

Impact of Perceived Injustice on the Severity of Menstrual Pain among High School Students: A Cross Sectional Study in Karachi.

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ABSTRACT:

Objective: The purpose of this research was to determine the relation between perceived injustice and severity of menstruation pain among high school students of Karachi.

Methodology: It was a cross-sectional study design conducted from March until August 2021, among high school students of Karachi (public and private) selected randomly. The calculated study sample was 426. The Bahria University Health Sciences Campus Ethical Review Committee approved ERC# 39/2021. Online self-surveys collected data. The study recruited 426 14–18-year-old high school girls who had past menarche and had no psychological disorders, mentally ill, hormonally treated, or uncooperative participants were excluded.

Results: Out of 426 survey participants, the average age was 17.2 ± 1.3 years. Participants scored an average of 14.0 ± 9.3 on the Injustice Experience Questionnaire (IEQ) out of 48 points. Menstrual pain intensity ranged from 6.8 ± 2.7 to 5.5 ± 2.5 points, with an average of 5.5 ± 2.5 points and a degree of interference of 5.9 ± 2.3 points. The IEQ was substantially connected to menstrual pain interference-related impairment, with a standardized regression coefficient ($\hat{\alpha}$) of 0.33 (95% CI). The standardized regression coefficients ($\hat{\alpha}$) for maximal and average pain intensity were 0.22 and 0.23, respectively. The variance inflation factor analysis showed no multicollinearity issues, with values ranging from 1.03 to 1.06.

Conclusion: In conclusion, the study illuminates high school girls' emotions and perceptions. Many respondents described feeling misunderstood, having life changes, seeing conditions as unjust, and worrying about their future goals.

Key Words: Adolescents, Menstrual cramps, Pelvic pain, dysmenorrhea, Menstrual discomfort, Menstrual agony

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INTRODUCTION:

Pain-related injustice is an emerging concept in youth and its intense outcome with various pain conditions. Thoughts and feelings of injustice can arise when an individual's belief in a just and fair world are challenged or breached. Review of literature shows that youth perceptions towards injustice and biased circumstances are very challenging and awful, they are responsible for depression and decrease in life satisfaction, poorer emotional, social and school functioning.¹ However, because the "topic" is forbidden in society, most women find it unpleasant to bring it up. Women have a number of common myths and ingrained notions about menstruation. Due to the societal taboo against discussing menses, young girls are more likely than adult women to encounter misperceptions and conventional views. They also lack access to proper knowledge about menses from classmates, families, and the general public.

Menstrual discomfort (dysmenorrhea) has two types: Lower abdominal cramps, nausea, vomiting, diarrhea, headache, weakness, and fainting are "primary" or "secondary" symptoms of dysmenorrhea. Secondary dysmenorrhea is caused by ovarian cysts, pelvic inflammatory illness, or pelvic adhesions. Primary dysmenorrhea was identified in 85.6% of late adolescents in many studies.² A key and

sensitive age group, high school girls aged 14-18, through multiple pubertal changes, marking one of the most essential moments in one's life and character development. Thus, high incidence in this group can lower academic performance and increase absenteeism during dysmenorrhea, restricting activities and disrupting life and relationships.³

Research has shown that perceptions of injustice are likely to arise when an individual is exposed to situations that are characterized by a violation of basic human rights⁴. With limited information regarding menstruation, young females and adolescents tend to show a negative attitude and perception regarding menstruation with a sense of injustice.⁵ High school students may experience this in various aspects of their lives, including academic pressures, social dynamics, or family situations. Research has shown that stress can exacerbate menstrual pain. Perceived injustice acts as a stressor, triggering the body's stress response, which can increase the intensity of menstrual cramps. When high school students perceive injustice, it can lead to negative emotional states such as anger, frustration, and helplessness. These emotions can further intensify the perception of pain during menstruation. Chronic stress related to perceived injustice may also disrupt the hormonal balance, potentially worsening menstrual symptoms. Students who perceive injustice may employ different coping mechanisms, some of which can negatively impact their menstrual health. For example, engaging in unhealthy behaviors like overeating, smoking, or excessive caffeine consumption may exacerbate menstrual pain.

Previous studies also mentioned the strong evidence of perceiving injustice during menstrual pain.⁶ The impact of perceived injustice is notable in that it predicts poorer physical and psychosocial outcomes above and beyond demographic or injury-related factors. An understanding of the link between perceived injustice and distress in youth may provide researchers and clinicians in this field with valuable insight into an important and thus far unexplored determinant of mental health outcomes in this age group.^{7,8} The Impact of perceived injustice on the severity of menstrual pain among high school students is a multifaceted issue that requires attention from educators, healthcare providers, and policymakers. Recognizing the interplay between psychological factors and physical symptoms is essential for creating a supportive environment that enables students to manage their menstrual health effectively. By addressing perceived injustice and providing appropriate resources, we can improve the overall well-being of high school students and alleviate the burden of menstrual pain in their lives. The way a girl views menstruation and the changes that accompany it might influence how she reacts to the menarche occurrence. Women who are more knowledgeable and perceptive about their periods are more likely to practice safe menstrual hygiene. Women's and the fetus's health are greatly impacted by the

hygiene-related activities they follow during their menstrual cycle. Reproductive tract infections (RTI) and GUT infections are more likely to occur in people who practice poor menstrual hygiene. [The unborn child of the expectant mother may also get the virus]. In order to reduce societal misconceptions regarding menstruation, a thorough effort must be made starting in adolescence. This might potentially alleviate millions of women's suffering. Therefore, the current study was aimed to determine the relation between perceived injustice and severity of menstruation pain among high school students of Karachi.

Unfortunately, literature gap on this study is a dilemma in Pakistan. Behavioral interventions and counseling can play a remarkable role in improving the quality of life. Our research aims to focus on finding a positive link between perceived injustice and menstrual pain outcome.

METHODOLOGY:

It was a cross-sectional study conducted from March until August 2021, with a total duration of six months after approval by the ethical review committee of Bahria University Medical and Dental College Karachi (ERC 39/2021), and written informed consent was taken from all subjects prior to their participation.

We investigated 426 females. Data was collected from different high schools in Karachi. simple Random sampling technique was used to collect the data.

The sample size was calculated from "Epi Info", the population size was kept at 1 million, design effect being 1 with confidence limit= 5 and anticipated frequency=50%. With a confidence level of 95%, the sample size calculated was equal to 384.

Females of age group 14-19 years who are high school students and have passed the age of menarche were included in this study. Females taking any hormone therapy were excluded from the study.

Data collection was carried out using an online self-administered questionnaire using: Injustice Experience Questionnaire-Chronic IEQ-CHR. Respondents described their intensity of menstrual pain by using an NRS from 0 (no pain) to 10 (worst pain imaginable).⁹ Data analysis was done using SPSS Version 23. Mean Standard deviations were calculated for continuous variable. One way ANOVA and Chi square test applied to see the significance. P-value < 0.05 considered to be statistically significant.

RESULTS:

In the demographic analysis, a total of 426 respondents, with an average age of 17.2 ± 1.3 years, participated in the survey. The characteristics of the study population are detailed in Table 1. In Table 2; We compare the different levels of IEQ with grades and find the mean and standard deviations. In Table 3: Nomeric Rating Scale(NRS) classified by mild pain, moderate pain, severe pain and very severe

pain. We observed how many students of different grades perceive the type of pain. By using chi square test. p value is statistically significant

DISCUSSION:

The issue of menstruation is a topic that many teenage girls in both industrialized and developing countries hold conventional ideas about, and it is particularly problematic for adolescent females in high school. This conclusion is confirmed by the study's findings. Menstrual pain or dysmenorrhea is characterized by severe pain and cramps during the menstrual period. The prevalence of dysmenorrhea is greater as compared to any other gynecological complaint. Many studies found a high prevalence (85.6%) of primary dysmenorrhea among late adolescents. Usually, menstruation

is a universal phenomenon that only affects females who are of reproductive age. One of the most significant changes that females experience throughout their adolescent years is the commencement of menstruation, which typically happens between the ages of 11 and 15 with a mean age of 13. Girls should enroll in high schools and universities at this time of year.

Results in our study showed that 46.9% (n=426) of respondents always feel the pain while 32.4% (n=426) often feel the pain during their menstrual period. The most common symptoms of dysmenorrhea may include cramping and pain in the lower abdomen. Results in our study showed that 35.7% (n=426) of respondents experience pain in pelvic/hip region, 33.3% (n=426) in lower back, 8.5% (n=426) in back of the legs, 7.3% in abdomen, while 2.3% (n=426) experience full-body ache. When asked about the associated symptoms, 34.6% (n=426) experience headache, 28.4% (n=426) experience nausea, 8% (n=426) experience mood swings, 2% (n=426) experience fatigue while 12.9% (n=426) experience other symptoms.

The narrative around menstruation is that it is shameful and taboo and those who menstruate are impure, dirty, and even dangerous. Many religions and cultures impose restrictions on menstruating women to perform religious rituals and certain chores, on top of that, common myths and misconceptions like “menstruating girls should be socially excluded”, “they should not shower”, “they should not exercise”, “they should not touch newborn or plants or pure things” only add to the narrative that menstruation is a dirty, impure and dangerous phenomenon.¹⁰

While some religions and cultures have abandoned extreme beliefs and practices about menstruating women, even in this modern world women face serious setbacks in their careers and workplaces because they are perceived as emotional, irrational, fragile, and incompetent due to hormonal fluctuations. According to a New York Times opinion column “the mind of a woman is always threatened with danger from the reverberations of her physiological emergencies that is menstruation”.¹¹

Table 1: showing various means and SD of variables of cases rerolled (n=426)

	Mean	Standard Deviation
Age, year	17.3	1.3
BMI (Body Mass Index)	19.2	4.4
Age of menarche	12.8	1.2
IEQ Score (Injustice Experience Questionnaire)	14.0	9.4
Average Menstrual Pain severity	5.5	2.5
Maximum Menstrual Pain severity	6.9	2.7
Deteriorate due to menstrual pain	5.9	2.3

Table 2: IEQ with Grades

IEQ Score	N	Mean	Std. Deviation	P-value
O Level	2	8.50	4.95	0.044
A Level	17	12.24	9.74	
Grade 9	26	16.58	9.67	
Grade 10	9	10.44	7.35	
Grade 11	29	13.62	9.88	
Grade 12	117	13.62	9.63	
Total	200	13.70	9.56	

p-value less than 0.05 is statistically significant by using oneway Anova

Table 3: NRS with Grades

		Grade						P-value
		O Level	A Level	Grade 9	Grade 10	Grade 11	Grade 12	
NRS	Mild Pain	0	0	1	0	0	2	0.001
		0.0%	0.0%	3.8%	0.0%	0.0%	1.7%	
	Moderate Pain	0	1	2	0	0	9	
		0.0%	5.9%	7.7%	0.0%	0.0%	7.7%	
	Severe	0	3	3	2	3	12	
		0.0%	17.6%	11.5%	22.2%	10.3%	10.3%	
Very Severe		2	13	20	7	26	94	
		100.0%	76.5%	76.9%	77.8%	89.7%	80.3%	
	Total	2	17	26	9	29	117	
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

*Chi-square test

Young girls who feel discriminated against internalize this story and develop unfavorable attitudes, beliefs, and a sense of unfairness and injustice about menstruation. A 2016 Journal of Midwives study found that a large Pakistani menstruation adolescent population stated that family members limited socialization.¹² A 2020 BMC Women Health study found 40% of respondents missed school due to menstruation.¹³

Our study showed that only 23.5% (n=426) family members felt empathy regarding the difficulty they experienced related to menstruation, while 27.7% (n=426) responded that male members never empathize, shown in Table 3. When asked whether they felt frustrated or angry regarding menstruation, 44.6% (n=426) responded "always" while 29.1% (n=426) responded "often". Young girls who have such opinions tend to experience severity of premenstrual symptoms, last year a study also reported the same evidence.¹⁴

Verbal expressions such as "it all seems so unfair," "my life will never be the same," "most people don't understand how severe my condition is," and "I am troubled by fears that I may never achieve my dreams" collectively reveal elements of emotional distress and perceived inequity.¹⁵ The reported mean IEQ-score of 14.0 ± 9.3 out of 48 points further substantiates these feelings of unfairness. The mean IEQ-score was $14.0 + 9.3$ (out of 48 points). The mean maximum menstrual pain intensity was $6.8+2.7$ (out of 10 points), that of average menstrual pain intensity was $5.5+2.5$ (out of 10 points), and that for impairment due to menstrual pain was $5.9+2.3$ (out of 10 points).¹⁶ Analysis of data highlights that while the participants' perception of injustice is associated with the level of impairment due to menstrual pain, it is not directly linked to the severity of the pain itself. Other factors, not specifically measured by the IEQ, seem to have a stronger influence on the intensity of menstrual pain.¹⁷

Figure 1 shows that 73.7% (n=426) of high school females felt angry or upset about menstruation. Anger influences the association between perceived injustice and pain severity.¹⁸ In terms of access to clean materials, privacy issues for changing pads, places to dispose of sanitary napkins, sociocultural constraints, lack of psychological and social support, inadequate knowledge about managing menstrual pain, lack of counseling services, inadequate information on menstruation and its management, lack of preparation prior to menarche, menstrual distress, burden, and stigma, adolescent girls face significant psychosocial problems during menstruation.

Teenage females between the ages of 15 and 19 reported feeling ill, depressed, and agitated throughout their menstrual cycles, according to earlier research. Throughout class, they struggled to focus and pay attention. Teenage females were irritated, unhappy, anxious, and melancholy before to their periods, and these issues worsen during the menstrual cycle. According to the majority of research, girls were prohibited

from participating in physical education classes and from engaging in play, traveling, going to social events, weddings, festivals, worship. Activity restrictions differ by culture and location. Girls were even forbidden from entering their own homes in several communities in southern India, where they were expected to wait and relax at the front door when they were menstruating. Girls were viewed as filthy and unclean when they had periods. There is a correlation among menstrual practices, activity limitations, and educational attainment.

Menstruation-related sociocultural behaviors are influenced by girls' beliefs, familial environments, education, and attitudes. Premenstrual symptoms were more common in urban girls than in rural ones, and menstrual-related absences from school were more common in rural girls. Compared to girls in rural areas, girls in urban areas had better menstrual habits. Compared to rural females, more urban girls use sanitary pads. Girls in rural and urban areas differ in their knowledge of menarche and menstruation, the sort of absorbent they use, how to dispose of it, and how to clean their external genitalia.

The majority of girls, both in rural and urban areas, believe they don't need to see a doctor for help with menstruation issues and don't require professional advice on menstrual hygiene. Instead, their moms typically provide them with advice on menstrual hygiene.

Thus, cognitive-behavioral anger management may help women with perceived unfairness manage menstruation discomfort. Another important aspect is that a young girl who feels discriminated against may form perceptions of unfairness¹⁹. Gynecological care is rare in our nation because menstruation is stigmatized. Under these conditions, environmental and social interventions may be the best menstrual pain treatment. We cannot expect young girls to manage menstruation pain without de-stigmatizing the topic and closing the information gap.²⁰

Girls who live alone, have mothers with lesser educational attainment, and menarche at a younger age are anticipated to need special care.

CONCLUSION:

In conclusion, the study sheds light on the emotional experiences and perceptions of high school girls. A significant proportion of respondents reported feeling misunderstood, experiencing alterations in their lives, perceiving situations as unfair, and grappling with fears about their future aspirations. These findings highlight the importance of understanding and addressing the emotional well-being of young girls, as these emotions could impact various aspects of their lives. Further research and support strategies might be warranted to assist these individuals in navigating their feelings and concerns effectively.

Authors Contribution:

- Beenish Hameed:** Data entry, data analysis
Areeba Shamim: Data collection
Muhammad Tufail: Literature search
Rameen Sheikh: Data analysis
Rachna: Data collection
Fareeha Shahid: Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data

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