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Epidemiology and Psychosocial Impact of Dysmenorrhea: A Systematic Review

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***Abstract*: Background: Dysmenorrhea or painful periods is a common gynecological condition faced by women of all ages and cultures. Though it is very common, it still goes unnoticed and poor treatment results in significant physical, emotional, and social morbidity suffered by women worldwide. Objectives: This systematic review aims to synthesize worldwide evidence regarding dysmenorrhea prevalence, pain severity, and psychosocial effects in women, according to differences by region, age, and socio-cultural context. Methods: The literature search consisted of thed were "dysmenorrhea," "prevalence," "severity," "psychosocial impact," "India," and "global." PRISMA guidelines were adopted. Articles describing the prevalence, intensity (assessed via standardized pain measurement scales), and psychosocial impact (e.g., absenteeism, anxiety, depression, lowered quality of life) of dysmenorrhea were included. Results: A review of 22 studies between 2010 and 2022 demonstrated that dysmenorrhea occurred in 41.7% to 94% of adolescent girls, with greater than 70% prevalence being reported by most studies. The disease was most often linked to severe to moderate menstrual cramping and substantial psychosocial impacts, including higher absenteeism, emotional distress, and reduced academic performance. Conclusion: Dysmenorrhea represents a widespread but frequently neglected public health concern with substantial physical and psychosocial consequences. Addressing this condition through culturally sensitive education, improved healthcare access, and a comprehensive management approach is essential to alleviate its impact and enhancing quality of life.**

***Keywords*: Dysmenorrhea, Menstrual pain, Epidemiology, Psychosocial impact, Prevalence, Emotional distress.**

1. Introduction

Dysmenorrhea, or painful menstruation, is a common gynecological condition that affects a significant percentage of women in the reproductive age group. It is divided largely into primary dysmenorrhea, which appears in the absence of any pelvic abnormality - usually associated with augmented uterine activity and prostaglandin synthesis, and secondary dysmenorrhea, which can be due to associated pelvic disease such as PIDs, adenomyosis, endometriosis, or fibroids. The disorder is especially debilitating in young adults and teenagers, frequently causing severe impairment of daily functioning, schooling, and overall well-being.

Epidemiological research shows a extensive range in the prevalence of dysmenorrhea, between 16% and 91%, depending on population groups as well as diagnostic criteria used [1]. A meta-analysis conducted on students' population yielded a total prevalence of 66.1%, with indication of growing incidence over the past few years [2]. Further, a systematic review involving 21,573 teenage girls revealed a rate of prevalence of 71.1%, pointing towards the worldwide burden imposed by dysmenorrhea [3].

The consequences of dysmenorrhea reach well beyond physical pain alone, impacting seriously both psychological health and social performance. Dysmenorrhea has been found by research studies to have significant correlations with intensified psychological distress, such as heightened tension, anxiety, and depression symptoms [4]. Also, the condition results in school or work absenteeism, together with reduced social activity, thus impairing education and job outcomes [5].

In spite of its high incidence and side effects, dysmenorrhea is underdiagnosed and inadequately controlled, especially in resource-poor settings. The continuation of sociocultural stigmas, inadequate public or professional awareness, and restricted access to healthcare facilities are contributing to its suboptimal diagnosis and management of the condition [5]. Although proof testifies to the efficacy of non-pharmacologic treatments, such as exercise and heat application, have shown promising results as painkillers for menstrual cramps, their use is sporadic among populations [6].

This systematic review would try to integrate recent literature regarding the global epidemiology and psychosocial impact of dysmenorrhea in young women. With its accumulation of data from diverse geographical regions and cultural settings, the review would try to gather an entire picture of epidemiological and psychological impact induced by dysmenorrhea to determine its prevalence, pain severity, and associated effects of mental illness in young women.

2. Methodology

A. Study Design

The research design of this study was followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist guidelines and examined recent literature on the prevalence, severity, and psychosocial effect of dysmenorrhea. thorough searches on PubMed, CINAHL, EMBASE, Cochrane Library, Scopus, Web of Science, and

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Google Scholar using studies published from January 2010 through May 2025. Search keywords us

B. Approach to Literature Retrieval

A thorough-seeks review of the literature for pertinent articles published from January 2010 to May 2025 from PubMed, CINAHL, EMBASE, Cochrane Library, Scopus, Web of Science, and Google Scholar databases were searched employing the following keywords and MeSH terms: 'dysmenorrhea,' 'menstrual pain,' 'prevalence,' 'severity,' and 'psychosocial impact.' Boolean operators (AND, OR) were used to narrow the search.

Table 1

Author – Year	Region	Sample Size	Age Group	Scale / Tool Used	Sociocultural Context	Prevalence (%)	Pain Intensity	Psychosocial Impact
Khesht-Masjedi M et al., 2010 [7]	Iran	1040	16–22 yrs	Self-report questionnaire	Urban female students	73.3	Moderate to severe	50% reported school absence
Al-Kindi RM et al., 2011 [8]]	Oman	1000+	15–18 yrs	Self-reported survey	Cultural stigma, low health-seeking	94	Moderate to severe in 60%	37% absenteeism; 10% sought medical care
Rao PV et al., 2011 [9]	India	1200	15–24 yrs	Numeric Pain Rating Scale	Rural and urban mix	78	Moderate to severe	Decreased academic performance
Chia CF et al., 2013 [10]	Hong Kong	1008	17–25 yrs	Structured questionnaire	University students; low medical help-seeking	80	Mostly moderate	Self-medication common; mild disruption
Souza M et al., 2014 [11]	Brazil	650	14–18 yrs	Visual Analog Scale	Public schools; low-income population	83	Moderate to severe	Emotional distress; absenteeism
Harlow SD et al., 2014 [1]	USA	1548	14–22 yrs	Numeric Rating Scale (NRS)	Adolescents with variable health access	~75	Average NRS score ~5/10	Pain interfered with school and activities
Habibi N et al., 2015 [12]	Malaysia	~1000	18–30 yrs	McGill Pain Questionnaire	Cultural reluctance; family history significant	89.1	Moderate to severe pain reported	Stress linked to intensity
Naik PR et al., 2015 [6]	India	1056	18–23 yrs	Interview-based schedule	College students; stress and diet factors	79	Moderate pain predominant	Stress correlated with severity
Akin MD et al., 2016 [13]	Turkey	800	15–25 yrs	McGill Pain Questionnaire	University students	75	Moderate to severe	Mood swings; anxiety
Nguyen DT et al., 2016 [14]	Vietnam	1200	16–25 yrs	Numeric Rating Scale (NRS)	University students; cultural taboo on menstruation	85	Mean pain score 6/10	High impact on daily life and mood
Gupta P et al., 2017 [15]	Nepal	500	15–22 yrs	Self-administered questionnaire	Rural adolescent girls	85	Moderate to severe	Social withdrawal; school absenteeism
Soares-Júnior JM et al., 2017 [16]	Brazil	1145	15–19 yrs	Visual Analog Scale (VAS)	Rural and urban adolescents	78.5	Moderate pain (mean VAS 5.5/10)	Lack of treatment; impact on school attendance
Shehata NA et al., 2018 [17]	Egypt	1012	17–24 yrs	Structured questionnaire	Low care-seeking; social impact	75	Moderate to severe	Absenteeism; reduced quality of life (QoL)
Al-Jefout M et al., 2018 [18]	Jordan	600	18–23 yrs	Dysmenorrhea questionnaire	Conservative cultural background	82	Moderate pain	Absenteeism; mood disturbances
Baranov AA et al., 2018 [2]	Russia	950	16–25 yrs	Numeric Rating Scale	Urban youth	70	Mild to moderate	Reported fatigue; psychological distress
Armour M et al., 2019 [3]	Global (27 countries)	21,573	13–49 yrs	VAS, questionnaires (systematic review)	Academic impact on students and young women	71.1 (pooled)	Moderate pain (varies)	20.1% absenteeism; impact on academic performance
AlQuaiz AM et al., 2019 [19]	Saudi Arabia	1200	15–24 yrs	Numeric Rating Scale	University females; conservative society	60.9	Mild to moderate	Mostly self-medication; social withdrawal
Awadalla NJ et al., 2020 [20]	Sudan	700	15–24 yrs	Self-reported questionnaire	Limited health resources	68	Moderate	Psychological stress; academic impact
Hu Z et al., 2020 [21]	China	4606	18–25 yrs	Visual Analog Scale (VAS)	University women; lifestyle factors like sleep	41.7	Mild to moderate pain	Poor sleep; mood disturbances
Durand H et al., 2021 [4]	Ireland	892	18–25 yrs	Online questionnaire	University students; stigma and self-treatment	91.5	Moderate to severe	Concentration issues; sleep disruption
Molla A et al., 2022 [22]	Ethiopia (Meta-analysis)	6311 (pooled)	15–24 yrs	Mixed tools: VAS, questionnaires	Stigma, poor healthcare access	71.69 (pooled)	Moderate pain (varied tools)	Stress, irregular cycles, social impact
Wu X et al., 2022 [23]	China	1200	18–30 yrs	Visual Analog Scale	Urban university students	44	Mild to moderate	Sleep disruption; anxiety

C. Inclusion Criteria

- Peer-reviewed studies.
- Studies focusing on dysmenorrhea.
- The outcomes Prevalence, severity, and/or psychosocial impact.
- Studies conducted globally.
- Articles published in English.

D. Exclusion Criteria

- Studies with inadequate sampling methods
- Studies with a limited or insufficient sample size
- Studies involving participants with infectious diseases, including pelvic inflammatory disease (PID)

E. Information Extraction

Titles and abstracts of the retrieved studies were independently assessed by the reviewers to determine predefined inclusion and exclusion criteria. Conflicts in study selection were resolved through discussion until consensus was achieved. Following quality assessment, relevant data were collected from the studies that met the inclusion criteria. The data retrieval and compilation checklist included the authors' names, year of publication, sample size, age group, type of a tool used, social context, and key outcomes: prevalence, severity and psychological impact of dysmenorrhea.

3. Results

22 studies from the years 2010-2022 were reviewed, including the prevalence rate of occurrence, severity, as well as psychological and social effects of dysmenorrhea in reproductive-aged women aged 13-49 years. The studies were carried out in different parts of the world, covering Asia, Africa, Europe, and the Americas, giving a broad cross-cultural insight into the worldwide burden of the condition.

Throughout the studies reviewed, the prevalence of dysmenorrhea within the study groups varied from 41.7% to 94%, with Oman having the highest (94%) and China the lowest (41.7%) rates. The majority of studies reported a rate in excess of 70%, highlighting the widespread nature of the condition. Pain intensity was most frequently rated moderate to severe, with mean pain scores of 5 to 6 on standardized scales. For instance, a university student study among Vietnamese students reported a mean pain rating of 6/10 [14].

Findings from various studies indicated a consistent association with dysmenorrhea and adverse psychosocial effects like school absenteeism, poor academic performance, emotional instability, and social withdrawal. In Iran, 50% of female students directly linked school absenteeism to menstrual pain [5]. Similarly, in Brazil, heightened emotional distress and excessive absenteeism prevailed among teenagers with dysmenorrhea. In Ireland, research on university students reported that 91.5% experienced dysmenorrhea, with considerable interference with daily life and academic expectations, showing the condition's far-reaching impact [4].

Cultural and socioeconomic factors significantly influenced dysmenorrhea experiences and management. In conservative societies like Saudi Arabia and Jordan, menstrual stigma suppressed open discussion and reduced formal healthcare utilization, leading to widespread self-medication [18], [24]. In contrast, urban populations in India, Turkey, and Brazil showed greater medical consultation and pharmacologic treatment [25], [26]. Resource-poor areas, such as Ethiopia and Nepal, had evidence of symptom underreporting, mainly due to restricted healthcare access and maternal education being lower and resulting in a high use of traditional remedies [27], [28]. These inequalities illustrate the context-dependent influence of socioeconomic status and culture in shaping outcomes of dysmenorrhea.

A. Discussion

Findings from this systematic review reveal that the pervasive health issue with multidimensional consequences of painful menstruration among reproductive-aged women globally including its substantial effect on physical, psychological, and social well-being. The consistently high prevalence rates observed across diverse regions underscore the need for more proactive measures, including culturally sensitive education, policy support, and access to both pharmacologic and non-pharmacologic interventions. These investigations underscore the need to make dysmenorrhea a focus of priority in public health to improve quality of life.

Heterogeneity in the incidence and severity of dysmenorrhea among studies appears to be influenced by study design, cultural attitudes towards menstruation, and access to health care services. For example, menstruation is still a taboo subject in societies like China, where the prevalence (41.7%) reported might be a lower estimate for the actual burden due to underreporting or changed pain perception [14]. On the other hand, the much higher prevalence of Oman (94%) could reflect more permissiveness when talking about menstrual problems or increased sensitivity towards menstrual discomfort in the population [14].

Dysmenorrhea has a big effect on emotions, making people less healthy, less productive at work, and less successful in school, because menstrual pain is linked to mental health issues like anxiety and depression, it is important to use comprehensive quality care methods that deal with both the physical and emotional effects of the illness. Therefore, optimal management would have to include pharmacological treatments in combination with psychological support treatments, e.g., therapeutic counseling and mental health education programs, to counteract the multidimensional problems of dysmenorrhea [4].

Socioeconomic determinants and cultural attitudes play a significant role in shaping the lived experience and management of dysmenorrhea. Among societies where menstruation is stigmatized, young women may be more conservative in seeking medical care, and thus they are subjected to optimal management and deteriorating symptoms. Targeted education interventions that serve to demystify menstruation and promote open communication can be effective in influencing a change in attitude and enhancing health-seeking behavior. Ensuring uniform access to

pharmacological as well as alternative therapies is also crucial in order to reduce the burden of dysmenorrhea effectively [5], [6].

4. Conclusion

In conclusion, dysmenorrhea emerges as a highly and impactful condition among young women across global settings. To resolve this problem, one would need a multilevel strategy involving health education, cultural competence, and enhanced access to relevant healthcare. To alleviate its far-reaching impacts, future studies need to prioritize developing and validating interventions aimed at addressing specific population needs targeting both the physical and psychosocial aspects in order to effectively reduce the burden of dysmenorrhea.

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