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Impact of Pain Catastrophizing on Social Functioning among Working Women with Dysmenorrhea

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Abstract: ***Dysmenorrhea is a frequent menstrual health issue that can impact women's everyday functioning, psychological feelings and physical comfort. The current study aimed to investigate the impact of pain catastrophizing on social functioning among working women with dysmenorrhea. 102 working women between the ages of 23 and 50 participated in a quantitative correlational study design. The Multidimensional Scale of Perceived Social Support (MSPSS), Work and Social Adjustment Scale (WSAS), Pain Catastrophizing Scale (PCS), and WaLIDD Score Questionnaire were used to gather data. Simple linear regression, partial correlation, and Pearson's correlation studies were carried out. The findings showed a strong correlation between increased social functioning impairment and the severity of dysmenorrhea. However, neither social functioning nor functional impairment were substantially correlated with pain catastrophizing. Most participants showed moderate levels of pain catastrophizing. Pain catastrophizing was not substantially correlated with perceived social support, but social functioning was. The results highlight the significance of a biopsychosocial approach that takes into account social resources, psychological variables, and physical symptoms to comprehend dysmenorrhea.***

Keywords: Dysmenorrhea, pain catastrophizing, social functioning, working women

1. Introduction

Dysmenorrhea, commonly referred to as painful menstruation, is one of the most frequently reported gynecological concerns among women of reproductive age. It is characterized by lower abdominal cramps before or during menstruation, along with back pain, exhaustion, headaches, nausea, and mental distress. Dysmenorrhea can seriously impair daily activities, academic obligations, professional performance, and general quality of life, especially for working women.

Dysmenorrhea can also affect a woman's capacity to participate in social and interpersonal activities. Severe menstruation discomfort might cause women to avoid social events, cut back on leisure activities, have trouble sustaining relationships, and participate less in their regular roles. Social functioning is a crucial component of psychological health since it shows how well a person can engage with others, uphold relationships, and take part in day-to-day activities.

Pain is influenced by social and psychological elements in addition to being a physical experience. Pain catastrophizing is a significant psychological component linked to pain experiences. A noteworthy gap in the existing literature is the lack of investigation into pain catastrophizing as a factor influencing social functioning in women with dysmenorrhea. While earlier research has investigated the link between pain catastrophizing and pain intensity or disability, less studies have focused on its involvement in menstrual pain.

Furthermore, further research is needed to understand the function of social support in molding women's dysmenorrhea experiences. Social support may influence how people manage with pain-related obstacles and maintain their functioning; however, little research has investigated how perceived support links to pain-related thinking and social outcomes among working women with dysmenorrhea.

2. Literature Review

Dysmenorrhea affects between 50% and 90% of women who menstruate globally. According to Fernández-Martínez et al. (2019), 73% of working women in Europe reported having dysmenorrhea, with many missing work and being less productive. Similarly, 62% of working women had moderate to severe dysmenorrhea, and 50% said it affected their ability to execute their jobs (Habibi et al., 2015).

Pain catastrophizing is an important psychological factor directly related to pain. Pain catastrophizing has been found to be a predictor of impairment and disability in women with dysmenorrhea, with higher disability substantially associated with catastrophizing tendencies (McCracken et al., 2004). Sullivan et al. (2001) found that people with strong pain catastrophizing tendencies reported feeling more intense pain and being less able to handle the discomfort of dysmenorrhea. Niven et al. (2016) demonstrated a positive relationship between pain catastrophizing, intensity of pain, and duration of menstrual cramps. Dysmenorrhea is also a major contributor to absenteeism and decreased productivity, with women reporting difficulty concentrating at work and avoiding social events (Unsal et al., 2010; Ju et al., 2014).

Social support has been shown to improve coping strategies and pain management. Gagua et al. (2012) found that women who reported greater practical and emotional support from friends and family also reported feeling less pain. Chen

et al. (2017) found that women with strong social ties reported feeling less anxious and unhappy during dysmenorrhea. Social support from coworkers and superiors helps lessen the stigma associated with menstrual pain in the workplace, with empathy and accommodations linked to improved psychological outcomes and continued social and professional involvement (Ersoy et al., 2021).

3. Statement of Problem

The influence of pain catastrophizing on social functioning among working women with dysmenorrhea is not researched enough, despite strong evidence connecting it to negative outcomes in chronic pain conditions. Fewer research have explicitly addressed pain catastrophizing's impact on social functioning, especially in the context of working women who may experience significant obstacles linked to work obligations and social expectations. Maintaining work productivity while managing menstrual pain presents special challenges for working women. Research has also demonstrated that pain catastrophizing can have detrimental effects on women with chronic pain in terms of their emotional health, social behavior, and functional results; however, there aren't much research that apply these findings to women who experience dysmenorrhea. Therefore, in order to provide more comprehensive and successful interventions, it is imperative to look into how pain catastrophizing affects working women with dysmenorrhea's social functioning as well as their experience of pain.

Objectives

- To examine the impact of pain severity on social functioning in women with dysmenorrhea considering the role of pain catastrophizing.
- To determine the degree of pain catastrophizing experienced by dysmenorrhea working women.
- To examine the predictive relationship of perceived social support with social functioning and pain catastrophizing among working women with dysmenorrhea.

Research questions

- What impact does pain catastrophizing have on working women with dysmenorrhea in terms of social functioning (e.g., daily activities, social participation, and work performance)?
- To what extent does perceive social support predict social functioning and pain catastrophizing among working women with dysmenorrhea?

Hypothesis

$H0_1$: There is no significant relationship between pain catastrophizing and social functioning among working women with dysmenorrhea.
$H0_2$: There is no significant relationship between social support and social functioning among working women with dysmenorrhea.
$H0_3$: There is no significant relationship between social support and pain catastrophizing among working women with dysmenorrhea.

$H1_1$: There is a significant relationship between pain catastrophizing and social functioning among working women with dysmenorrhea.
$H1_2$: There is a significant relationship between social support and social functioning among working women with dysmenorrhea.
$H1_3$: There is a significant relationship between social support and pain catastrophizing among working women with dysmenorrhea.

4. Methodology

Research Design

A correlational research design was used in the present study. The study examined the statistical relationships among pain catastrophizing, social functioning, and perceived social support among working women with dysmenorrhea. A correlational design was selected as the study aimed to determine the nature and strength of associations between the variables without any manipulation of the variables.

Sample Details

The present study's sample population included 100 adult working women aged 23 to 50 who had primary dysmenorrhea. The participants represented working women who face menstruation pain and its potential psychological and social implications while juggling work and everyday responsibilities.

A non-probability sampling strategy was utilized, using purposive and convenience sampling approaches. Participants were chosen based on predetermined inclusion and exclusion criteria. Before participating, all participants were told about the research's objective and procedures, and informed consent was obtained to ensure voluntary participation and conformity to ethical principles.

Inclusion Criteria

- Participants were female working adults aged between 23 and 50 years.
- Participants experienced symptoms consistent with primary dysmenorrhea.
- Participants were currently employed.
- Participants were willing to provide informed consent and participate voluntarily.

Exclusion Criteria

- Individuals below 23 years or above 50 years of age.
- Individuals with secondary dysmenorrhea, underlying medical/ gynecological conditions, or physical impairments that may influence pain perception or social functioning.
- Individuals who were not currently employed.
- Individuals who did not identify as female.
- Individuals experiencing menopause.

Tools

Pain Catastrophizing Scale (PCS)

Pain Catastrophizing Scale (PCS) developed by Sullivan et al. (1995), evaluates the psychological tendency to magnify the threat or harm connected to pain, feel powerless to

manage it, and dwell excessively on it. Each of the 13 items on the scale is scored on a 5-point Likert scale, with 0 denoting "not at all" and 4 denoting "always." Higher scores indicate higher degrees of pain catastrophizing. Pain Catastrophizing Scale three subscale: helplessness, magnification, and rumination.

Work and Social Adjustment Scale (WSAS)

The Work and Social Adjustment Scale (WSAS) developed by Marks in 1986 is a validated self-report that assesses how health issues, including physical and psychological issues, affect a person's capacity to carry out daily tasks. Each of the five items on the WSAS is scored on a 9-point Likert scale, with 0 denoting no impairment and 8 denoting significant impairment. Higher scores indicate greater impairment.

Multidimensional Scale of Perceived Social Support (MSPSS)

The MSPSS evaluates perceived social support from three main sources: friends, family, and significant others. This 12-item scale, which is evenly distributed among all three subscales, offers a thorough grasp of the person's support network. Higher scores indicate better perceived social support.

WaLIDD Score: Working ability, Location, Intensity, and Days of pain (WaLIDD Score)

WaLIDD Score is a standardized instrument created especially to gauge the severity of dysmenorrhea. Four main factors are used to assess menstruation pain: work capacity, pain location, pain intensity, and duration (in days). The overall score ranges from 0 to 12, with higher scores denoting more severe dysmenorrhea. The severity of dysmenorrhea is classified as mild (0–3), moderate (4–7), or severe (8–12) based on the total score.

Statistical Analysis

The collected data were analyzed with SPSS version 25. Descriptive statistics, such as frequency, percentage, mean, and standard deviation, were used to characterize the participants' demographic data as well as their scores on the study variables. To determine the applicability of parametric tests, the normality of the data distribution was evaluated prior to undertaking inferential analysis. Pearson's product-moment correlation analysis was used to investigate the links between pain severity, pain catastrophizing, social functioning, and perceived social support in working women with dysmenorrhea. The level of statistical significance was set at $p < 0.05$ for all analyses.

Procedure

The sample consisted of working women selected through purposive and convenience sampling. Data were collected using the PCS, WSAS, MSPSS, and WaLIDD Score Questionnaire. Participants provided electronic informed consent, and questionnaires were distributed digitally. Data were analyzed using SPSS version 25, with Pearson's product-moment correlation and regression analysis used to examine the relationships between pain severity, pain catastrophizing, social functioning, and perceived social support.

Ethical Considerations

Participation in the study was entirely voluntary, with no force or pressure used on individuals. Participants were informed that they might withdraw from the study at any moment without consequence. Before participating, participants were given information about the study's aim, technique, and purpose, and they gave their informed consent. Participants were guaranteed the anonymity and privacy of their responses throughout the research procedure. All procedures were carried out in accordance with ethical standards and to preserve the participants' rights and well-being.

5. Analysis of Results

Table 1: Descriptive Statistics for Pain Catastrophizing Scale (PCS) Total and Subscales

Subscale / Scale	Mean (M)	Std. Deviation (SD)	Median	Minimum	Maximum
Rumination	9.29	1.81	9.00	3.00	13.00
Magnification	3.36	1.12	3.00	0.00	8.00
Helplessness	9.67	2.01	9.00	4.00	18.00
PCS Total Score	22.32	4.34	22.00	9.00	39.00

Table 2: Distribution of Pain Catastrophizing Levels Based on Standardized Cutoff Norms

PCS Score Range	Interpretation Level	Frequency (n)	Percentage (%)	Cumulative %
0–15	Low level of pain catastrophizing	4	3.9%	3.9%
16–30	Moderate level of pain catastrophizing	92	90.2%	94.1%
31–52	High level of pain catastrophizing	6	5.9%	100.0%
Total	—	102	100.0%	—

Overall, participants demonstrated a moderate level of pain catastrophizing, with an overall mean PCS total score of M=22.32 (SD=4.34, Median =22.00), spanning from a minimum score of 9.00 to a maximum of 39.00. Analysis of the three PCS subscales revealed that working women scored highest on Helplessness (M=9.67, SD=2.01) and Rumination (M=9.29, SD=1.81), whereas Magnification yielded the lowest mean score (M=3.36, SD=1.12).

Table 3: Pearson Bivariate Correlations Among Pain Severity, Pain Catastrophizing, and Social Functioning

Variable	Statistics	WaLIDD (Pain Severity)	PCS Total (Pain Catastrophizing)	WSAS (Social Functioning)
Wa LIDD	Pearson Correlation	1	.108	.505**
	Sig. (2-tailed)		.280	.000
	N	102	102	102
PCS Total	Pearson Correlation	.108	1	.023
	Sig. (2-tailed)	.280		.817
	N	102	102	102
WSAS	Pearson Correlation	.505**	.023	1
	Sig. (2-tailed)	.000	.817	
	N	102	102	102

The analysis revealed a statistically significant positive correlation between pain severity (WaLIDD) and social functioning impairment (WSAS), $r(100)=.505$, $p<.05$ ($p=.000$), indicating that higher levels of dysmenorrhea pain severity are linked to increased disruption across key life domains. The correlation between pain catastrophizing and social functioning impairment was not statistically significant, $r(100)=.023$, $p=.817$. Similarly, pain severity was not significantly correlated with pain catastrophizing, $r(100)=.108$, $p=.280$. A partial correlation controlling for PCS total scores remained virtually identical to the original zero-order correlation ($r=.506$, $p<.001$). It can be concluded that cognitive pain catastrophizing does not exert a statistically significant impact on social functioning among working women in this sample.

Table 4: Pearson Bivariate Correlations Between Perceived Social Support, Social Functioning, and Pain Catastrophizing

Variable	Statistics	MSPSS Total	WSAS Total	PCS Total
MSPSS Total	Pearson Correlation	1	.373**	-.164
	Sig. (2-tailed)		.000	.099
	N	102	102	102
WSAS Total	Pearson Correlation	.373**	1	.023
	Sig. (2-tailed)	.000		.817
	N	102	102	102
PCS Total	Pearson Correlation	-.164	.023	1
	Sig. (2-tailed)	.099	.817	
	N	102	102	102

Table 5 (a): Model Summary and Overall Fit for Social Support Predicting Social Functioning

Model	R	R2	Adjusted R2	Std. Error of the Estimate	F	df1	df2	Sig. (p)
1	.389	.152	.143	4.820	17.961	1	100	.000*

Table 5 (b): Regression Coefficients for Social Support Predicting Social Functioning

Predictor	Unstandardized B	Std. Error (SE)	Standardized β	t	Sig. (p)	95% Confidence Interval [LL, UL]
(Constant)	16.454	1.163	—	14.143	.000*	[14.146, 18.763]
Social Support (MSPSS)	3.026	0.714	.389	4.238	.000*	[1.609, 4.442]

Table 6 (a): Model Summary and Overall Fit for Social Support Predicting Pain Catastrophizing

Model	R	R2	Adjusted R2	Std. Error of the Estimate	F	df1	df2	Sig. (p)
1	.023	.001	-.009	8.450	0.053	1	100	.818

Table 6 (b): Regression Coefficients for Social Support Predicting Pain Catastrophizing

Predictor	Unstandardized B	Std. Error (SE)	Standardized β	t	Sig. (p)	95% Confidence Interval [LL, UL]
(Constant)	21.842	1.840	—	11.871	.000*	[18.192, 25.492]
Social Support (MSPSS)	-0.260	1.127	-.023	-0.231	.818	[-2.496, 1.976]

Statistically significant positive correlation was found between perceived social support (MSPSS Total) and social functioning scores (WSAS Total), r(100) = .373, p < .001. Simple linear regression analysis showed that the model was statistically significant, F(1,100) = 17.961, p < .001, with perceived social support explaining 15.2% of the variance in WSAS scores (R^2 = .152) and significantly predicting WSAS scores (B = 3.026, t = 4.238, p < .001).

The correlation between perceived social support (MSPSS Total) and pain catastrophizing (PCS Total) was negative but not statistically significant, r(100) = -.164, p = .099. The regression model was not statistically significant, F(1,100) = 0.053, p = .818, with perceived social support explaining only 0.1% of the variance in pain catastrophizing scores (R^2 = .001) and was not a significant predictor of pain catastrophizing (B = -.260, t = -.231, p = .818).

6. Discussion

The current study investigated perceived social support, social functioning, pain catastrophizing, and dysmenorrhea severity among working women with dysmenorrhea. Findings demonstrated that higher dysmenorrhea severity was significantly associated with greater impairment in social functioning, whereas pain catastrophizing did not demonstrate a significant relationship with impaired social functioning. Most individuals reported moderate levels of pain catastrophizing. These findings are in line with earlier studies showing that dysmenorrhea can have a detrimental impact on quality of life and vocational functioning (Fernández-Martínez et al., 2019; Habibi et al., 2015).

A strong correlation was found between social functioning and perceived social support, consistent with earlier research showing social support as a protective factor that enhances adjustment, lowers psychological distress, and encourages adaptive coping in people with pain (Gagua et al., 2012; Chen et al., 2017). However, no significant correlation was found between pain catastrophizing and perceived social support. Overall, pain severity was a significant factor linked to functional impairment in working women, while pain catastrophizing was not significantly associated with social functioning.

7. Future Scope

Despite the study's findings, there are several limitations that should be acknowledged. First, the study used a cross-sectional research methodology, which makes it more difficult to determine the causal relationships between social functioning, pain catastrophizing, dysmenorrhea severity, and social support. Second, the study used self-report questionnaires to measure perceived social support, social functioning, pain catastrophizing, and pain severity. Thirdly, people with secondary dysmenorrhea or underlying medical issues were not included in the study, which concentrated exclusively on working women with dysmenorrhea.

Furthermore, the study did not take into account differences in menstrual pain experiences that could affect pain perception and functional results, such as the length of symptoms, the type of treatment received, coping mechanisms, and pain management techniques. The present study included a relatively small sample of 102 working women, which may limit the generalizability of the finding.

8. Conclusion

The present study aimed to examine the impact of pain catastrophizing on social functioning among working women with dysmenorrhea. The findings demonstrated that higher dysmenorrhea severity was significantly associated with greater impairment in social functioning, affecting daily activities, occupational responsibilities, and social participation. However, pain catastrophizing was not significantly related to social functioning. Perceived social support was significantly associated with social functioning but not with pain catastrophizing.

References

[1] Chen, C. X., Rogers, S. K., Li, R., Hinrichs, R. J.,Fortenberry, J. D., & Carpenter, J. S. (2024). Social determinants of health and dysmenorrhea: A systematic review. *Journal of Pain, 25*(9), 104574. https://doi.org/10.1016/j.jpain.2024.104574

[2] Chen, C., Kwekkeboom, K., & Ward, S. (2014). Self-report pain and symptom measures for primary dysmenorrhoea: A critical review. *European Journal of Pain*, *19*(3), 377–391. https://doi.org/10.1002/ejp.556

[3] Evans, S., Dowding, C., Olive, L., Payne, L. A., Druitt, M., Seidman, L. C., Skvarc, D., & Mikocka-Walus, A. (2021). Pain catastrophizing, but not mental health or social support, is associated with menstrual pain severity in women with dysmenorrhea: A cross-sectional survey. *Psychology, Health & Medicine, 27*(6), 1410–1420. https://doi.org/10.1080/13548506.2021.1948581

[4] Faramarzi, M., & Salmalian, H. (2014). Association of psychologic and nonpsychologic factors with primary dysmenorrhea. *Iranian Red Crescent Medical Journal*, *16*(8), e16307. https://doi.org/10.5812/ircmj.16307

[5] Gagua, T., Tkeshelashvili, B., Gagua, D., & Mchedlishvili, N. (2013). Assessment of anxiety and depression in adolescents with primary dysmenorrhea: A case-control study. *Journal of Pediatric and Adolescent Gynecology, 26*(6), 350–354. https://doi.org/10.1016/j.jpag.2013.06.018

[6] Payne, L. A., Rapkin, A. J., Lung, K. C., Seidman, L. C., Zeltzer, L. K., & Tsao, J. C. (2015). Pain catastrophizing predicts menstrual pain ratings in adolescent girls with chronic pain. *Pain Medicine, 17*(1), 16–24. https://doi.org/10.1111/pme.12869

[7] Sanjeevi, R. R., Balasubramanian, K., Alfaifi, B. H., Temehy, B. F., Alshehri, M. M., Alajam, R. A., Mobaraki, A. E., Mashraqi, R. A., Jobran, L. A., & Qusayri, N. Y. (2026). Primary dysmenorrhea and its impact on mental health and quality of life among female medical students in Saudi Arabia: A cross-sectional study. *Acta Psychologica, 266*, 106817. https://doi.org/10.1016/j.actpsy.2026.10681

[8] Schoep, M. E., Adang, E. M. M., Maas, J. W. M., De Bie, B., Aarts, J. W. M., & Nieboer, T. E. (2019). Productivity loss due to menstruation-related symptoms: A nationwide cross-sectional survey among 32,748 women. *BMJ Open, 9*(6), e026186. https://doi.org/10.1136/bmjopen-2018-026186

[9] Wong, L. P. (2011). Attitudes toward menstruation, menstrual-related symptoms, and premenstrual syndrome among adolescent girls: A rural school-based survey. *Women & Health, 51*(4), 340–364. https://doi.org/10.1080/03630242.2011.574792

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