

Unprompted Strategies to Cope with Premenstrual Pain among Women: A Systematic Review

Nader Abazari¹ (PhD), Hojatollah Farahani² (PhD)

1. Department of Clinical Psychology, Faculty of Human Sciences, Shahed University, Tehran, Iran
2. Department of psychology, Tarbiat Modares University, Tehran, Iran

Submitted: 5 June 2023

Accepted: 7 August 2023

Int J Behav Sci. 2023; 17(2): 11313-119

Corresponding Author:

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

Abstract

Introduction: Pain plays a crucial role in symptoms felt by women during menstrual cycles. There are a large number of styles to cope with menstrual pain. The present study aimed to identify women's common tendency to select unprompted methods to cope with premenstrual pain.

Method: This systematic review was carried out on related articles indexed by scientific databases including Google Scholar, PubMed, Science Direct, Scopus and ProQuest. According to keywords, the valid English articles published from 2002 to 2022 were browsed and extracted. The current study, was profited from the PRISMA systematic review reporting guideline and was registered with PROSPERO (CRD42022371744). In the present research, considering specified inclusion and exclusion criteria, 17 of 328 proper articles with a population of 4544 persons were evaluated.

Results: Findings implied that the majority of methods used by females to cope with premenstrual pain tend to be derived from behavioral components rather than other elements such as cognitive and emotional components.

Conclusion: Women of different ages, depending on the adopted lifestyle, try to improve adaptation to pain by engaging in behaviors to cope with premenstrual pain. It is essential to consider these unprompted methods when using or formulating a treatment to improve the condition of women with premenstrual pain complaints.

Keywords: Coping, Dysmenorrhea, Pain, Painful Menstruation, Premenstrual Symptom

Introduction

Premenstrual Syndrome (PMS) is commonly defined as a set of recurring physiological, psychological, and emotional symptoms that coincide with the menstrual cycles [1]. Understanding its complexity is vital since up to three out of every four menstruating women experience some sort of PMS [2]. Menstrual pain causes plenty of socio-economic problems; one of the main reasons for female's absence from school, university, and the workplace is premenstrual pain [3].

There are a large number of strategies to cope with premenstrual pain [4]. Traditionally, such strategies can be divided into two categories, the first of which includes the methods derived from a professional protocol performed directly or indirectly by health professionals such as psychiatrists, psychologists, gynecologists, nurses, social workers, and counselors [5]. The second category consists of strategies carried out spontaneously influenced by the person's previous teachings without asking for help from therapists [6].

The latter, provides plenty of information, including the manners females are more willing and ready to use, the needs people have in their minds, individual differences in pain perception, differences in the form of probable interventions, and keeping functions up at an optimal level [7].

The literature on the diversity of individual needs, wills, and attitudes has highlighted several precise points [8]. It has been pointed out that women with health education take painkillers more than any other methods to deal with premenstrual pain; this is interpreted as their previous information about the medications and their mechanisms, preparing them to use the drugs [9]. Meanwhile, contrary to predictions, it seems that women with health education use fewer painkillers in general due to the concern about their side effects; this is also justified by referring to people's previous knowledge about medications and their mechanisms [10].

According to research, women go to the therapist as the last option for premenstrual pain [11]. Further, most women, in order to deal with premenstrual pain, go to a therapist when it is suggested by their important people, such as family or close friends [12]. One investigation has stated that females intensify the existing strategies to struggle with premenstrual pain to postpone a therapist visit [7]. For instance, in the case of taking painkillers to manage menstrual pain, over time, the amount of the medications used is increased, or in the matter of physical exercises, their intensity and duration are expanded [13]. Moreover, according to a brief overview of personal strategies to handle premenstrual pain, in some cultures, such as African countries and India, these strategies are tied to cultural rituals, traditions, and religions, e.g., occupational isolation, giving up some daily activities such as cooking, and doing more actions [11]. Similarly, it has been emphasized that other demographic variables, such as the level of education and experience compared with the cultural context, have a lower effect. According to this report, in China, the tendency is to use self-care methods derived from traditional Chinese teachings, even if they do not have a clearly accepted scientific basis [14].

Out of a qualitative study, it can be concluded that women consider four general needs in using pain relief methods including being aware of the situation and having specified information (even if the information is not based on a scientific basis and is derived from the statements of those around her), maintaining the independence of action, maintaining balance in life, maintaining social and intimate relationships [15]. In some cases, patients' needs, attitudes, and underlying beliefs differ from the process and content of treatments provided to them [16]. It has been stated that as the pain perception of patients becomes more chronic, their need to receive available, short-term, and intensive treatments increases [17]. Several reasons can be considered for this phenomenon, one of which is that patients who suffer from chronic pain are probably economically weakened, and long-term treatment is not cost-effective; secondly, patients in chronic conditions have a lower tolerance threshold for performing multiple, complex, and long-term therapeutic tasks [18].

The various preferred strategies among females become more important when it is known that clients experience diverse needs and preparedness in their minds about using professional treatments which regardless of the difference in these variables, doing educational, preventive and therapeutic plans will not have a significant clinical effectiveness [18, 19]. Besides, the

person may accept the sick role due to the ineffectiveness of the therapies, and then she may believe being in such a bad condition that even approved therapeutic plans do not improve her situation [20, 21]. Therefore, due to the lack of sufficient information about preparation of clients with complaints of premenstrual pain and focusing more studies on the effectiveness of protocols according to the criteria of therapies for effectiveness, in this research, an attempt has been made to obtain a more clear understanding of the unprompted strategies used to reduce premenstrual pain, through a systematic review.

Method

The current study conforms to (PRISMA) the systematic review guideline [22], with the research protocol registered with PROSPERO (CRD42022371744).

Both authors independently searched, classified, and recorded papers using Excel software. Based on the goal, scientific databases, including Google Scholar, PubMed, Science Direct, Scopus, and ProQuest, were browsed to detect befitting articles published from 2002 to 2022 in English using the specified keywords. In order to access more information, the references provided in each article were skimmed. After collecting 328 papers, unrelated items were excluded by the researchers. In the next step, the related data from the full text of the included articles were examined. Ultimately, as shown in Figure 1, 17 articles remained in the study process.

The articles were explored using the keywords, including premenstrual syndrome, dysmenorrhea, painful menstruation, menstrual pain, premenstrual pain, psychotherapy, and psycho-education. The papers were selected purposefully according to the inclusion criteria: being related to the purpose of the current study, having a scientific research framework, and being published in a reputable journal. The exclusion criteria included examining professional treatments instead of self-taught methods by women themselves, assessing the attitude of others regarding the control of premenstrual symptoms rather than quantitatively or qualitatively examining women's frame of mind, and methodological similarity without sufficient justification.

The quality of the articles was assessed using the following items: adapting the structure of the article to the type of research, the investigation goal, the research community, the sampling process, the data collecting instrument, data analysis using statistical methods according to the objectives, the defined inclusion and exclusion criteria, compliance with ethical codes in research, presenting the results according to the research objectives, and finally a discussion of the findings. The articles were evaluated regarding the criteria^[23] provided for quantitative studies (6 items), qualitative studies (11 items), quasi-experimental studies (8 items), and experimental studies (7 items); they were assessed on a two-point scale (1 and 0). The cut-off point level was determined as ≤ 4 for quantitative investigations, ≤ 6 for experimental and quasi-experimental studies, and ≤ 8 for qualitative articles.

In order to extract data, firstly, the articles found were listed in a table with several classifications, including the number of samples, purpose, year of publication, findings,

and the main variable. At this stage, the information was extracted by Abazari and then checked again by Farahani; in case of disagreement, Farahani's opinion would be accepted according to the set criteria. As in the previous step, the data was recorded by Excel software.

Results

The present study reviewed 328 acceptable articles. The data of related investigations on women's orientation to choose an unprompted method to cope with premenstrual pain is presented in Table 1. From a total of 328, 17 articles with a population of 4544 individuals were reviewed concerning specified inclusion and exclusion criteria. Moreover, the articles were gathered from 14 countries, including Turkey, The United States, Pakistan, Malaysia, Iran, Canada, Ethiopia, The United Kingdom, Spain, India, Australia, Korea, Ireland, and Ghana, were evaluated, indicating the necessity of investigating this issue worldwide. One of the most important results obtained from this research was the tendency of most women to use rapid behavior-focused methods to cope with premenstrual pain. The most common reason given for this tendency was aiming to return to normal life faster using spontaneous behavioral methods.

Discussion

The purpose of the present study was to specify the coping methods that women use without using a therapeutic or educational method to manage premenstrual pain. What stands out in the result is that women of different ages, depending on the lifestyle adopted, try to improve adaptation to pain by engaging in behaviors to cope with premenstrual pain [13, 37]. As mentioned in the literature review, to cope with premenstrual pain, women display various behaviors, including watching TV, listening to music, exercising, and increasing the number of daily activities such as doing school work [13, 38]. According to some reviewed studies, approaches taken to handle premenstrual pain include going to health-related experts such as physicians, nurses, psychologists, psychiatrists, gynecologists; pharmacotherapy; nonmedicinal activities, and other empirical strategies. Further, almost one-third of the females do not know which medication they should take [12, 25].

Consistent with the literature, this research found that women in the case of premenstrual pain tended to talk to someone about this issue; the intended persons comprised their friend, mother, and doctor/nurse. Contrary to some previous studies, it suggested that systemic neglect of menstruation appeared to be common among participants [11, 15]. There are several possible explanations for this result; for instance, one of the attitudes among the investigated women has been that they try not to express their experienced symptoms and continue with their normal life because revealing menstrual symptoms are known as hysterical symptoms [19]. In other words, it may be because accepting premenstrual pain as a part of life and increasing efficiency in daily functions is admitted as one of the methods that women use spontaneously to manage the pain [20]. These results are possibly related to the findings that those with severe premenstrual pain are no more likely to use medical care than those with moderate pain [25, 40].

A great deal of previous research on premenstrual pain

acknowledges that most females use a combination of methods to cope with pain perception; for instance, women attempt to self-manage their pain symptomatically without any professional advice [11, 19, 38]. Additionally, women with mild, moderate, and severe premenstrual pain utilize some sort of self-management methods [41]. Several longitudinal studies have concluded that some women track their menstrual cycle via digital or paper calendars to know the condition and reaction of their body to different menstrual phases; this is done to predict the situation and reaction [29, 42]. A series of articles on premenstrual pain indicate a preoccupation with rituals related to menstruation and seclusion as methods that women use to cope with premenstrual pain. In contrast to several studies, others assume that the rate of using these methods is higher in women with more severe pain [36, 37]. In order to treat premenstrual pain, some women accept it as a phenomenon with the nature of trial and error; hence, each time, they have to make a different effort to adjust to pain. In line with this statement, it has been stated that one method women use to endure premenstrual pain is to abandon some daily activities and replace others temporarily while experiencing the pain [3, 21].

Studies consistently suggest that women's behaviors in managing premenstrual pain are mainly active in nature; to be more specific, in case of sick leave due to premenstrual symptoms, females do not stay idle at home but rather keep on their activities [6, 15]. Sleeping as a coping behavior is one of the few passive strategies used to cope with this pain [21]. Although it should be noted that it is also affected by sleep hygiene habits; thus, women with a pattern of napping during the day are more likely to sleep in order to deal with premenstrual pain [14, 43].

Most studies from different cultures have unanimously pointed out that women consult a professional health expert as the last option [41, 44]. Additionally, individuals necessarily do not visit a doctor by their own choice but rather by the recommendations of important people around them, especially their mother and close friends [45]. There are several reasons for the reluctance of women to refer to health experts, such as financial difficulties, the desire to recover very quickly, maintaining independence in controlling life, and the fundamental willingness to change lifestyle and habits [25, 38, 44]. In explaining this finding, two interpretations can be remarked. Firstly, according to the pain philosophy, it seems that the brain is prepared to make the pain more bearable by changing its form to more tangible pain (e.g., changing psychological pain into somatic pain or changing the perception of somatic pain through that of life challenge-caused pain) [46, 47]. The second interpretation is derived from the theoretical and practical findings of dialectical behavior therapy; thus, behaviors and their motivation are not disappeared but change between two ends of a dialectic [48]. This is why women tend to use unprompted methods to cope with premenstrual pain [49]. Hence, one side is the behavior related to pain, the suffering caused by pain, and continuing the perception of intense pain, while the other side is choosing behaviors unrelated to pain, such as watching TV, exercising, reading, and talking to others [50].

Table 1. Specifications of the Included Papers

No.	Authors	Objectives	Sample size	Age range	Measures	Type	Country	Results
1	Gulsen Eryilmaz & Funda Ozdemir (2010) [23]	Dysmenorrhea management strategies used by adolescents	1408	13 to 18	dysmenorrhea and relationships with families	Descriptive	Turkey	1- go to a health professional (8.9%), pharmacotherapy (46.1%), practical methods (24.4%). Pharmacotherapy was almost suggested by mothers (39.0%).
2	Anne Davis et al. (2006) [24]	To describe self-treatment patterns among menstruating females	76	19 years or younger	Investigator-administered questionnaire	Cross-sectional study	The United States	To talk about pain to someone such as mother (84%), friend (67%), doctor or nurse (37%). Most of them (84%) did something to tolerate pain for instance watching TV, exercise.
3	Iffat Imran (2022) [25]	To understand the coping behaviors with dysmenorrhea	380	18	self-reported electronic questionnaire	Descriptive cross-sectional study	Pakistan	Most of subjects used combination of palliative methods to tolerate pain symptomatically. They intend to self-manage their pain by some kinds of methods hurriedly.
4	Nurhazirah Zainul Azlan et al (2022) [26]	To determine relationship between lifestyle pattern and menstruation	245	18 to 24	lifestyle pattern	quantitative cross-sectional study	Malasia	The subjects tracked their menstrual cycle by calendar with regard to somatic symptoms in order to know the condition and prepare themselves to react correctly.
5	Nastaran Najafi et al. (2018) [27]	Relationship between dietary patterns and menstrual pain intensity	293	18 to 24	self-administered questionnaire	case control study	Iran	To profit from snacks pattern of dietary is one of methods used by females with moderate to severe menstrual pain.
6	Trudi M et al. (2003) [28]	To investigate how women perceive and cope with menstrual pain	93	18 to 24	pain catastrophizing, menstrual pain intensity, coping, and disability	prospective and retrospective between-subjects study	Canada	It has been shown that some of females with menstrual pain, attempt to extend their knowledge about pain and tolerate it as a multidimensional concept.
7	Natnael Eshetu et al. (2022) [29]	Assessing the coping mechanisms among students	591	18 to 26	Premenstrual syndrome scales	cross sectional study	Ethiopia	Taking rest, sleeping and using many pads were mostly carried out by females as a coping mechanism. Listening to music, take a shower and doing some exercises were other forms of coping strategies among females.
8	Wilbur et al. (2022) [30]	Addressing the experiences between menstruators	333	10 to 45	in-depth interviews	mixed-methods population-based study	The United Kingdom	Preoccupation with rituals related to menstruation and seclusion have been methods that women have used to deal with menstrual pain, the rate of using these methods has been higher in women with more severe pain.
9	Anna Sofe Holst et al. (2022) [31]	To explore experiences of people who menstruate	342	18 to 55	in-depth interviews	<u>qualitative study</u>	Spain	Systemic neglect of menstruation appeared to be common among participants. One of the attitudes of the investigated women has been that they try not to show their experienced symptoms.
10	E Udayar et al. (2022) [32]	Investigating coping behaviors with premenstrual pain	248	15 to 18	welfare	<i>cross-sectional survey</i>	India	To accept premenstrual pain as a something that nothing can be done for it.
11	Jennifer R Read et al. (2014) [33]	To validate an instrument of premenstrual coping which might be used by females	250	18 to 49	premenstrual coping	Descriptive	Australia	Empirical coping strategies used by females consisted of avoiding behaviors, acceptance of pain, recovering energy, self-care and communication.

12	Chiyoung Cha & Su Jin Nam (2016) [34]	To explore the differences in females coping styles with menstrual pain	349	18 to 45	Premenstrual symptoms	Descriptive	Korea	Predicting the possible symptoms that will be experienced due to menstruation has been one of the methods of dealing with premenstrual pain.
13	Chen X. Chen et al. (2018) [35]	To investigate women's inner experiences of dysmenorrhea	225	18 to 45	in-depth interviews	qualitative thematic analysis	The United States	Accepting premenstrual pain as a part of life, trying to increase efficiency in daily functions has been one of the methods.
14	Fódhla Ní Chéileachair et al. (2022) [36]	To identify women's unaddressed demands towards premenstrual pain	21	16 to 18	in-depth interviews	qualitative analysis	Ireland	Some women have accepted that it is a phenomenon with the nature of trial and error.
15	Anna D. Li et al. (2020) [37]	To examine the areas of need and experiences of women with menstrual pain	30	14 to 18	In-depth semi-structured interviews	Qualitative study	Australia	In a sample of adolescents, it has been observed that they try to control the painful condition by accepting premenstrual pain as a female issue that has nothing to do with anyone, and trying to do things related to school.
16	Lydia Aziato et al. (2015) [38]	To reach in-depth understanding coping strategies for dysmenorrhea	16	18 to 25	coping strategies	qualitative exploratory approach	Ghana	One of the strategies women have used to deal with premenstrual pain is to incorporate extra programs into their daily lives before the onset of premenstrual symptoms.
17	Fariba Ghaderi et al. (2016) [39]	To determine the association between self-care strategies and menstrual pain intensity	197	18 to 28	self-care strategies	cross sectional study	Iran	One of the methods used by women to deal with premenstrual pain is to abandon some daily activities and temporarily replace other activities during the period of experiencing premenstrual pain.

Over time, various psychotherapies have been developed to control the severity of premenstrual pain; however, many of these therapeutic methods are based more on the principles of effective psychotherapy than the underlying preparation of service recipients [37]. This is why many women believe their needs are not aligned with the goals of psychotherapy [31, 36, 41]. This challenge causes a vicious cycle so that the clients do not receive the desired output from the intended psychotherapy; hereupon, the sick role is strengthened, and following this phenomenon, resistance to professional treatments increases [51].

There were two limitations in the present study. First, this study only reviewed articles in English. Second, we were not able to review some papers as there was no access to their full text.

Further research is needed to confirm the findings of the present study. In future studies, qualitative methods and in-depth interviews are suggested to be used in order to identify the tendency towards unprompted methods used by women to deal with premenstrual pain. Using articles published in a language other than English can provide broader cross-cultural information. Moreover, a study that examines this issue using a thematic analysis method can obtain more useful classified information.

Conclusion

Findings provide insights into the diversity of women's tendency to profit from unprompted methods to cope with premenstrual pain. The common point of these coping methods is that women tend to manage premenstrual pain by changing the quantity and quality of behaviors, this is the point that researchers and clinicians should pay attention to so that there is no conflict between therapeutic goals, women's needs, and their preparation to use treatment methods. To conclude, it can be stated that the results obtained from this research can be used to adapt the existing treatments and to develop new treatments.

Conflict 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

Acknowledgement

The authors would like to appreciate all the researchers whose articles have been examined in this study.

References

- Gagnon, M.M., et al., Dysmenorrhea across the lifespan: a biopsychosocial perspective to understanding the dysmenorrhea trajectory and association with comorbid pain experiences. *Pain*, 2022. 163(11): p. 2069-2075. DOI: 10.1097/j.pain.0000000000002649
- Andreano, J.M. and L. Cahill, Menstrual cycle modulation of medial temporal activity evoked by negative emotion. *Neuroimage*, 2010. 53(4): p. 1286-1293. DOI.org/10.1016/j.neuroimage.2010.07.011
- Joseph, T. and M.V. Monis, Effectiveness of Planned Teaching Programme on Knowledge Regarding Lifestyle Changes in Prevention of Premenstrual Syndrome among adolescents in Selected Schools of Mangalore. *INTERNATIONAL EDITORIAL ADVISORY BOARD*, 2015. 7(1): p. 191. DOI Number: 10.5958/0974-9357.2014. 00594.7
- Labots-Vogel, M.S., et al., Perspectives of Dutch women on premenstrual disorder. A qualitative study exploring women's experiences. *European Journal of General Practice*, 2023. 29(1): p. 2166033. DOI.org/10.1080/13814788.2023.2166033
- Paul, S. and A. Pal, Premenstrual syndrome and premenstrual dysphoric disorder: A review of their history with an eye on future. *Annals of Indian Psychiatry* Volume XX; Issue XX; Month, 2022: p. 2. DOI: 10.4103/aip.aip_16_22
- Stella, I., Ingrid A. Baker FC what we know about primary dysmenorrhea today: a critical review. *Hum Reprod Update*, 2015. 21: p. 762-78. DOI.org/10.1093/humupd/dmv039
- Parra-Fernández, M.L., et al., Management of primary dysmenorrhea among university students in the South of Spain and family influence. *International journal of environmental research and public health*, 2020. 17(15): p. 5570. DOI.org/10.3390/ijerph17155570
- Miota, P., M. Yahle, and C. Bartz, Premenstrual syndrome: a bio-psycho-social approach to treatment, in *Menstruation, Health, and Illness*. 2019, Taylor & Francis. p. 143-152. DOI/10.4324/9781315793078-15
- Ortiz, M.I., Primary dysmenorrhea among Mexican university students: prevalence, impact and treatment. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 2010. 152(1): p. 73-77. DOI.org/10.1016/j.ejogrb.2010.04.015
- Dawson, D.N., et al., 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. 74(4): p. 579-593. DOI.org/10.1002/jclp.22522
- Fernández-Martínez, E., et al., Pain management and coping strategies for primary dysmenorrhea: A qualitative study among female nursing students. *Nursing Open*, 2022. 9(1): p. 637-645. DOI.org/10.1002/nop2.1111
- Ledel Solem, I.K., et al., Patients' needs and requirements for eHealth pain management interventions: qualitative study. *Journal of medical internet research*, 2019. 21(4): p. e13205. DOI:10.2196/13205
- Wong, C.L., W.Y. Ip, and L.W. Lam, Self-care strategies among Chinese adolescent girls with dysmenorrhea: a qualitative study. *Pain Management Nursing*, 2016. 17(4): p. 262-271. DOI.org/10.1016/j.pmn.2016.04.001
- 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): p. 176-184. DOI: 10.1111/ppc.12219
- Brantelid, I.E., H. Nilvér, and S. Alehagen, Menstruation during a lifespan: a qualitative study of women's experiences. *Health care for women international*, 2014. 35(6): p. 600-616. DOI.org/10.1080/07399332.2013.868465
- Dear, B.F., et al., The pain course: 12-and 24-month outcomes from a randomized controlled trial of an internet-delivered pain management program provided with different levels of clinician support. *The Journal of Pain*, 2018. 19(12): p. 1491-1503. DOI.org/10.1016/j.jpain.2018.07.005
- Itriyeva, K., Premenstrual syndrome and premenstrual dysphoric disorder in adolescents. *Current Problems in Pediatric and Adolescent Health Care*, 2022: p. 101187. DOI.org/10.1016/j.cppeds.2022.101187
- Siabhazi, S., et al., The consequences of premenstrual syndrome on the quality of life from the perspective of affected women: a qualitative study. *Journal of Research in Medical and Dental Science*, 2018. 6(2): p. 284-292. DOI: 10.5455/jrmds.20186243
- Guterman, M., P. Mehta, and M. Gibbs, Menstrual taboos among major religions. *The Internet Journal of World Health and Societal Politics*, 2007. 5(2): p. 1-7. dx.DOI.org/10.1136/bmjopen-2015-010290
- Al-Sadi, A.M., et al., Genetic analysis reveals diversity and genetic relationship among *Trichoderma* isolates from potting media, cultivated soil and uncultivated soil. *BMC microbiology*, 2015. 15: p. 1-11. DOI.org/10.1186/s12866-015-0483-8
- Kim, H.J., S.Y. Choi, and H. Min, Effects of sleep pattern, stress, menstrual attitude, and behavior that reduces exposure to

- endocrine disrupting chemicals on premenstrual syndrome in adolescents. *Korean Journal of Women Health Nursing*, 2019. 25(4): 423-433. [DOI.org/10.4069/kjwhn.2019.25.4.423](https://doi.org/10.4069/kjwhn.2019.25.4.423)
22. Sarkis-Onofre, R., et al., How to properly use the PRISMA Statement. *Systematic Reviews*, 2021. 10(1): 1-3. [DOI.org/10.1186/s13643-021-01671-z](https://doi.org/10.1186/s13643-021-01671-z)
 23. Eryilmaz, G., F. Ozdemir, and T. Pasinlioglu, Dysmenorrhea prevalence among adolescents in eastern Turkey: its effects on school performance and relationships with family and friends. *Journal of pediatric and adolescent gynecology*, 2010. 23(5): 267-272. [DOI.org/10.1016/j.jpag.2010.02.009](https://doi.org/10.1016/j.jpag.2010.02.009)
 24. O'Connell, K., A.R. Davis, and C. Westhoff, Self-treatment patterns among adolescent girls with dysmenorrhea. *Journal of pediatric and adolescent gynecology*, 2006. 19(4): 285-289. [DOI.org/10.1016/j.jpag.2006.05.004](https://doi.org/10.1016/j.jpag.2006.05.004)
 25. Imran, I., Patterns of Dysmenorrhea and Self-management Strategies among University Students. *Pakistan Journal of Medical & Health Sciences*, 2022. 16(07): 312-312. [DOI.org/10.1016/j.jpag.2006.05.004](https://doi.org/10.1016/j.jpag.2006.05.004)
 26. Azlan, N.Z., S.Z. Bustaman, and R.N.H.A. Razak, Knowledge Level on the Association Between Body Mass Index (BMI), Menstrual Cycle and Lifestyle Patterns in Contributing the Development of Polycystic Ovarian Syndrome (PCOS) Among Female University Students. *International Journal of Care Scholars*, 2022. 5(2): 58-74. [DOI.org/10.31436/ijcs.v5i2.245](https://doi.org/10.31436/ijcs.v5i2.245)
 27. Najafi, N., et al., Major dietary patterns in relation to menstrual pain: a nested case control study. *BMC women's health*, 2018. 18: p. 1-7. [DOI.org/10.1186/s12905-018-0558-4](https://doi.org/10.1186/s12905-018-0558-4)
 28. Walsh, T.M., L. LeBlanc, and P.J. McGrath, Menstrual pain intensity, coping, and disability: The role of pain catastrophizing. *Pain Medicine*, 2003. 4(4): 352-361. [DOI.org/10.1111/j.1526-4637.2003.03039.x](https://doi.org/10.1111/j.1526-4637.2003.03039.x)
 29. Eshetu, N., et al., Premenstrual syndrome, coping mechanisms and associated factors among Wolkite university female regular students, Ethiopia, 2021. *BMC Women's Health*, 2022. 22(1): 88. [DOI.org/10.1186/s12905-022-01658-5](https://doi.org/10.1186/s12905-022-01658-5)
 30. Wilbur, J., et al., "The weather is not good": exploring the menstrual health experiences of menstruators with and without disabilities in Vanuatu. *The Lancet Regional Health-Western Pacific*, 2022. 18: 100325. [DOI.org/10.1016/j.lanwpc.2021.100325](https://doi.org/10.1016/j.lanwpc.2021.100325)
 31. Holst, A.S., et al., Experiences of menstrual inequity and menstrual health among women and people who menstruate in the Barcelona area (Spain): a qualitative study. *Reproductive health*, 2022. 19(1): 1-16. [DOI.org/10.1186/s12905-022-01658-5](https://doi.org/10.1186/s12905-022-01658-5)
 32. Agarwal, A.K., et al., A study of assessment menopausal symptoms and coping strategies among middle age women of North Central India. *International Journal of Community Medicine and Public Health*, 2018. 5(10): 4470-77. [DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20180001](https://dx.doi.org/10.18203/2394-6040.ijcmph20180001)
 33. Read, J.R., J. Perz, and J.M. Ussher, Ways of coping with premenstrual change: development and validation of a premenstrual coping measure. *BMC women's health*, 2014. 14: 1-15. [DOI.org/10.1186/1472-6874-14-1](https://doi.org/10.1186/1472-6874-14-1)
 34. Cha, C. and S.J. Nam, Premenstrual symptom clusters and women's coping style in Korea: happy healthy 20s application study. *Journal of Psychosomatic Obstetrics & Gynecology*, 2016. 37(3): 91-100. [DOI.org/10.3109/0167482X.2016.1157159](https://doi.org/10.3109/0167482X.2016.1157159)
 35. Chen, C.X., C.B. Draucker, and J.S. Carpenter, What women say about their dysmenorrhea: A qualitative thematic analysis. *BMC women's health*, 2018. 18: p. 1-8. [DOI.org/10.1186/s12905-018-0538-8](https://doi.org/10.1186/s12905-018-0538-8)
 36. Ní Chéileachair, F., B.E. McGuire, and H. Durand, Coping with dysmenorrhea: a qualitative analysis of period pain management among students who menstruate. *BMC Women's Health*, 2022. 22(1): 407. [DOI.org/10.1186/s12905-022-01988-4](https://doi.org/10.1186/s12905-022-01988-4)
 37. Li, A.D., et al., Unmet needs and experiences of adolescent girls with heavy menstrual bleeding and dysmenorrhea: a qualitative study. *Journal of Pediatric and Adolescent Gynecology*, 2020. 33(3): 278-284. [DOI.org/10.1016/j.jpag.2019.11.007](https://doi.org/10.1016/j.jpag.2019.11.007)
 38. Aziato, L., F. Dedei, and J.N.A. Clegg-Lampsey, Dysmenorrhea management and coping among students in Ghana: A qualitative exploration. *Journal of pediatric and adolescent gynecology*, 2015. 28(3): 163-169. [DOI.org/10.1016/j.jpag.2014.07.002](https://doi.org/10.1016/j.jpag.2014.07.002)
 39. Ghaderi, F., M. Asghari Jafarabadi, and M.A. Mohseni Bandpei, Dysmenorrhea and self-care strategies in Iranian female students: a regression modeling of pain severity and underlying factors. *International Journal of Adolescent Medicine and Health*, 2016. 29(6): 20160017. [DOI.org/10.1515/ijamh-2016-0017](https://doi.org/10.1515/ijamh-2016-0017). [DOI.org/10.1515/ijamh-2016-0017](https://doi.org/10.1515/ijamh-2016-0017)
 40. Eryilmaz, G. and F. Ozdemir, Evaluation of menstrual pain management approaches by Northeastern Anatolian adolescents. *Pain Management Nursing*, 2009. 10(1): 40-47. [DOI.org/10.1016/j.pmn.2008.09.001](https://doi.org/10.1016/j.pmn.2008.09.001)
 41. Chen, C.X., C.B. Draucker, and J.S. Carpenter, China Supply Custom Plastic Crate Storage Crates Products Cheap Price-Zhongyi Plastic Technology Co., Ltd. *BMC Women's Health*, 2018. 18. [DOI.org/10.1186/s12905-018-0538-8](https://doi.org/10.1186/s12905-018-0538-8)
 42. Park, M.B., et al., Does South Korea have hidden female smokers: discrepancies in smoking rates between self-reports and urinary cotinine level. *BMC women's health*, 2014. 14(1): 1-8. [DOI:10.1186/s12905-014-0156-z](https://doi.org/10.1186/s12905-014-0156-z)
 43. Hartman T, Marmon N. Lived regulations, systemic attributions: Menstrual separation and ritual immersion in the experience of Orthodox Jewish women. *Gender & Society*. 2004 Jun;18(3):389-408. [DOI.org/10.1177/0891243204264810](https://doi.org/10.1177/0891243204264810)
 44. Davis, A., et al., Self-treatment patterns among adolescent girls with moderate or severe primary dysmenorrhea. *Journal of Adolescent Health*, 2004. 34(2): 134. [DOI.org/10.1016/j.jadohealth.2003.11.014](https://doi.org/10.1016/j.jadohealth.2003.11.014)
 45. Jaber, R.M., A.O. Alghzawi, and H.H. Salameh, Premenstrual syndrome: consultation sources and the impact on women's quality of life. *African Health Sciences*, 2022. 22(1): 80-7. [DOI: 10.4314/ahs.v22i1.10](https://doi.org/10.4314/ahs.v22i1.10)
 46. Bain, D., M. Brady, and J. Corns, *Philosophy of Pain: Unpleasantness, Emotion, and Deviance*. 2018: Routledge. [DOI:10.4324/9781351115865](https://doi.org/10.4324/9781351115865)
 47. Corns, J., *The Routledge handbook of philosophy of pain*. 2017: Routledge Abingdon. [DOI:9781351115865](https://doi.org/10.1080/9781351115865)
 48. Kazemi, E., et al., Comparison of the Effectiveness and Stability of Integrated Transdiagnostic Treatment and Dialectical Behavior Therapy on Psychological Well-Being and Pain Perception in Patients with Cancer in Isfahan, Iran. *Journal of Health System Research*, 2022. 18(1): 8-16. [DOI: 10.48305/jhsr.v18i1.1442](https://doi.org/10.48305/jhsr.v18i1.1442)
 49. Koerner, K., *Doing dialectical behavior therapy: A practical guide*. 2011: Guilford Press. [DOI.org/10.1176/appi.psychotherapy.2015.69.2.97](https://doi.org/10.1176/appi.psychotherapy.2015.69.2.97)
 50. Niedtfeld, I., et al., Pain-mediated affect regulation is reduced after dialectical behavior therapy in borderline personality disorder: a longitudinal fMRI study. *Social Cognitive and Affective Neuroscience*, 2017. 12(5): 739-747. [DOI.org/10.1093/scan/nsw183](https://doi.org/10.1093/scan/nsw183)
 51. Balabanova, R., *The Social Construction of Premenstrual Dysphoric Disorder (PMDD)*. 2022. [DOI.org/10.20514/2226-6704-2022-12-4-276-284](https://doi.org/10.20514/2226-6704-2022-12-4-276-284)