

# Women's Spontaneous Coping Styles to Withstand Premenstrual Symptoms: A Thematic Analysis

Nader Abazari<sup>1</sup> (PhD), Hojatollah Farahani<sup>2</sup> (PhD)

1. Department of Clinical Psychology, Faculty of Humanities, Shahed University, Tehran, Iran

2. Department of Psychology, Faculty of Humanities, Tarbiat Modares University, Tehran, Iran

**Submitted:** 28 November 2023

**Accepted:** 13 January 2024

Int J Behav Sci. 2024; 17(4): 203-208

## Corresponding Author:

Nader Abazari  
Department of Clinical Psychology,  
Faculty of Humanities,  
Shahed University,  
Tehran,  
Iran  
E-mail: naderabaazari@gmail.com

## Abstract

**Introduction:** It seems that women have their own personal ways to manage Premenstrual Symptoms (PMS) before seeking professional treatment. Therefore, the present study has attempted to clarify the unprompted coping styles to withstand PMS using a thematic analysis method.

**Method:** A thematic analysis method has been used in this study. The population included the university students studying in the academic year of 2022 and 2023. The sampling method in this research was done using purposive sampling. Data collection was performed via in-depth semi-structured interviews that took place on the Google Meet platform. All of the audio files were written word by word on the same day. The data analysis was done via MAXQDA-2020.

**Results:** The number of eligible participants was eleven, between 27 to 34 years old. On the whole, the analysis demonstrated five groups of themes each with some subthemes (Purposeful/Purposeless Overwork, Accessible Comforter, Passivity, Help-seeking, trying to stay conscious).

**Conclusion:** According to the findings of the present study it can be stated that spontaneous strategies to manage PMS have certain characteristics that can be classified into five main themes; So, the identified themes can be a clue that women are prepared to accept the behavioral measures when faced with PMS, because they themselves already use these kinds of methods spontaneously.

**Keywords:** Women, Premenstrual Symptoms, strategy, Premenstrual Syndrome

## Introduction

Traditionally, premenstrual Syndrome (PMS) is known as multiple rebounding symptoms that are concurrent with the menstrual cycle, these symptoms come out a few days before and fade away within some days after the onset of menstruation [1]. The PMS and Premenstrual Dysphoric Disorder (PMDD) are gradually becoming common disorders [2]. One of the accepted reasons for the acceleration of the occurrence of these symptoms is due to the relative improvement of the nutritional status [3], early puberty [4] and the industrialization of societies [5].

About 90% of women of reproductive age probably experience some mild to severe PMS [6, 7, 8]. Among this population, 20% to 40% confront PMS [9], and 2% to 8% of them undergo PMDD [10, 11]. In Iran, there is no consistent report on the epidemiology of PMS, but some reports have estimated it similar to the global rate, with an average of 80% [12-14].

Although PMS encompasses manifold indications [15, 16], pain is the most commonly reported symptom in 71% of cases [17, 18]. Premenstrual pain may taper off women's quality of life in many ways namely reducing work and academic productivity, disrupting relationships, and incurring medical costs without improvement [19]. Theoretically, the

strategies to deal with PMS can be sorted into two broad categories [20]. Firstly, the methods are performed by different health professionals as proof, gynecologists or psychiatrists [21]. Secondly, the techniques are carried out by a person spontaneously without neither the help of others nor receiving special training [22, 23, 24].

As the first category, we should mention all kinds of medications [25], psychotherapies [26] and psycho-educations [27]. Most psychotherapeutic methods are done both individually and in groups [28]; besides, the methods based on family therapy and couple therapy have been developed to manage PMS [29]. In the case of the second category, it includes a wide set of behaviors that are often spontaneously formed or transmitted to women as a result of intergenerational training [30]. Methods such as using a hot water bottle, praying, engaging in other activities such as watching TV and, in some cases, sleeping without observing the usual sleep hygiene framework [25].

The second category of coping strategies with PMS proposes an important hypothesis, that women have their own personal ways of managing PMS before seeking professional treatment [27]. As a rule, the repeated use of these methods causes women to be conditioned towards using these methods [30]. In other words, people have preparations to profit from professional treatment methods, so these capacities can affect therapeutic results [14].

Regardless of the theoretical differences between different treatments, some studies define the main challenge as how effective the treatment can be [23, 24, 30]; Meanwhile, there is another challenge based on how much and under the influence of what factors women tend to use the available treatments [10, 27-29].

The shortcomings observed in the professional treatments used for the management of PMS, reduce the benefit of some women from these treatments [30]. In order to exemplify, the latency to treatment effects has been introduced as one of the factors decreasing women's desire for professional treatment [1]. In a study, the methodological flaw of some studies was pointed out. As it has been claimed, most of the medical and non-medical treatments are designed to relieve the symptoms of PMDD, while they are also extended to the condition of PMS [24]. This issue becomes more important when it is observed that women suffering from PMS do not necessarily seek professional treatments as much as women suffering from PMDD [7]. In addition, PMS is more manageable, which if ignored, will turn into PMDD over time [4].

Research have shown that during this short period, women feel the greatest need for care and support. In fact, the highest level of functional disability occurs in women in the general population during this short period of time [16]. Another necessity for this research is that PMS are not considered to be culturally dependent in terms of etiology, but it has been reported that cultural factors, teachings and customs can affect the intensity of PMS, moreover, the methods used by females to cope with these symptoms [20, 26, 27].

According to the suggestions mentioned in the studies for further research, it seems that paying attention to

psychosocial factors has been one of the most common suggestions [14, 20, 24]. Therefore, paying attention to the initial preparations of women before receiving treatment, regarding the desire to choose treatment methods, can be one of the options that deserves a lot of attention [21]. The present study has made an attempt to clarify the unprompted coping styles to withstand PMS using a thematic analysis method.

## Method

Thematic analysis has been done using interpretive and inductive approaches. This type of data analysis has been chosen because the thematic analysis method is suitable for identifying lesser-known phenomena and provides the possibility of inductive coding and categorization.

Thematic analysis is a method for analyzing qualitative data. It is usually applied for a set of texts implemented in an interview or discussion. In this kind of method, the researcher closely examines the data in order to identify common themes, ideas, and patterns of meaning that occur repeatedly [31]. Hence, in this research, the classified inductive data and using existing research literature, explain the way Iranian women deal with PMS. The population studied in this research included the students who were studying in Tarbiat Modares University in the academic year of 2022 and 2023. The sampling method in this research was done using purposive sampling. This procedure continued until the theoretical saturation of the data at the eleventh participant when there was no new information emerged. Regarding the purpose, in order to achieve the maximum diversity in the data, efforts have been made to include diversity and breadth in the selection of the group of participants in the research.

The inclusion criteria of this study was being in the age range of 18 to 35 years and a regular monthly cycle.

The exclusion criteria were taking antidepressants, anti-anxiety, antipsychotic drugs, and mood stabilizers, pregnancy or breastfeeding, taking immunosuppressive drugs due to the possibility of abnormal growth of the uterus, lower abdominal and pelvic pain, dysregulation in the endocrine system and ovaries, and any physical condition that leads to cessation of menstruation and menopause. In this research, data collection has been performed via in-depth semi-structured interviews. In general, the most common method of data collection in qualitative content analysis is an in-depth interview with open questions.

All phases of study had been approved by the ethical committee of Shahed University (IR.SHAHED.REC.1399.118). Before conducting the interview, the purpose of the research had been explained to the participants. Also, their consent was obtained to do the interview and record it. They were reminded that the information related to them would remain confidential and protected. The interview took place on the Google Meet platform. Using this platform gave us the ability to conduct interviews in a safe environment, and more flexibility to schedule meetings. The participants were also assured that they were completely free to answer the questions and they would

have the right not to answer if they did not wish to elaborate on a question. Furthermore, during the interview, the participant's non-verbal behaviors (gesture, head and body movements, facial expressions, tone of voice, emotional reactions and feelings, etc.) were recorded. In order to get more detailed information, to examine the questions and interview method, three preliminary interviews were conducted with the participants, then the main interviews had been done. All of the audio files were written word by word on the same day.

The analysis process has been done simultaneously and continuously with data collection based on the algorithm proposed by Granheim and Lundman (2004) in data analysis, which is a systematic and transparent 8-step method for processing and analysis as described: 1- Data

preparation, 2- Deciding on the unit of analysis, 3- Classification, 4- Coding test in a sample of the text, 5- Coding the entire text, 6- Checking the coding stability, 7- Conclusion from the coded data, and 8- Report on how to analyze the data and findings [31]. Besides, it should be noted that data analysis has been done via MAXQDA-2020.

## Results

The number of eligible participants was eleven, between 27 to 34 years old. Two participants were studying for their PhD degree, and 9 out of 11 were studying in M.A degree (Table 1). On the whole, the analysis demonstrated five groups of themes each with some sub themes. Each main theme and its sub themes are described below and illustrated by participants' relevant quotations and indicated by their study ID number (Table 2).

**Table 1. Demographic Information of Participants**

ID	Age (year)	Educational degree	Order of birth	Marital status
1	33	PhD	The middle child	Married
2	31	M.A	The last child	Married (with a child)
3	34	PhD	The first child	Unmarried
4	28	M.A	The first child	Unmarried
5	30	M.A	The first child	Unmarried
6	27	M.A	The first child	Unmarried
7	34	M.A	The middle child	Unmarried
8	29	M.A	The last child	Married
9	33	M.A	The first child	Unmarried
10	25	M.A	The last child	Unmarried
11	29	M.A	The middle child	Married (with a child)

**Table 2. Description of Themes, Subthemes and their Relevant Quotations**

Theme	Subtheme	Quotation
Purposeful/Purposeless Overwork	Watching movie	I don't have a specific plan that I want to do to feel better, but I've noticed many times that I'm more inclined to watch movies on these particular days.
	Listening to music	In order to feel better on these special days, I do almost anything, like listening to music.
	Reading	It may be an exaggeration, but I feel that reading books makes me feel better.
	Web surfing	In order not to think about my bad mood, I drown myself in internet pages.
	Doing housework	Usually, I try to bear my mood and get to work, especially housework.
	Doing personal things even reluctantly	The truth is, I'd rather be busy than be idle, I find being idle makes me worse, no matter what I do, I'd rather be busy.
Accessible Comforter	Drinking herbal tea	I should mention that I drink herbal teas to control the situation
	Special food consumption	In this situation, I try to follow a special diet.
	Shower	Taking a shower is one of the things I do to feel better.
	Taking medication	Sometimes, if I am in a special situation and feel pain, for example, I want to participate in a meeting or a party, I take mefenamic acid.
Passivity	Hot water bottle	When I'm in extreme pain and there's nothing I can do, I end up trying a hot water bottle.
	Sleeping	Sometimes I even forcefully sleep to make the situation bearable.
	Canceling programs that can be canceled	I can't really do my work and I do almost nothing during the day, except for the things I have to and can't stop, like some housework and cooking.
Help-seeking	Sick leave	If I work, I will definitely take time off in the days before my period because it is really hard to tolerate people during these days.
	Going to the doctor	If I have a problem with menstruation, I firstly refer to my previous experiences, but if the issue continues, I will discuss it with a specialist.
Trying to stay conscious	Referring to close people	When I feel very helpless, I ask someone around me like my mother to help me.
	Period tracking via the calendar	I try to keep a calendar of the days of my menstrual cycle so I know when the symptoms might start.
	Maintaining awareness of symptoms	Most of the time, I try to maintain my awareness that my bad mood is due to physiological changes in my body and I am not sick.
	Considering menstruation as normal	I don't have a special attitude towards menstruation, it's a natural thing, I don't think about it anymore.

The data showed that the four main themes have a behavioral nature (Purposeful/Purposeless Overwork, Accessible Comforter, Passivity and Help-seeking) and the one remaining theme has a cognitive nature (Trying to stay conscious). Also, it was found that married women with children, compared to single women or married women without children, maintain their functions more during the premenstrual period. The highest weight was related to the theme (Purposeful/Purposeless Overwork) and the lowest weight was associated with (Trying to stay conscious). Another important and interesting point obtained from the in-depth interviews was that it seems that people tend to extend their coping strategies to days other than menstruation. In other words, women who slept more during menstruation had adopted a lifestyle that was associated with more inactivity during the month. In the same way, women who had a more active and busy life during the month, used more active methods in order to deal with PMS.

## Discussion

The present study aimed to clarify the unprompted coping styles to withstand PMS. Five main themes emerged from the participants' statements, which indicated the methods they tend to use most to deal with premenstrual symptoms.

In a report, it is stated that women between the ages of 20 and 35 use four general categories of strategies to deal with premenstrual symptoms: 1- Management and adaptation to pain, 2- Use of painkillers, 3- Referral for treatment, 4- Use of non-pharmacological interventions [24]. Moreover, it has been shown in studies that subjects can perceive more bearable pain by using cognitive methods of dealing with pain in about 60% of the cases [1, 22]; While the results of the present study disclose four main themes with behavioral nature and one theme with cognitive quality.

In line with the results obtained from the present research, it has been reported that women go to a therapist as the last option to manage PMS [25]; Moreover, it has been stated that most women, in order to deal with PMS, go to a therapist when this procedure is suggested by important people around them, such as a family member or close friends [23]. Meanwhile, in the present study, it was shown that in addition to following the advice of close friends and mothers to see a doctor, women are also significantly influenced by the content published on the Internet and television programs.

As shown in the only cognitive theme extracted from the data of this research, one of the strategies that has been adopted to deal with PMS is a cognitive approach that consists of a believing "What can I do?", despite the passive nature of this strategy, some women using this method have shown to experience more tolerable symptoms [5]. In this regard, it has been pointed out that some deterministic approaches to the experience of pain, such as believing that the experienced pain is a manifestation of a divine test, have been among the strategies that some women have used to make the symptoms more tolerable [24].

Therefore, in agreement with the present study, it can be concluded that being aware of the situation and having specified information (even if this information does not have a scientific basis and is derived from the statements of those around her), is one of the strategies women tend to use to bear PMS [14].

Furthermore, intensification of doing a task has been one of the main themes identified in this research (Purposeful/Purposeless Overwork), so that some women increase their activity to deal with premenstrual symptoms. It should be noted that this increase in activity may be purposeful (e.g., Taking care of the academic day) or non-purposeful and impulsive (e.g., Browsing the web). In this regard, Wong et al. have claimed that one of the strategies of women to deal with premenstrual pain is to intensify the existing strategies. For example, if a person takes painkillers to control pain, over time, the amount of the drug used will increase. If someone does physical exercises, the intensity and duration of these exercises will increase [15].

Unlike the present study, in which the strategies used by women to deal with PMS are categorized and finally five main themes are extracted from it, in similar studies, either no codified classification was provided, or a classical general classification was used [18]. In an investigation, it is stated that these strategies fall into three categories: behavioral, cognitive, and emotional [9]. This report is aligned with the themes of overwork and trying to stay conscious.

Also, each of the strategies reported in previous studies can be included in one of the themes identified in the current research, these strategies include: Professional strategies [18], Spontaneous strategies [4], Acceptance and adaptation to pain [13], Use of painkillers [27], Use of non-pharmacological interventions [23], Cognitive strategies [24], Behavioral strategies such as relaxation and abdominal breathing [28], Decrease focus on pain [19], Strategies based on pain tolerance threshold [12], Traditional recommendations such as hot water bags or salt bags [19], Consumption of traditional foods such as teas [16], Talking [5], Getting busy with other things [3], Intensification of existing strategies [8], Watching TV [28], Listening to music [35], Isolation [28], Practicing maternal duties [17], Performing pre-determined and permitted religious rituals, such as asking for forgiveness [25], and Accepting pain as a divine test [1].

The lack of sufficient knowledge about the unprompted methods that women use to deal with PMS, not only causes incomplete knowledge of psychologically healthy and unhealthy behaviors among women, but may also distort treatment methods [1]. As reported in the results, married women who had children showed the most functioning, the most active strategies, positive attitude towards menstruation and tried to normalize life conditions along with experiencing PMS. This finding was also true for women who were employed. In this regard, it has been mentioned that women, especially married women with children and working women, sometimes comment that the existing treatment methods to improve PMS are not useful for them. This is due to the fact that

they want to return to normal life as soon as possible, while most existing psychotherapies have long treatment processes [22, 24, 28]. Furthermore, some women are more inclined to receive internet-based treatments, perhaps the reason for this desire is that in internet-based treatments, information is provided clearly and directly to clients, and also people feel that the treatment is more accessible and faster [10]. In this regard, it has been shown that clients, in a situation where they apply for professional therapy, tend to use therapy that allows them to act more independently [19], and they use methods that preserve their independence at least mentally. For example, drinking herbal teas for pain relief leads people to believe that they can do this for themselves, and that they can do so without further disrupting their life processes [18].

Another important point that is sometimes overlooked is that PMS, in addition to physical and psychological factors and even genetics, are also influenced by people's lifestyles. As shown in the findings of this research, a person who has a passive life during the month and does not follow a specific plan for daily life, also uses passive methods such as sleeping to deal with PMS. Therefore, it seems that modifying a person's lifestyle can be a therapeutic measure to improve PMS.

The limitation of this research was examining only among a student sample. The data obtained from this research can be evaluated in other samples such as housewives, non-student working women and even teenage girls. Also, the use of mixed methods can improve the validity of the obtained results. Moreover, from a practical point of view, according to the data obtained from this study, it is suggested to use interventions that have more behavioral aspects in order to relieve PMS.

## Conclusion

In general, according to the obtained data, it can be concluded that women's unprompted strategies to manage premenstrual symptoms have certain characteristics that can be classified into five main themes (Purposeful/Purposeless Overwork, Accessible Comforter, Passivity, Help-seeking, trying to stay conscious). Also, the identified themes can be a clue that women are prepared to accept the behavioral measures when faced with premenstrual symptoms, because they themselves already use these kinds of methods spontaneously.

## Conflicts of Interest

The authors declare that they have no competing interests.

## Ethical Approval

The research has received the approval of the ethics committee of Shahed University. Approval ethic ID: IR.SHAHED.REC.1399.118

## Acknowledgment

The authors are grateful to all the participants in this research.

## References

1. Andreano, J.M. and L. Cahill, Menstrual cycle modulation of medial temporal activity evoked by negative emotion. *Neuroimage*, 2010. 53(4): 1286-1293. doi.org/10.1080/21683603.2021.1942344
2. Gao M, Zhang H, Gao Z, Cheng X, Sun Y, Qiao M, Gao D. Global and regional prevalence and burden for premenstrual syndrome and premenstrual dysphoric disorder: A study protocol for systematic review and meta-analysis. *Medicine*. 2022 Jan 1;101(1).doi: 10.1097/MD.00000000000028528.
3. Matsumoto, T., H. Asakura, and T. Hayashi, Biopsychosocial aspects of premenstrual syndrome and premenstrual dysphoric disorder. *Gynecological Endocrinology*, 2013. 29(1): 67-73. doi.org/10.3109/09513590.2012.705383
4. Schiola A, Lowin J, Lindemann M, Patel R, Endicott J. The burden of moderate/severe premenstrual syndrome and premenstrual dysphoric disorder in a cohort of Latin American women. *Value in Health*. 2011 Jul 1;14(5):S93-5. doi.org/10.3109/09513590.2012.705383
5. Altamimi LA, Aseeri AS, Kamran Z, Kazi A, AlQuaiz AM. Prevalence of Premenstrual Syndrome and Associated Factors amongst Women Belonging to King Saud University in Riyadh, Saudi Arabia: A Cross-sectional Study. *International Journal of Women's Health & Reproduction Sciences*. 2022 Oct 1;10(4). DOI: 10.15296/ijwhr.2022.33
6. Tschudin, S., A global view on premenstrual syndrome. *Archives of Women's Mental Health*, 2022: 1-1. doi.org/10.1007/s00737-022-01261-5
7. Belakbir O, Rhaouti A, Belbachir S, Ouanass A. Characteristics of Premenstrual Dysphoric Disorder in Moroccan Women: A Cross-Sectional Study. *Sch J Med Case Rep*. 2022 Nov; 11:1108-14. DOI : 10.36347/sjmc.2023.v11i11.018
8. Mahmood A, Fatima N, Razaqat Z, Raza A, Shehzadi A. Impact of Premenstrual syndrome on quality of life of working women: Impact of Premenstrual syndrome on quality of life. *Pakistan BioMedical Journal*. 2022 May 31:104-7. DOI: <https://doi.org/10.54393/pbmj.v5i5.312>
9. Ducasse D, Jaussent I, Olie E, Guillaume S, Lopez-Castroman J, Courtet P. Personality traits of suicidality are associated with premenstrual syndrome and premenstrual dysphoric disorder in a suicidal women sample. *PLoS one*. 2016 Feb 10;11(2):e0148653. doi.org/10.1371/journal.pone.0148653
10. Moe, L. and K. Karlsson, Is it that time of the month?-Women's experiences of Premenstrual Dysphoric Disorder. A review. 2022. doi.org/10.1007/s10623-016-0211-x.
11. Busse JW, Montori VM, Krasnik C, Patellis-Siotis I, Guyatt GH. Psychological intervention for premenstrual syndrome: a meta-analysis of randomized controlled trials. *Psychotherapy and psychosomatics*. 2008 Dec 1;78(1):6-15. doi.org/10.1159/000162296
12. Babapour F, Elyasi F, Hosseini-Tabaghdehi M, Yazdani-Charati J, Shahhosseini Z. The effect of peer education compared to education provided by healthcare providers on premenstrual syndrome in high school students: A social network-based quasi-experimental controlled trial. *Neuropsychopharmacology Reports*. 2023 Mar;43(1):69-76. doi.org/10.1002/npr2.12305
13. Sahu, R., S.L. Barnwal, and S. Vishvakarma, Prevalence and Severity of Premenstrual Syndrome among Young Females in Chhattisgarh, India. 2022. doi.org/10.21276/apjhs.2022.9.1.34
14. Seyedtabaee, S.R., P. Rahmatinejad, and K. Feridooni, Prevalence and severity of premenstrual syndrome and its relationship with psychological well-being in students of Qom University of Medical Sciences, (Iran). *Qom University of Medical Sciences Journal*, 2019. 13(10): 72-80. DOI: [10.29252/qums.13.10.72](https://doi.org/10.29252/qums.13.10.72)
15. Sepede, G., M. Brunetti, and M. Di Giannantonio, Comorbid premenstrual dysphoric disorder in women with bipolar disorder: management challenges. *Neuropsychiatric disease and treatment*, 2020: 415-426. doi: 10.34172/hpp.2021.20.
16. Dutta, A. and A. Sharma, Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. *Health promotion perspectives*, 2021. 11(2): 161. doi: 10.34172/hpp.2021.20.
17. Mishell Jr, D.R., Premenstrual disorders: epidemiology and disease burden. *Am J Manag Care*. 2005. 11(16 Suppl): S473-S479. doi.org/10.1176/appi.focus.10.1.90
18. Shehadeh, J.H. and A.M. Hamdan-Mansour, Prevalence and association of premenstrual syndrome and premenstrual

- dysphoric disorder with academic performance among female university students. *Perspect Psychiatr Care*, 2018. 54(2): 176-184.[doi.org/10.1111/ppc.12219](https://doi.org/10.1111/ppc.12219)
19. Dawson DN, Eisenlohr- Moul TA, Paulson JL, Peters JR, Rubinow DR, Girdler SS. Emotion- related impulsivity and rumination predict the perimenstrual severity and trajectory of symptoms in women with a menstrually related mood disorder. *Journal of clinical psychology*. 2018 Apr;74(4):579-93.[doi.org/10.1002/jclp.22522](https://doi.org/10.1002/jclp.22522)
  20. Majeed-Saidan MM, AlKharraz N, Kaaki K, AlTawil N, Alenezy S, Ahamed SS. Prevalence of premenstrual syndrome levels and its management among female students of medical and non-medical colleges in Riyadh. *Cureus*. 2020 Nov 20;12(11). doi: 10.7759/cureus.11595.
  21. Kancheva Landolt, N. and K. Ivanov, cognitive behavioral therapy-a primary mode for premenstrual syndrome management: systematic literature review. *Psychology, Health & Medicine*, 2021. 26(10): 1282-1293.[doi.org/10.1080/13548506.2020.1810718](https://doi.org/10.1080/13548506.2020.1810718)
  22. Bilir, E., et al., The impact of dysmenorrhea and premenstrual syndrome on academic performance of college students, and their willingness to seek help. *Turkish journal of obstetrics and gynecology*, 2020. 17(3): 196.doi: [10.5455/jmood.20120912035016](https://doi.org/10.5455/jmood.20120912035016)
  23. Iacovides, S., I. Avidon, and F.C. Baker, What we know about primary dysmenorrhea today: a critical review. *Human reproduction update*, 2015. 21(6): 762-778.[doi.org/10.1093/humupd/dmv039](https://doi.org/10.1093/humupd/dmv039)
  24. Parra-Fernández ML, Onieva-Zafra MD, Abreu-Sánchez A, Ramos-Pichardo JD, Iglesias-López MT, Fernández-Martínez E. Management of primary dysmenorrhea among university students in the South of Spain and family influence. *International journal of environmental research and public health*. 2020 Aug;17(15):5570. [doi.org/10.3390/ijerph17155570](https://doi.org/10.3390/ijerph17155570)
  25. Cetin S, Yildiz I, Bozyel E, Gurcay E, Ustunkaya BG. The Effect of the Coping Methods Used by Nursing Students on the Prevalence of Premenstrual Syndrome. *International Journal of Caring Sciences*. 2022 May 1;15(2):805-14. 10.21608/TSNJ.2022.221605
  26. Karadeniz, H. and Ö.C. Gürkan, Women's Health Nursing in Traditional and Complementary Medicine Practices. 2022. DOI:10.5152/jern.2022.99897
  27. Sultana A, Rahman K, Heyat MB, Alexiou A, Akhtar F. An Integrative and Holistic Approach in Premenstrual Syndrome and Premenstrual Dysphoric Disorder Management. In *The Psychology of Anger 2022* Nov 15 (pp. 145-173). Cham: Springer International Publishing. DOI: 10.14235/bas.galenos.2018.2358
  28. Atim E, Okecho FN, Ndagire R, Nassozzi CL. Effects and coping mechanisms associated with Premenstrual Syndrome among female University Students in Central Uganda: A Cross-sectional Study. *Student's Journal of Health Research Africa*. 2022 Sep 30;3(9):11-. DOI: <https://doi.org/10.51168/sjhrafrica.v3i9.219>
  29. Elkoca A, Kahraman BY, Ozcan H, Aydin MA, Karakas S. Complementary and Alternative Medicine Used by Adolescents in Premenstrual Syndrome. A Cross-Sectional Study. *Progress in Nutrition*. 2022. <https://doi.org/10.23751/pn.v24i1.12191>
  30. Petta CA, Osis MJ, de Pádua KS, Bahamondes L, Makuch MY. Premenstrual syndrome as reported by Brazilian women. *International Journal of Gynecology & Obstetrics*. 2010 Jan 1;108(1):40-3. [doi.org/10.1016/j.ijgo.2009.07.041](https://doi.org/10.1016/j.ijgo.2009.07.041)
  31. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today*. 2004 Feb 1;24(2):105-12.[doi.org/10.1016/j.nedt.2003.10.001](https://doi.org/10.1016/j.nedt.2003.10.001)