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ORIGINAL RESEARCH

Adolescents' Beliefs About Menstruation: Generational Changes

Creencias de adolescentes sobre la menstruación: cambios generacionales

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Abstract

Menstruation is a phenomenon shaped by multiple psychosocial factors, which influence how it is experienced. In Western cultures, menstruation is often perceived as a debilitating and bothersome event. The aim of this study was to examine adolescents' beliefs about and conceptualizations of menstruation, comparing these beliefs with those held by adolescents two decades ago. A total of 251 adolescents were surveyed during 2022–2023, and the results were compared to those of a previous survey conducted in 2002–2003. Findings indicate that today's adolescents tend to hold more negative beliefs, with a significant increase in the perception that menstruation is disabling and interferes with school or work performance. There was also greater agreement with the statement "living with one's period is difficult." Despite advances in menstrual education and digital activism, adolescents continue to hold certain negative beliefs and attitudes that may shape their subjective experience of menstruation. These findings underscore the need to promote more realistic and positive narratives on the issue.

Keywords: menstruation, beliefs, adolescence, generational change

Resumen

La menstruación es un fenómeno permeado por múltiples factores psicosociales que influyen en la manera en que ésta se experimenta. En las culturas occidentales, predomina la visión de la menstruación como un evento debilitante y molesto. El objetivo de este trabajo fue conocer las creencias de las adolescentes sobre los síntomas asociados a la menstruación, así como la conceptualización que tienen sobre esta experiencia, comparando dichas creencias con las que tenían las adolescentes de hace dos décadas. Se encuestó a 251 adolescentes durante 2022-2023, y se compararon los resultados con los de una encuesta realizada en 2002-2003. Se encontró que, en la actualidad, las jóvenes tienden a tener creencias más negativas respecto a los síntomas menstruales, con un aumento significativo en la percepción de que la menstruación incapacita y afecta el desempeño escolar o laboral. También hubo mayor acuerdo con la afirmación "vivir con la regla es difícil". A pesar del avance en la educación menstrual y el activismo digital, las adolescentes mantienen ciertas creencias y actitudes negativas que pueden influir en la experiencia subjetiva de la menstruación. Se destaca la necesidad de promover discursos más realistas y positivos sobre el tema.

Palabras clave: menstruación, creencias, adolescencia, cambio generacional.

Introduction

The menstrual cycle is a biological phenomenon permeated by multiple psychosocial factors, carrying significant implications for women's[a] quality of life throughout their reproductive years. The menstrual experience is inherently subjective and unique: while some women report no discomfort or present only minimal effects, others experience a range of symptoms before and/or during menstruation.

The intensity and duration of these symptoms vary considerably and, in some cases, can disrupt the daily functioning of those who experience them [1.] The first publication regarding these symptoms dates back to 1931, when the term "premenstrual tension" was coined. In the 1950s, this concept evolved into "premenstrual syndrome" (PMS), which is defined as a cluster of physical and psychological symptoms that appear during the luteal phase of the menstrual cycle and generally resolve before menstruation ends [2.] The most common psychological and behavioral symptoms include anxiety, irritability, mood swings, confusion, depression, a tendency toward social isolation, and difficulty concentrating. Concurrently, prominent physical symptoms include dysmenorrhea (abdominal cramps), swelling in the extremities, abdominal bloating, breast tenderness (mastalgia), headaches, muscle pain, fatigue, increased appetite, and skin changes. Over the years, more than 140 premenstrual symptoms have been reported, which has generated ongoing controversy surrounding its conceptualization. Furthermore, there is no clear consensus regarding the exact number, severity, and duration of these symptoms [3.]

In 2013, the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) was published, which officially classified Premenstrual Dysphoric Disorder (PMDD) as a depressive disorder. PMDD is defined as a cyclic mood disorder that occurs during the luteal phase of the menstrual cycle. Its diagnostic criteria stipulate that, across the majority of menstrual cycles, at least five symptoms must be present during the week preceding menstruation. Furthermore, these symptoms must be associated with clinically significant distress or cause clear interference with work, school, habitual social activities, or interpersonal relationships. These diagnostic criteria have been maintained in the updated DSM-5-TR [1.] It has been widely suggested that PMDD constitutes a substantially more severe manifestation of PMS [123.]

While the majority of women report experiencing at least one premenstrual symptom, less than half present with PMS (between 30% and 40%), and only a small percentage experience symptoms with sufficient intensity to meet the diagnostic criteria for PMDD (between 3% and 8%) and significantly interfere with their daily activities and social relationships 6. Studies exploring premenstrual symptomatology—both mild and severe—have revealed important cultural variations. Even though women worldwide report certain symptoms, the interpretation assigned to them differs substantially across cultures. Consequently, researchers have concluded that PMS can be considered a culture-bound syndrome [1.]

In this regard, among the most widespread beliefs in Western societies are the "debilitation hypothesis"—which posits that a woman's capabilities diminish around the time of menstruation—and the "hormonal hypothesis," which asserts that women become temperamental, tense, and moody during the premenstrual phase. These beliefs are widely disseminated across various domains of popular culture, including cinema, television programs, advertisements, magazines, books, social networks, and websites [2.] The circulation of these messages has been so pervasive that, at least in the United States, it has generated several myths surrounding the figure of the premenstrual or menstruating woman, often depicting her as someone who "turns into a monster" every month [3.] This trope is ultimately associated with predominantly negative attitudes toward menstruation [8.]

[a] In this article we use the term "women", although we recognize that, in the diversity of gender identities, not all people who menstruate identify as women and not all women menstruate, as is the case with trans and non-binary people.

In the academic setting, emotional stress has been associated with problems of academic performance, absenteeism, as well as issues related to procrastination and academic self-efficacy.[10, 11] More recently, situations related to students' difficulties in balancing work, family life, and studies have also been associated with increased stress and diminished mental health. Likewise, parents of families who continue their studies while also caring for family members have shown higher levels of stress, anxiety, and depressive symptoms than other students. [12] This condition may be the result of multiple factors, generating a kind of vicious cycle; that is, stress is expressed, potentially triggering certain symptoms and subsequently worsening them.[13] If this persists for extended periods, it may have negative effects on individuals' overall health, especially considering the complex challenges that students in the health professions face during the final years of their training and in relation to their role in the health system.

The objective of this study was to understand the beliefs of female adolescents regarding symptoms associated with the menstrual cycle, as well as their conceptualization of menstruation as a debilitating event and a nuisance, and to compare these beliefs with those held by female adolescents 20 years ago. To achieve this, we surveyed a sample of adolescents during 2022 and 2023, and compared their results with those of other adolescents who were surveyed in 2002 and 2003.

Methods

Participants: A sample of 251 female adolescents from Mexico City was surveyed, whose sociodemographic characteristics are shown in Table 1. These participants were part of a broader study on menarche experience (first menstruation) and attitudes toward menstruation. The inclusion criteria were: having at least one year of consistent menstruation; being enrolled in the first or second year of high school; and being between 16 and 18 years of age. These criteria were chosen so that the sample would be comparable in age and school grade to the sample studied 20 years earlier (n = 249).

Instruments: In addition to gathering general data, several of the questions asked two decades ago—with which the results were compared—were included:

- A multiple-choice question was asked regarding the percentage of women they believed experience premenstrual symptoms that interfere with their daily activities, which may or may not persist during menstruation. The possible responses were: a) a minority, b) about half, or c) a majority. The instruction was to respond according to what they believed, based on what they had seen, heard, or read about menstruation.
- Four questions were considered that formed part of the aforementioned broader study on menarche and attitudes toward menstruation. These consist of four 5-point Likert-type statements ranging from 1 = strongly disagree to 5 = strongly agree. Two of them refer to the belief that menstruation is a debilitating event: "Periods incapacitate women" and "Periods affect women's performance at school or work." The other two refer to menstruation as a nuisance event: "We women wish periods did not exist" and "Living with periods is difficult".

Procedure and ethical aspects: The research protocol was approved by the

Research and Ethics Committees of Health Research Committee from the Instituto de Investigaciones Biológicas, and Research Ethics Committee from the Instituto de Investigaciones Psicológicas, both from the Universidad Veracruzana.

The authorities of several educational institutions were contacted to request permission to carry out the project. Informed consent forms for parents or guardians were delivered to the teachers of the participating schools, yielding a 100% acceptance rate.

A date was agreed upon for the administration of the survey, which was conducted in a classroom where the students were present. The survey administrators were two female psychologists, who explained the objective of the study to the students and requested their participation, clarifying that it

was anonymous and voluntary; furthermore, they were informed that they were free to withdraw from the study at any moment they wished. It was also clarified to them that there were no right or wrong answers, and that the collected information would be used exclusively for research purposes.

They were provided with a link to read the assent form to participate, and if they agreed, they accepted it with a click. Upon doing so, they were redirected to the survey on the Google Forms platform, and the survey administrators remained in the classroom to clarify any questions that might arise.

Data analysis: Statistical package SPSS version 27 was used to conduct the analyses. A 3×2 chi-square test was performed to establish the association between the generation to which the students belonged (2002–2003 or 2022–2023) and the prevalence of women who believed they experience premenstrual symptoms that interfere with their daily activities.

To analyze the results of the other questions asked, non-parametric statistics were used because the data did not follow a normal distribution. For each question, a Mann–Whitney U test was calculated to make comparisons between the two generations. Finally, Spearman correlations were performed.

Results

The sociodemographic characteristics of the participants are shown in Table 1. As can be observed, the age and educational attainment of the students surveyed in 2002 and 2003 were similar to those of the students surveyed twenty years later.

There was a significant association between the participants' generation and their response regarding the prevalence of women who experience premenstrual symptoms that interfere with their daily activities. In both generations, the percentage of participants who answered "a minority of women" was very low. However, in the more recent survey, a higher number of students asserted that the majority of women experience symptoms that affect their daily activities ($X2 = 22.74$, $p < .0001$) (Table 2).

Table 1. Sociodemographic characteristics of the participants.

	Generation			
	2002-3		2022-3	
	M	DE	M	DE
Age	15.85	.75	15.75	.73
Age of menstruation	11.85	1.01	11.50	1.46
Education	n	%	n	%
1st year of high school	113	45.4	118	47
2nd year of high school	136	54.6	133	53

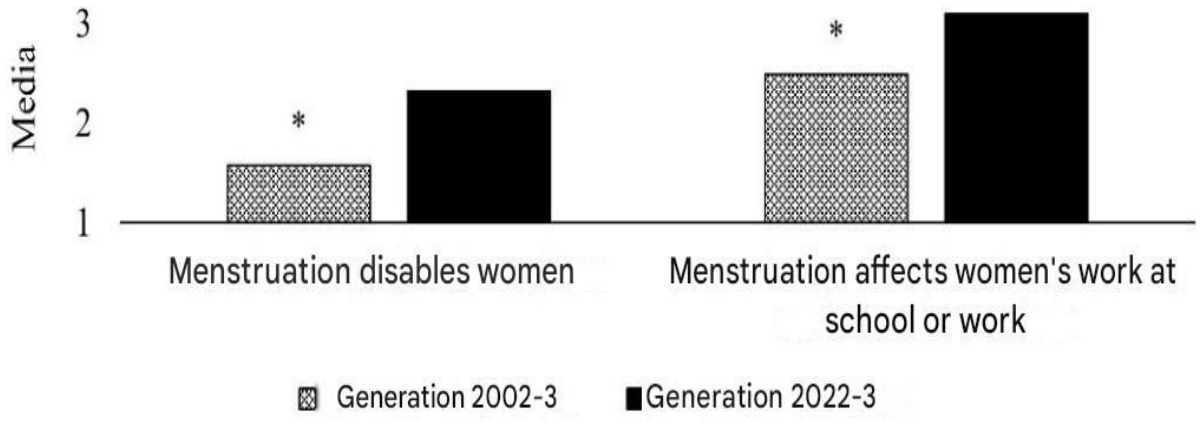
Source: Prepared by the authors

Table 2. Beliefs regarding the prevalence of women with premenstrual symptoms that interfere with their daily activities (number of participants and percentage).

	Generation			
	2002-3		2022-3	
Prevelance	n	%	n	%
A minority	18	7.2%	22	8.8%
Approximately half	98	39.4%	50	19.9%
A majority	133	53.4%	179	71.3%

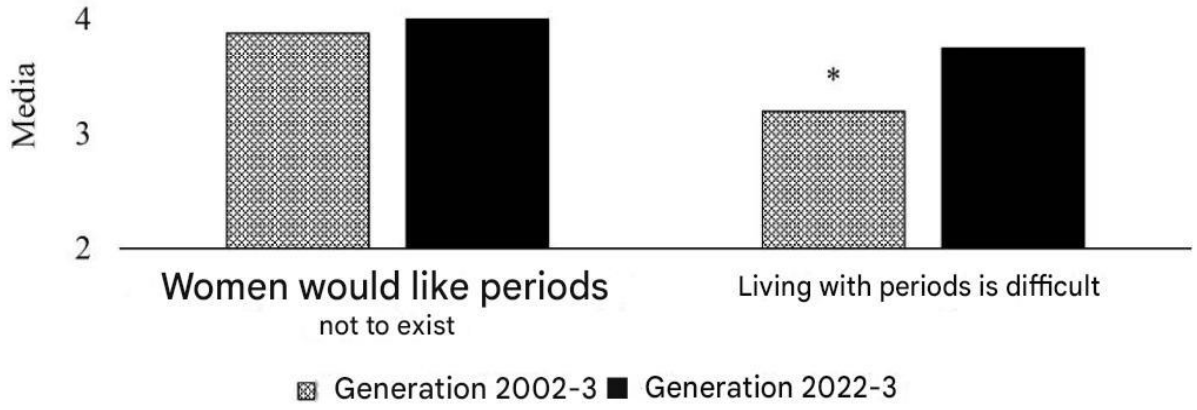
Source: Prepared by the authors

Figure 1. Belief that menstruation is a debilitating event.



* p<.0001. Source: Prepared by the authors.

Figure 2. Belief that menstruation is a nuisance.



* p<.0001. Source: Prepared by the authors.

When comparing the results of the two questions regarding menstruation as a debilitating event, it was found that the most recently surveyed students showed higher scores on the statements "Periods incapacitate women" (U = 19957, p < .0001) and "Periods affect women's performance at school or work" (U = 23541, p < .0001), as shown in Figure 1.

Regarding the questions that refer to menstruation as a nuisance, there were no significant differences between generations in the responses to the statement "We women wish periods did not exist." However, the most recently surveyed participants showed greater agreement with the statement "Living with periods is difficult" (U = 24610, p < .0001), as observed in Figure 2.

Finally, the statements "Periods incapacitate women" and "Periods affect women's performance at school or work" correlated positively with the two statements referring to menstruation as a

nuisance (Table 3). That is, the more the students believed that menstruation is incapacitating and affects women's tasks, the more they thought that menstruation is difficult and that they would prefer it did not exist.

Table 3. Correlations between the questions referring to menstruation as incapacitating and those referring to menstruation as a nuisance.

	Periods Incapacitate Women	Periods affect women's performance at work and school
Women wish periods did not exist	.158*	.282*
Living with periods is difficult	.291*	.352*

Note: Spearman Correlations
* $p<.001$
Source: Generated by the authors

Discussion and conclusions

The findings of this study show that, compared to the adolescents surveyed two decades ago, today's young women tend to hold more negative beliefs surrounding menstruation. In particular, there was an increase in the proportion of those who consider that the majority of women experience ailments that interfere with their daily activities. Likewise, greater agreement was observed with statements describing menstruation as a debilitating event, revealing the persistence of cultural representations that associate this biological process with limitation and difficulty.

Although menstruation has a physiological basis, its social meaning, the interpretation of its associated symptoms, and the manner in which they are anticipated are deeply influenced by the discourses circulating within the family, school, mass media, and social networks. As noted by Chrisler and Gorman 8, the widespread dissemination of messages depicting the menstruating woman as incapacitated or emotionally unstable can reinforce negative views that ultimately become internalized by adolescents. In this regard, it is not surprising that today's surveyed young women—exposed from an early age to digital platforms and highly mediatized content—show a greater tendency to conceive menstruation as a difficult process to cope with.

Another finding of the study was that no significant differences were found between generations regarding the statement "We women wish periods did not exist," but differences were observed in the perception that "Living with periods is difficult." This suggests that the current representation of menstruation might be conceptualized more from a functional and daily standpoint rather than a symbolic one. Increased social openness to discussing menstruation has enhanced the visibility of the topic 14, but this visibility does not always translate into positive discourses; on the contrary, it can coexist with narratives that continue to pathologize the menstrual experience and reinforce stereotypes of weakness [8].

The correlations found between beliefs describing menstruation as incapacitating and those considering it a nuisance suggest that these representations are part of the same system of negative beliefs. Unfortunately, it is uncommon for young women to verify the accuracy of the information they receive through the media, and they may internalize a discourse that associates menstruation with distress, difficulty, and limitation, generating negative expectations that, in turn, influence their lived experience of menstruation. As has been proposed by the theoretical model of the self-fulfilling prophecy [15], by anticipating distress, adolescents may interpret and experience menstruation more negatively. Thus, cultural beliefs not only shape social discourse surrounding menstruation but also influence how young women perceive and experience this process in their daily lives.

In recent years, there have been advancements in the promotion of menstrual health. First, it has been proposed that menstrual education taught in schools should be comprehensive [10], implying that in addition to anatomy and physiology, content on menstrual hygiene, emotional changes, and persisting myths and taboos should be included. This type of education fosters more positive attitudes, fewer feelings of shame, less stress, better hygiene practices, and greater comfort [16,17]. Second, there are various internet sites, including social networks, exclusively dedicated to menstruation.

On these platforms, lived experiences are shared, practical advice is given, and relevant information on the topic is disseminated. This "menstrual cyberactivism" seeks to promote positive attitudes and deconstruct negative beliefs by demystifying popular myths, as well as to empower women regarding their menstrual cycle [18]. Despite these efforts, some negative beliefs not only persist but appear to have intensified, which could be due to the coexistence of contradictory discourses: on one hand, progressive messages that promote menstrual empowerment, and on the other, traditional narratives that continue to associate menstruation with weakness and limitation.

The results presented must be interpreted considering their limitations, from which some suggestions for future research emerge. First, an inter-group design was used to make comparisons over time instead of tracking the same participants; however, this was not possible because the surveys were anonymous, and due to the difficulty of contacting the same women after 20 years when they are no longer students. Second, the beliefs of adolescents could differ according to individual variables such as family or school education, having had painful periods, among others. Third, the study was conducted in schools in the country's capital, meaning it is not possible to generalize the findings to all adolescents in Mexico. For future research, it is suggested to consider the influence of individual variables like those mentioned, as well as to survey young people from other regions of the country, mainly in rural areas. Finally, only five questions were included; therefore, it is suggested for future studies to expand the instrument to investigate in greater depth different aspects related to the lived experiences and perceptions of menstruation.

Despite these limitations, the study provides relevant evidence regarding the evolution of Mexican adolescents' beliefs and perceptions concerning menstruation. In particular, a strengthening of representations that conceive it as a debilitating and difficult process is observed, reflecting the persistence—and even the intensification—of negative beliefs over two decades. Future studies could explore in greater depth the factors that contribute to the strengthening or weakening of these beliefs, including the role of menstrual education, family discourses, and the influence of digital media. Likewise, it would be pertinent to investigate how these beliefs influence the experience of menstruation itself.

Finally, it is fundamental to promote a more informed, realistic, and positive vision of menstruation from an early age. Educational interventions that integrate biological, emotional, and sociocultural aspects, and that challenge negative stereotypes, can contribute to generating less stigmatized and healthier experiences for new generations of adolescents.

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