student	-	High school student	-	Average
6	32	Married	Housekeeper	1	Diploma	Accountants	Average
7	44	Married	Housekeeper	3	Second year of Highschool	Self employment	Average
8	23	Single	Employed	-	Associate Degree	-	Average
9	31	divorced	salesman	1	BS	-	Average
10	45	Married	Teacher	2	BS	Nurse	Excellent
11	22	Single	student	-	BS student	-	Average
12	15	Single	student	-	High school student	-	Average
13	37	Married	Employed	1	BS	Employed	Average
14	18	Single	Housekeeper	-	Diploma	-	Excellent
15	26	Married	Employed	-	BS	Employed	Average
16	21	Married	Housekeeper	-	Associate Degree	Free	Average
17	37	Married	Employed	2	Diploma	Employee	Average
18	41	Single	Teacher	-	MSC	-	Average
19	37	Single	self-employment	-	MSC	-	Good
20	26	Married	Employed	1	MSC	Employed	Average
21	34	Single	Housekeeper	-	third year of High school	-	Weak

The age range of participants was 15–45 years. In order to gain different perspectives, Participants were selected with the maximum variety such as variable levels of age, socioeconomic, menstrual cycle, educational and marital status, employment, spouse's employment, number of children and history of premenstrual syndrome in the family.

The number of samples was not clear from the beginning and data collection continued until saturation in Tehran from December 2016 to June 2017. Inclusion criteria 21 women who volunteered to participate in this research included: have moderate to severe premenstrual syndrome based on the PSST questionnaire, ability

reading and written Persian, age range of 15 to 45 years, not having chronic physical and mental illness or taking medication, normal menstrual history and having a normal body mass that might influence the study results. The time and place of the interview were decided according to participants' preferences. Aliases have been used to safeguard the women's obscurity. The study used a semi-structured interview that largely aimed to explore the impact PMS had, or was having, on women's lives. Each interview started with this question: "What has premenstrual syndrome effect on your quality of life?" "Tell us about your experiences with premenstrual syndrome". Subsequent questions were asked based on the initial responses and the interview guide. For a deeper and better understanding of participants' experience, we used exploration questions like "What do you mean?" "Why do you think so?" "Please explain more", "Can you give an example?" Interviews were conducted by SH.S and were audio recorded. Interview length ranged from 34 to 75 min (mean: 56 min). Because qualitative study can help to form insights of a problem, the content analysis method was selected from the affected women perspective [17]. Researchers listen to the interviews several times and repeatedly reviewed typed texts. Each interview to identify units of meaning was studied several times. Then units of meaning were reviewed several times and classified according to conceptual similarity. Themes, category and sub category were extracted from the clarification of these data [18,19]. Data analysis was supported by MAXQDA software in order to help data management, that has been successfully used in similar studies [20]. Strategies employed during the study to confirm accurate data collection and clarification included: Selection of key informants, Reading of the records by members of the team, Confirming the categories identified by the researchers by having two others, Return of the report of themes identified to the patient for validation. These strategies have been used previously for testing of credibility [21].

RESULTS

The demographic information of participants are presented in Table 1. Findings are presented as four themes; (i) physical consequences (ii) Psychological consequences (iii) Behavioral consequences and (iv) Familial - Social consequences. Category and sub category are shown in Table 2.

i. Physical consequences

This category is presented with seven sub-category. The experience of Participants showed that most of them were upset from negative effects of the physical consequence such as cardio-pulmonary, Genitourinary, Neurological, Skin and hair, Gastrointestinal, Musculoskeletal and General Health disorders and the quality of life of these women was affected.

About cardio-pulmonary system disorders, The majority of women has expressed problems as "Shortness of breath", "Palpitations", "Feeling pressure in the chest" and "Nasal congestion". In this regard, A 37-year old employee said: "I can not breathe easily two or three days before to Menstruation. It seems less air arrives to my lungs. I have feeling a thirst for air. Of course, I feel this more at night, therefore in sleepin time, I have need to put more pillow under my head".

Most of them complained that having the syndrome caused problems in the genitourinary area including "Itching and burning", "Polyuria" and "Frequent urination". A 18-year old girl said: "I have a lot of itching and burning sensation, a few days before a menstruation in the genital area. That makes for me so annoying therefore, I can not wear underwear".

In addition, disorders in the Nervous system was experienced such as "Headache", "Dizziness", "Numbness and Tingling of the fingers" and "Vertigo" in some of the participants with premenstrual syndrome. A 26-year old Married employee said: "headaches so bad, When I have headache these days, my skin head is very painful. I feel my hair is getting stretched. My eyes have burning. I need to sleep in the dark place and Close my head with a cloth to get a little better".

Some women mentioned that their major problem was in the Skin and Hair, such as "Red dermal points", "Creation of pale", "Coldness of the extremities", "Flushing", "Skin rash", "Darkness under the eyes", "Greasy hair" and "excessive sweating." In this regard, a married 32-year housekeeper said: "Ten days before the period, mostly small red spots appear on my legs. Of course, before these symptoms, my legs get pain, and the next day, these spots appear. I was always worried about this, but the doctor said there was no problem and my tests were good".

Another consequence of premenstrual syndrome which was effective in their quality of life was incidence of Gastrointestinal disorders : "Sensitivity to odors", "Stomach burning", "Nausea", "Dry mouth", "Constipation", "Diarrhea", "Flatulence", "Pest of Oral" and "Globus". A 21 year old married woman said: "These days, like pregnant women, I hate the smell of some foods. I do not like to cook".

Some women sufferd from Musculoskeletal disorders such as "Pain and swelling of the breast", "Pain and dryness of the joints", "Bone pain", "Back

pain", "Abdominal pain", "Pelvic pain" and "Leg pain". A 31 year old divorced woman said:

"A few days before menstrual period, My breasts are heavy and swollen. I am sensitive to wearing underwear. I do not like to something has skin contact with my breast. I can not sleep on abdomen due to pain in my breasts.

Most affected women had good general health but some women expressed symptoms such as "Weakness and Lethargy", "Edema (weight gain)", "Excessive fatigue", and "Reduced energy and power" which had been effective in their quality of life. A 16 year old single girl said: "These days I feel

Table 2. Category and sub-categories

Category	sub-categories	Meaning of unit
Physical consequence	Cardio-Pulmonary disorder	"Shortness of breath", "Palpitations", "Feeling pressure in the chest" and "Nasal congestion"
	Genitourinary disorder	"itching and burning", "polyuria" and "frequent urination"
	Neurological disorder	Headache", "Dizziness", "Numbness and Tingling of the fingers" and "Vertigo"
	Skin and hair disorder	"Red dermal points", "Creation of pale", "Coldness of the extremities", "Flushing", "Skin rash", "Darkness under the eyes", "Greasy hair" and "excessive sweating."
	Gastrointestinal disorder	"Sensitivity to odors", "Stomach burning", "Nausea", "Dry mouth", "Constipation", "Diarrhea", "Flatulence", "Pest of Oral" and "Globus".
	Musculoskeletal disorder	"Pain and swelling of the breast", "Pain and dryness of the joints", "Bone pain", "Back pain", "Abdominal pain", "Pelvic pain" and "Leg pain".
Psychological consequence	General Health	"Weakness and Lethargy", "Edema (weight gain)", "Excessive fatigue", and "Reduced energy and power"
	Mood	"Anxiety", "Anger", "Nostalgia", "Disappointment", "Fractious", "Irritability", "Depression", "Instability and Erratic", "Impatience", "Pertinacity", "Pernickety", "Isolationism", "Obsession" and "Negative stress"
	Cognitive	"Recurrent thoughts about death", "Feeling of unreality", "distraction and forgetfulness", "Pessimism", "Reduction of focus", "Memory impairment and learning", "Reduced motivation and self-confidence", "Much mental conflict" and "Disturbance in the mind image of their sex"
behavioral consequence	Emotional	"Invective", "The mess and restlessness", "Unconscious crying", "Apathy", "Hatred", "Fear", "Duality of feeling", "Fighting and Controversy"
	Sleep pattern changes	"Too much sleep", "Bad sleeping", and "Decrease sleep"
Familial-social consequence	Nutrition pattern changes	"Overeating", "The tendency to consume lots of water and fluids", "Tendency to eat sweets", "Anorexia" and "Craving certain materials"
	Defective interpersonal relationships	"Weak interactions and restrictions consideration to Husband and child", "Weak interaction with parents and other family members", "Inability to establish emotional relationships with husband and child", "Inability to establish emotional relationships with parents and other family members" and "Weak interaction with friends and colleagues and clients"
	Sexual disorder	"Decrease in libido and lack of interest in Sexual relationships", "Crying after intercourse", "Reduce the intensity of orgasmic feelings", "Reducing sexual excitability", "Painful intercourse" and "Reducing satisfaction and Sexual pleasure".
	Social isolation	"Reducing occupational and educational activity", "Reducing participation in entertainment and Presence among people," and "Reducing daily activities of life"

bad, I have no power at all. In general I feel weak. I can not even do my works. Getting started is really hard for me. All my planning disrupt”.

ii. Psychological consequences

In psychological consequences these effects are occurs commonly In the form of Mood, Cognitive and Emotional symptoms and problems. Although some women with premenstrual syndrome Satisfied from their physical health, But their mental health was very different in this period with others

In the context of mood problems, the majority of women with premenstrual syndrome had "Anxiety", "Anger", "Nostalgia", "Disappointment", "Fractious", "Irritability", "Depression", "Instability and Erratic", "Impatience", "Pertinacity", "Pernickety", "Isolationism", "Obsession" and "Negative stress". A 39-year old woman that had two children said: "Days close to the menstrual about a week before, I feel a sense of intense anxiety. I have so excited. This condition Presses to my stomach. I have to push my stomach to get a little better". In addition a 44 years old Married woman with three children stated: "I'm so instability and Erratic before the period. I do not know why I am like that. For a moment, I like to do something, But I do not like the other moment. My husband says these days can not rely on you. Generally I make so many decisions without thinking. I'm constantly talking about the future and I am planing to do that and do it. And I'm constantly dreaming. I have no stability in decision and soon my mind changes. For example Suddenly I want to go shopping and Watch the street for hours, And Suddenly my decision changes and I do not like to go outside”.

In Cognitive disorders such experience of participants included: "Recurrent thoughts about death", "Feeling of unreality", "distraction and forgetfulness", "Pessimism", "Reduction of focus", "Memory impairment and learning", "Reduced motivation and self-confidence", "Much mental conflict" and "Disturbance in the mind image of their sex". In this regard, A 39-year old married woman with two children said: "Near the menstrual, Sometimes I am feel like a sense of separation from the surroundings. It seems like I see everything from above and everything is far from me. That accompanied with shortness of breath and a heartbeat. It is very horrible and unbelievable for me. I went to the cardiologist and lung doctor. I did the test and echo, but everything

was healthy. They told me go to the psychiatrist. he told me those were panic attack, In some women near the menstrual, maybe more occur. In these attacks, seems like that I experience death. A 27-year old Single girl and housekeeper said: "The discomfort of this period is one of the big pain of women in world. Of course, I did not experience the pain of delivery, But it may be like that. I do not have good feel to my gender in this times and I hate being a girl”.

With respect to the emotional disorders, the experiences of participants included: "Invective", "The mess and restlessness", "Unconscious crying", "Apathy", "Hatred", "Fear", "Duality of feeling", "Fighting and Controversy". A 40-year-old married woman has two children that said: "I hate my husband these days. I hated one time so much that I Blocked her phone number. I even changed the images of the telegram profiles to show my sense of hate to him, But then this feeling will completely disappear". A 39-year-old married woman with two children and phd student said: "Sometimes these days I tell to myself why I married with this husband? And blame myself for the Marriage, if I had waited I could have a better husband. Another day my mind changes, I say to myself Wow, How good is my husband, I love him. It's all a strange contradiction for me. From a person made two images in my mind, Before menstrual Hate, after that love”.

iii. Behavioral consequence

Also the quality of life of affected women is influenced by the effects of behavioral changes which appeared as "changes in sleep patterns" and "nutritional patterns". Sleep pattern changes including: "Too much sleep", "Bad sleeping", and "Decrease sleep" in affected women caused problems for them, which could have a negative impact on other aspects of daily life. In this regard, a 26-year old Married woman and employee stated: "I am problem at beginning or continue sleeping before menstrual days. At night, I wake up repeatedly, So in the morning, I do not well focus at work”.

Participants had experienced different nutritional patterns. Most of the changes include "Overeating", "The tendency to consume lots of water and fluids", "Tendency to eat sweets", "Anorexia" and "Craving certain materials". In case of problem in nutritional patterns, a 18-year old girl said: "I am eat so much these days. I open a lot Refrigerator door. How many times in the middle of the night I

had hungry and ate food again. Of course after that, I had pain in my stomach. At all I can not control overeating."

iv. Familial-Social consequence

Another problems of women with PMS, which was highly repeated, was the Familial-social consequence. Family-social consequences influenced on the quality of life of the participants. The implications generally included "Defective interpersonal relationships", "Sexual dysfunction" and "Social isolation." In the context of defective interpersonal relationships Participants comments includ: "Weak interactions and restrictions consideration to Husband and child", "Weak interaction with parents and other family members", "Inability to establish emotional relationships with husband and child", "Inability to establish emotional relationships with parents and other family members "and" Weak interaction with friends and colleagues and clients ". In this regard , A 39-year old married woman with two children said; "When I'm at home, I can not bear my children and my husband and having relationship with them is trouble for me. My daughter likes to talk with me but I do not have a good relationship with them before menstrual. Even in the morning, it's hard for me to wake up and handle family members. I Hardly prepare my child to going to school" .

Based on the data analysis , in sexual dysfunction to the following can be noted: " Decrease in libido and lack of interest in Sexual relationships ", "Crying after intercourse", "Reduce the intensity of orgasmic feelings" ,"Reducing sexual excitability", "Painful intercourse" and "Reducing satisfaction and Sexual pleasure ". The married woman 40 years old that had two children in this regard said : "I hate sexual intercourse during this period. I try to sleep in another room where my wife is not there and I avoid from him. Maybe I sometimes get in touch with him, but in my spirit I have a bad effect. One day that I do not have sex, I say to myself What a good today passed. My husband very sad about this subject, This situation has a bad effect In our life".

Social isolation also had a negative impact on the quality of life of the affected women. "Reducing occupational and educational activity," "Reducing participation in entertainment and Presence among people," and "Reducing daily activities of life" were some of the experiences of women In this context. Married woman 39 years old said so: "I dont love to work outside the house before

menstrual and I do more part-time work. say to myself wish I had a housekeeper . Working outdoors is not suitable for women. summary, I say a lot From these words . Sometimes I do not like my workplace and even those days I might decide to look for another job. But when this period passes I regret it and I say to myself, my work is better". In addition, A woman 26- years old married Employee with a child stated: "I have interest to work outdoors and I love shopping. In general, this period takes me away from work and life, for example lifting a glass of water is hard for me and I do not like go to outside and even buy the necessary needful".

DISCUSSION

Most studies on the quality of life of women with premenstrual syndrome have been undertaken quantitatively and measured by questionnaires. Therefore, it was better to examine the quality of life of these women using their experiences . This qualitative research was part of a sequential exploratory study that for the first time, In order to better understand experiences of domination premenstrual syndrome on quality of life in affected women was done . Our findings highlighted a wide range of difficulties and challenges explained by participants about quality of life. The physical, psychological, behavioral, and social-familial consequences In these times has reduced their quality of life and most of these women did not feel happy due to changes caused by this syndrome. Our study reports four category which take the multiple ways in which PMS affects the women's quality of life . This is mainly intercede by sense of self and shaped by the feedbacks of significant others in their social world. The assessment of quality of life in women with premenstrual syndrome helps to understanding the experiences of women and deeper understanding of their problem. In addition, it would help health care providers giving health services and educating these women to cope with their condition and enhance their self-confidence. Catherine et al in study with a Grounded theory approach, described women's experience of premenstrual syndrome. Participants repeatedly mentioned psychological and physical symptoms and disturbance in relationships with friends and family. Common Physical Symptoms including: Abdominal bloating, pain in the breast and headache, Psychological symptoms: anxiety and depression, confusion, irritability, anger, and that finally decreased social function and daily

activities[22]. Lundman *et al* also in the phenomenological study stated that premenstrual syndrome is a terrible and sad experience for women which has negative effects on their mental status and health[23].

In the qualitative study of Akbari and *et al*, created disorder viewed in the process of marital life and problems at work and living viewed such : absence at work place and reduced efficiency. In affected women , decreased satisfaction of life. That had so led to problems intensification and feel helpless in the affected women[24]. Based on study of Ussher *et al*, The majority of women experienced premenstrual changes such as intolerance, irritability, sensitivity Increase, negative feelings toward others, and the desire to be alone[25]. Participants in the study of Jane *et al* reported premenstrual syndrome as an out-of-control issue with anger and a lack of attention to the partner that it often led to frustration and distance with her husband[26]. In the İlhan *et al* study, there were also abnormalities in the sexual function of women with premenstrual syndrome, So that concerns and discomfort were created in the context of the relationship [27]. Ussher in their research, reached to this conclusion that women with premenstrual syndrome suffered from excessive emotional reactions and difficulties in relationships and change in mood [28]. In addition, Barry the effects of syndrome on the parental role of women with premenstrual syndrome were discussed. they said that were very irritable and constantly scream and are often tired and depressed. Some of them have beaten their children and they have lost control. Some also have broken or destroyed the equipment[29]. The behavioral consequences of the syndrome, which had an impact on the quality of life of the affected women , in various studies is Increased appetite [8,31 ,30]and sleep problems [31,32].

Due to the effects of this syndrome on quality of life, educational and therapeutic program should be allocated and facilities for accepting and believing the problems and appropriate treatment should be prepared in affected women. We hope problems, limitations, and stresses was decreased in daily lives Iranian women with PMS. this study was not without limitations. one limitation to this study were that Although the findings of the qualitative approach lead to a better understanding of quality of life , of the perspective of affected women, But it can not necessarily be Generalize into a large population with the same degree of

confidence. Another limitation of our research was the selection of participants only from Tehran which may be different from the perspective of women with premenstrual syndrome in other cities.

CONCLUSION

The results of this study suggest that PMS is a heterogeneous disease and its effect on quality of life from perception in affected women : physical, psychological, behavioral and family-social consequences; therefore, It is necessary to take a more general approach to women care beyond treating physical symptoms. Using dialogs and open ended questions provided an opportunity for participants to express their quality of life status. Future study should seek to better understand quality of life as it relates to different ethnic and racial characteristics in Iran.

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Availability of data and materials

The datasets through and/or analyzed during the current study are accessible from the corresponding author on reasonable request. All data produced or analyzed during this study are involved in this published article.

Authors' Contribution

ZT: Project management, designing study, monitoring data analysis, preparing and compiling article .SHS: participated in designing and managing the study, collecting and analyzing data, preparing and compiling article.AM: participated in designing and managing the study, collaboration in data analysis, preparation and compilation of the article. RM: participated in designing and managing the study. All authors read and approved the final version of manuscript.

Ethics approval and consent to participate

The ethics committee of the Tehran Medical University approved the study (decree number = IR.TUMS.UCR.REC.1395.01846) .Information pages were provided to participants

explaining the purpose and aims of the research to them. Agreement forms were given to them to sign or thumb print

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no conflicting interests.

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