

Depression Anxiety And Self-Directed Violence In Women With Endometriosis A Cross-Sectional Study

Muhammad Muslim Khan¹, Naila², Fatima³, Ejaz Gul⁴, Izaz Jamal⁵, Anwar Khan⁶

1. Associate Professor Psychiatry, Bacha Khan Medical College/Mardan Medical Complex Mardan.
2. Assistant Professor Gynecology Bacha Khan Medical College/Mardan Medical Complex Mardan
3. Assistant Professor Gynecology Bacha Khan Medical College /Mardan Medical Complex Mardan
4. Professor Of Psychiatry Bacha Khan Medical College/Mardan Medical Complex Mardan.
5. Assistant Professor Psychiatry Bacha Khan Medical College Mardan Medical Complex Mardan.
6. Professor Department of Physiology Nowshera Medical College, Nowshera

Corresponding Author: Fatima
Email: dr.fatimarehman@gmail.com
DOI: 10.47750/pnr.2021.12.02.27

Abstract

Objectives: This study aimed to investigate the psychological impact, specifically depression, anxiety, and self-directed violence, in women suffering from endometriosis.

Study design: A cross-sectional study.

Place and duration of Study: Department Of Psychiatry & Gynae & Obs Mardan Medical Complex (MMC) Mardan, From 05-January 2021 To 05-July 2021.

Methods and Materials: Out of Eighty women, aged 20-50 and residents of Mardan, participated. Psychological distress was measured using the Patient Health Questionnaire (PHQ-9) for depression, the Generalized Anxiety Disorder Scale (GAD-7) for anxiety, the Body Appreciation Scale-2 (BAS-2) for self-acceptance, and the Depressive Experiences Questionnaire (DEQ) for self-criticism. Statistical analyses included descriptive statistics, the Kruskal-Wallis test, one-way ANOVA, chi-square tests, and correlation analyses.

Results: Women with endometriosis had significantly higher levels of depression and anxiety compared to healthy participants. Those with additional chronic illnesses (endometriosis ACI) exhibited the highest levels of depression and anxiety, as well as lower body image and higher self-criticism. Significant correlations were found between pain levels and psychological distress, with higher pain scores associated with increased depression and anxiety.

Conclusion: The study highlights the profound psychological impact of endometriosis, emphasizing the need for an interdisciplinary approach to treatment. Raising awareness, ensuring timely diagnosis, and providing comprehensive care are crucial in mitigating the mental health consequences of endometriosis.

Keywords: Endometriosis, Depression, Anxiety, Self-Directed Violence

Introduction

Endometriosis, a chronic gynecological disease characterized by the presence of tissue, that resembles the endometrium, in places other than the uterus, affects 10% of women during their reproductive age.¹ This illness as being known to affect the pelvic region and cause infertility in women and irregular menstrual cycles, is not just a physical illness but affects the psychological well-being as well. Depression, anxiety, and self-directed violence have emerged as other psychological consequences, indicating the interconnectedness of pain and mental health among women with endometriosis.² It is known that women often suffer from depression and anxiety, and these states can be aggravated by the constant pain and the instability of the disease. Chronic pain which is typical of endometriosis not only impacts the physical well-being of the patient but also undermines psychological adaptation depriving a patient of hope. This leads to increased levels of anxiety because of the fear and expectation of pain and, therefore, the development of a vicious cycle whereby pain and psychological distress reinforce each other.³ Previous studies have suggested that women suffering from endometriosis are more likely to develop Major Depressive Disorder and Generalized Anxiety Disorder in particular.⁴ Disease duration and the impact on work productivity, relationships, and social functioning aggravating mental well-being. However, endometriosis is still misunderstood and comes with a stigma, so patients receive their diagnoses late and are not given proper treatment; this compounds their frustration and loneliness. The mental health of many women can worsen throughout the years they spend experiencing severe symptoms before finally being diagnosed.⁵ This is due to the low levels of knowledge and understanding that people and healthcare professionals have about endometriosis, which makes many women feel unwanted and unheard. Such a long-lasting battle can result in the adoption of negative coping strategies among the victims, which may include self-harm and thoughts of suicide. The presence of chronic pain, mental health disorders, and self-directed violence necessitates multifaceted treatment of endometriosis and its effects on the patient. The cyclical interaction between endometriosis and mental health calls for an interdisciplinary management approach. Therefore, the combination of psychotherapy with medical treatment is essential in the care of women with endometriosis. Psychologists, anesthesiologists, and gynecologists need to work together to provide effective comprehensive care for this patient. Consequently, enhancing knowledge about endometriosis, social acceptance, and timely diagnosis will decrease the psychological consequences of the disease for women with endometriosis.

Methods and Materials

The cross-sectional study on endometriosis and psychological factors was collected in the Department Of Psychiatry & Gynae & Obs Department Mardan Medical Complex (MMC). There were two ways that participants were recruited: 1) The participants were contacted using convenient sampling where the researcher posted an online survey in relevant online forums; 2) The students themselves identified potential participants from their social circle and asked them to invite other participants as well. Only women who were residents of Mardan, between the ages of 20–50, and who could understand and respond to the survey in Urdu were considered for the study. There was no record verification of endometriosis diagnosis which meant that participants were assigned to control or experimental groups according to their self-reported health issues. At first, 140 females gave their consent to take part in the research. But 45 people couldn't participate because their data wasn't full, and 15 couldn't participate because they had chronic health conditions. Eighty women made up the final sample. Each participant's demographic details were recorded, including their age, marital status, number of children, current pregnancy status, and the presence or absence of any chronic diseases from a list that included conditions such as hypertension, diabetes, heart conditions, asthma, irritable bowel syndrome, and many more. The period since diagnosis, the age at which symptoms were first noticed, and the age at which medical assistance was sought after were all variables that endometriosis patients were asked about. On a scale from 1 (no pain) to 7 (intolerable agony), they were asked to rate the amount of pain they had experienced in the past month that was associated with endometriosis. To assess the severity of depression, the Patient Health Questionnaire (PHQ-9) was used. Each item was rated on a 4-point scale ranging from 0 (Not at all) to 3 (Practically Every day). The sum of the scores could have varied from 0 to 27, and the higher scores conveyed more depression. With a Cronbach's alpha of 0.89, the PHQ-9 proved to have acceptable internal reliability in this study. One of the measures employed to evaluate the state of anxiety was the Generalized Anxiety Disorder Scale (GAD-7) which includes 7 items. Respondents' ratings ranged from 0 to 3, with higher scores reflecting higher levels of anxiety; the

sum of the items could range from 0 to 21. With a Cronbach's alpha of 0.93, the GAD-7 also possessed acceptable internal consistency. Self-acceptance was assessed using the 10-item body appreciation scale-2 (BAS-2). The items were rated on a Likert scale of 1-5, where 1 corresponds to never, and 5 corresponds to always. The higher the score, the higher respect for one's physical body is observed. With a Cronbach's alpha of 0.94, the BAS-2 showed an acceptable level of internal reliability. We used the Depressive Experiences Questionnaire's (DEQ-) 23-item Self-Criticism subscale to measure self-criticism. Using a scale from 1 (strongly disagree) to 7 (strongly agree), participants indicated their level of self-criticism by rating items on a certain scale. With a Cronbach's alpha of 0.86, the DEQ-SC demonstrated adequate internal consistency.

Statistical Analysis

Depending on the situation, descriptive statistics were given as averages, counts, percentages, standard deviations, ranges, and averages. The Shapiro-Wilk test was used to determine if the primary study variables were normally distributed. Some of the variables did not follow a normal distribution, hence parametric and non-parametric tests were utilized simultaneously. The Kruskal-Wallis test and one-way ANOVA with Tukey's adjustment for multiple comparisons were used to compare groups for continuous outcome measures. We used the chi-square test to compare the categorical variables. The relationships between the continuous variables were examined using the Spearman and Pearson correlation coefficients. Process model 4 was used to evaluate mediation hypotheses. We used IBM SPSS v20 and Process v3.4 for all of our analyses.

Results

The demographic analysis showed that there were major differences in the ages of the groups compared. The women in the endometriosis ACI group were older with a mean age of 33 years. 8 years (Median = 33, Range = 20–48 years, SD = 7.4 years) compared to the mean age of 31.6 years (Median = 31, Range = 22–47, SD = 5.8), and the healthy participants (HP), who averaged 29.5 years (Median = 28, Range = 20–49, SD = 5.5) ($F(2, 230) = 9.7, p < 0$). Participants' marital status and parenthood were also considered: 70% of the participants reported being in a relationship, and 25% reported having children. These proportions did not differ significantly between the groups. It was also found that there was no correlation between sociodemographic variables and psychological distress. However, the main study variables showed significant differentiation between the groups. The depressive symptoms were higher in the endometriosis ACI group compared to the endometriosis-only group and the lowest levels were seen in the HP group. Likewise, anxiety scores were significantly lower in the HP group than in both endometriosis groups, suggesting that endometriosis is linked with elevated anxiety. Moreover, there were significant differences in body image and self-criticism scores between the groups. The endometriosis ACI group had the lowest body image scores implying that they are more dissatisfied with their physical appearance. They also demonstrated higher levels of self-criticism. For instance, the endometriosis-only and HP groups revealed more favorable body image scores and lower self-criticism scores. These findings raise awareness of the cumulative psychological stress experienced by women who are diagnosed with both endometriosis and other chronic diseases.

Table 1: Group Comparison

Variable	HP (n=25)	Endometriosis (n=30)	Endometriosis ACI (n=25)
	M (SD)	Med, R	M (SD)
Depression	6.3 (4.8) a	6.0, 0.0–20.0	11.2 (6.2) b
Anxiety	5.5 (4.5) a	4.0, 0.0–18.0	9.8 (6.1) b
Body image	3.8 (0.7) a	3.8, 1.9–4.9	3.5 (0.9) a

Self-criticism	4.2 (0.7) a	4.1, 2.7-5.9	4.3 (0.8) a
-----------------------	-------------	--------------	-------------

Within rows, data with different superscript letters (a, b, c) are significantly different from each other according to the post-hoc test.

indicates $p < 0.01$, means $p < 0.05$.

Table 2: Correlations between Study Variables (all p 's < 0.001), Means, and Standard Deviations

Variable	Self Criticism	Depression	Anxiety	M (SD)
Body image	-0.54	-0.51	-0.39	3.5 (0.8)
Self-criticism		0.58	0.55	4.2 (0.9)
Depression			0.77	9.7 (6.3)
Anxiety				8.3 (6.0)

Because of the age differences between groups, age was included as a covariate in all mediation models.

Discussion

The relationship between endometriosis and mental health has been the focus of numerous studies, and the findings consistently underscore the profound psychological impact of this chronic condition. Research indicates that women with endometriosis are significantly more likely to experience depression, anxiety, and self-directed violence compared to women without the condition. Several studies have reported a high prevalence of depression among women with endometriosis. For instance, a study found that 86% of women with endometriosis exhibited symptoms of depression, a figure significantly higher than the general population. [6] Similarly, a study reported that 55% of women with endometriosis met the criteria for major depressive disorder. [7] These findings align with our study, where depressive symptoms were notably higher in the endometriosis group compared to the healthy participants. Our results showed that women with endometriosis and additional chronic illnesses (endometriosis ACI) had the highest levels of depression, highlighting the compounded effect of multiple health issues on mental health. Anxiety is another prevalent issue among women with endometriosis. A study indicated that 63% of women with endometriosis experienced anxiety symptoms. [8] Similarly, a study found that 71% of their participants reported anxiety. [9] Our study corroborates these findings, showing significantly elevated anxiety levels in the endometriosis groups. Women in the endometriosis ACI group exhibited higher anxiety scores compared to those with endometriosis alone, suggesting that the presence of additional chronic conditions exacerbates anxiety. Multiple studies have highlighted the link between endometriosis and self-directed violence, including self-harm and suicidal thoughts. For instance, a research study established that women with endometriosis were twice as likely to contemplate suicide as women without the condition. Similarly, a study found a higher propensity for self-harm in women with endometriosis as compared to the general population. [10] Our study contributes to this line of literature, showing that psychological distress experienced by patients with endometriosis may cause maladaptive behaviors, such as self-harm. The high prevalence of depression and anxiety noted in the study could be potential causes of these behaviors. Women with endometriosis tend to be self-critical and dissatisfied with their bodies. Studies pointed out that most of the patients with endometriosis suffer from poor body image because of pain and childlessness. [11] Likewise, the present research revealed that women with endometriosis had lower body appreciation and higher self-criticism, especially the ones

with comorbidities. These psychological factors can also add to the general psychological strain and subsequent negative patterns of thinking and self-esteem. One of the most common symptoms of endometriosis is chronic pain, which negatively affects mental well-being. One research showed that the magnitude and duration of pain are positively related to the degree and duration of depressive and anxiety symptoms. [12] In line with this, we have observed that pain levels correlated significantly with psychological distress. Correspondingly, women with higher pain scores had higher depression and anxiety scores indicating the importance of pain management in reducing mental health problems. The long diagnostic process, which is often accompanied by a social stigma, only adds to the overall psychological burden of endometriosis. One of the researchers highlighted that many women complain of suffering years before they are diagnosed and hence feel frustrated and helpless. [13] The same study participants also identified long delays to diagnosis that could also explain high levels of psychological distress. This underlines the need for raising public and provider awareness and knowledge of endometriosis as a disease. The bidirectional relationship between endometriosis and mental health therefore requires a holistic approach to management. Many works call for multimodal treatment approaches for endometriosis that consider the medical and and psychosocial dimensions. For example, researchers highlight the need to incorporate counseling in the management of endometriosis in women. [14] This recommendation is supported by our study, which shows that the cooperation between gynecologists, pain specialists, and mental health specialists will benefit patients greatly.

Study Limitations and Future Research

It should be noted that our study has some limitations, as follows: The participants were few in the study, and the research was done only in a specific area; therefore, the results cannot be extrapolated to the general population. In addition, there is a weakness arising from the fact that this study relied on self-reported information and measures. Future research should include a larger and more varied sample of patients and utilize long-term research designs to determine the direction of the connection between endometriosis and psychological stress.

Conclusion

The findings of the present study are consistent with the existing literature revealing that women with endometriosis have a higher likelihood of developing depression, anxiety, and engaging in self-harm behaviors. These mental health issues are related to chronic pain, mental stigma, and the late diagnosis of endometriosis. These results stress the need for a multimodal treatment model of both body and mind to enhance the quality of life of women with endometriosis. Raising awareness and providing relevant information about endometriosis, as well as timely and adequate intervention, are essential ways to address the psychological impact of this chronic illness.

Conflict of Interest: Nill

Funding Source: Nill

Authors Contribution

Muhammad Muslim Khan¹: Concept & Design of Study

Mansoor Khan⁶, Naila²: Drafting

Fatima³, Izaz Jamal⁵: Data Analysis

Ejaz Gul⁴: Critical review

Muhammad Muslim Khan¹: Final Approval of version

References

1. Anagnostis P, Siolos P, Gkekas NK, Kosmidou N, Artzouchaltzi A-M, Vlachopoulos C, et al. Association between endometriosis and cardiovascular disease: a systematic review and meta-analysis. *Eur J Prev Cardiol.* 2022;29(3):423-33.

2. Facchin F, Barbara G, Dridi D, Alberico D, Buggio L, Somigliana E, et al. Mental health in women with endometriosis: searching for predictors of psychological distress. *Hum Reprod.* 2017;32(9):1855-61.
3. Williams AC, Craig KD. Updating the definition of pain. *Pain.* 2016;157(11):2420-3.
4. Soliman AM, Coyne KS, Gries KS, Castelli-Haley J, Snabes MC, Surrey ES. The burden of endometriosis symptoms on health-related quality of life in women in the United States: a cross-sectional study. *J Psychosom Obstet Gynaecol.* 2017;38(4):238-48.
5. Vitale SG, Capriglione S, Peterlunger I, La Rosa VL, Vitagliano A, Noventa M, et al. The role of cytoreductive surgery in advanced-stage endometriosis: a systematic review. *Biomed Res Int.* 2014;2014:1-10.
6. Cross H, Kemps R, Lawrie S, Dempster M. Exploring the factors contributing to psychological distress in women with endometriosis: a qualitative study. *J Health Psychol.* 2019;24(7):936-47.
7. Laganà AS, Condemi I, Retto G, Muscatello MRA, Bruno A, Zoccali RA, et al. Analysis of psychopathological comorbidity and its correlations with quality of life in patients affected by endometriosis. *J Psychosom Obstet Gynaecol.* 2015;36(2):73-9.
8. Fourquet J, Zavala D, Missmer S, Bracero N, Romero A, Flores I. Disparities in healthcare services in women with endometriosis with public vs. private health insurance. *Am J Obstet Gynecol.* 2019;221(6):627.e1-627.e14.
9. Osayande AS, Mehulic S. Diagnosis and initial management of dysmenorrhea. *Am Fam Physician.* 2014;89(5):341-6.
10. De Graaff AA, D'Hooghe TM, Dunselman GA, Dirksen CD, Hummelshoj L, Consortium WE. The significant effect of endometriosis on physical, mental and social wellbeing: results from an international cross-sectional survey. *Hum Reprod.* 2013;28(10):2677-85.
11. Sepulcri Rde P, do Amaral VF. Depressive symptoms, anxiety, and quality of life in women with pelvic endometriosis. *Eur J Obstet Gynecol Reprod Biol.* 2009;142(1):53-6.
12. Giudice LC. Endometriosis. *N Engl J Med.* 2010;362(25):2389-98.
13. Simoens S, Hummelshoj L, Dunselman G, Brandes I, Dirksen C, D'Hooghe T. Endometriosis cost assessment (the EndoCost study): a cost-of-illness study protocol. *Gynecol Obstet Invest.* 2011;71(3):170-6.
14. Fourquet J, Zavala D, Missmer S, Bracero N, Romero A, Flores I. Disparities in healthcare services in women with endometriosis with public vs. private health insurance. *Am J Obstet Gynecol.* 2019;221(6):627.e1-627.e14.