

ORIGINAL RESEARCH

The Impact of Endometriosis on Quality of Life, Fertility, and Mental Health Among Women: An Observational Study in Urban Healthcare Centers

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Abstract

Objective: To assess the impact of endometriosis on women's quality of life, fertility, mental health, and daily functioning, and to identify the social and economic challenges associated with the condition. **Methods:** A cross-sectional study was conducted involving 230 women diagnosed with endometriosis through clinical and laparoscopic evaluation. Data were collected using validated tools, including the SF-36 Health Survey for quality of life, a fertility questionnaire, and the Hospital Anxiety and Depression Scale (HADS) for mental health. Statistical analysis involved descriptive and inferential tests, including Chi-square tests, t-tests, and correlation analyses. **Results:** The study found that chronic pelvic pain (85%) and fatigue (78%) were the most common symptoms, significantly impairing quality of life, with an average physical functioning score of 52. Infertility was reported by 58% of participants, with severe endometriosis strongly associated with longer infertility duration ($p < 0.001$). Mental health assessments revealed high levels of anxiety (12.8/21) and depression (11.5/21), particularly in participants with severe disease. Additionally, 72% reported decreased sexual satisfaction, and 68% experienced financial strain due to medical expenses.

Conclusion: It is concluded that endometriosis profoundly affects women's physical health, fertility, mental well-being, and socioeconomic status. Delayed diagnosis, ineffective treatment, and high financial burdens further exacerbate these challenges.

Keywords: Endometriosis, quality of life, fertility, mental health, chronic pain, delayed diagnosis, socioeconomic impact.

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Introduction

Endometriosis is a chronic and often debilitating gynecological condition affecting millions of women worldwide. Characterized by the growth of endometrial-like tissue outside the uterus, this condition leads to a wide array of symptoms, including severe pelvic pain, heavy menstrual bleeding, and fatigue [1]. The impact of endometriosis extends far beyond physical health, influencing fertility, mental well-being, and overall quality of life. Women suffering from endometriosis often face significant challenges, from delayed diagnosis and limited treatment options to social and emotional

struggles [2]. The physical symptoms of endometriosis significantly impair a woman's quality of life. Chronic pelvic pain, a hallmark symptom of the condition, can be relentless, disrupting daily activities and reducing productivity. Pain during menstruation (dysmenorrhea) or intercourse (dyspareunia) further adds to the physical and emotional burden. Many women also experience gastrointestinal and urinary symptoms, such as bloating, diarrhea, constipation, or painful urination, making the condition even more challenging to manage [3]. These symptoms often lead to frequent absences from work, reduced social engagement, and

limitations in pursuing personal interests, resulting in feelings of frustration and isolation. One of the most distressing aspects of endometriosis for many women is its impact on fertility. The condition is a leading cause of infertility, with studies showing that 30-50% of women with endometriosis may struggle to conceive. The presence of scar tissue, adhesions, and inflammation caused by endometriosis can impair ovulation, egg quality, and the ability of sperm to fertilize an egg [4]. This often leads to emotional turmoil for women trying to start a family, as they may face prolonged periods of unsuccessful attempts to conceive, invasive fertility treatments, or even the possibility of childlessness. The journey can be emotionally and financially taxing, compounding the psychological stress associated with the condition [5]. The psychological impact of endometriosis is profound. Chronic pain and the uncertainty of the disease's progression often lead to anxiety and depression. Women with endometriosis may experience feelings of inadequacy or guilt, particularly if their condition affects their ability to fulfill societal or personal expectations related to motherhood, work, or relationships [6]. The stigma surrounding reproductive health issues can further isolate women, making it difficult for them to seek help or share their struggles openly. Studies have shown that the mental health challenges faced by women with endometriosis are comparable to those associated with other chronic illnesses, underscoring the need for psychological support as part of their care [7]. Another significant issue is the delayed diagnosis of endometriosis. On average, it takes 7-10 years for a woman to receive an accurate diagnosis, during which time the condition can worsen, leading to more severe symptoms and complications. The lack of awareness among healthcare providers and the general public contributes to this delay, as women are often told that their symptoms are "normal" or exaggerated [8]. Treatment options, though available, are not universally effective, and many women face the prospect of recurrent symptoms even after surgical interventions or medical therapy. Endometriosis also has broader social and economic implications. Women with the condition may struggle to maintain consistent employment due to frequent sick days or reduced productivity, impacting their career progression and financial stability. The costs associated with medical consultations, surgeries, fertility treatments, and ongoing medication further add to the financial burden [9]. Social relationships are also affected, as the condition can strain romantic partnerships, friendships, and family dynamics, leaving women feeling unsupported or misunderstood. Addressing the impact of endometriosis requires a holistic approach that considers the physical, emotional, and social dimensions of the condition [10].

Objective

To assess the impact of endometriosis on women's quality of life, fertility, mental health, and daily functioning, and to identify the social and economic challenges associated with the condition.

Methodology

This cross-sectional study was conducted and data were collected from 230 participants.

Inclusion Criteria

- Women aged 18–45 years
- Diagnosed with endometriosis within the last two years
- Experiencing symptoms such as chronic pelvic pain, infertility, or mental health disturbances
- Provided informed consent to participate in the study

Exclusion Criteria

- Women with a history of other chronic gynecological conditions (e.g., uterine fibroids or pelvic inflammatory disease)
- Participants undergoing simultaneous treatment for other chronic illnesses
- Incomplete medical records or unwillingness to complete the study questionnaire

Data Collection

Data were collected using a combination of structured questionnaires, clinical records, and self-reported surveys. Participants completed validated tools such as the SF-36 Health Survey to measure quality of life, focusing on physical, emotional, and social well-being. Fertility challenges were assessed using a specialized questionnaire, which captured details about the duration of infertility, previous treatments, and outcomes. Mental health assessments were conducted using the Hospital Anxiety and Depression Scale (HADS) to evaluate levels of anxiety and depression among participants. These comprehensive tools provided a detailed understanding of how endometriosis affected various aspects of their lives.

Statistical Analysis

Data were analyzed using SPSS v21. Descriptive statistics were used to summarize the demographic and clinical characteristics of the participants. Inferential tests, including Chi-square tests, t-tests, and ANOVA, were employed to explore associations between endometriosis severity and its impact on quality of life, fertility, and mental health.

Results

Data were collected from 230 participants, with an average age of 32.5 years (± 5.4). Among the participants, 45% (n=104) were diagnosed with mild to moderate endometriosis, while 55% (n=126) had severe forms of the condition. Most participants (72%, n=166) were employed, with 28% (n=64) reporting

difficulties maintaining their work schedules due to symptoms. A majority of the participants (72%) were employed; however, 28% reported significant

difficulties maintaining their work schedules due to symptoms associated with the condition.

Table 1: Demographic and Clinical Characteristics of Participants

Characteristic	Value
Total Participants	230
Average Age (years)	32.5 (\pm 5.4)
Mild to Moderate Endometriosis	45% (n=104)
Severe Endometriosis	55% (n=126)
Employed Participants	72% (n=166)
Difficulty Maintaining Work	28% (n=64)

Physical functioning scored an average of 52, with severe cases scoring 45 compared to 60 for mild to moderate cases ($p < 0.01$). Emotional well-being averaged 48, with severe endometriosis cases at 42, significantly lower than 55 for milder cases ($p < 0.01$). Social functioning was similarly impacted, with an overall score of 50, where severe cases scored 44 compared to 57 for mild/moderate cases ($p < 0.01$).

Table 2: Quality of Life Scores (SF-36)

Domain	Average Score (out of 100)	Severe Endometriosis	Mild/Moderate Endometriosis	Significance (p-value)
Physical Functioning	52	45	60	<0.01
Emotional Well-being	48	42	55	<0.01
Social Functioning	50	44	57	<0.01

Infertility was reported by 58% of participants, with an average duration of 3.2 years (\pm 1.5). Among those experiencing infertility, 47% underwent assisted reproductive treatments such as IVF, which had a success rate of only 35%. Women with severe endometriosis were significantly more likely to experience infertility compared to those with milder cases ($p < 0.001$).

Table 3: Fertility Challenges

Fertility Aspect	Value
Infertility Cases	58% (n=134)
Average Duration (years)	3.2 (\pm 1.5)
Assisted Reproductive Treatments	47% (n=63)
Success Rate of IVF	35% (n=22)
Severe Endometriosis and Infertility	Significantly higher ($p < 0.001$)

Anxiety levels averaged 12.8 (\pm 3.6), with severe cases scoring significantly higher at 14.2 compared to 11.4 for mild/moderate cases ($p < 0.01$). Similarly, depression scores averaged 11.5 (\pm 4.2), with severe cases at 13.1, notably higher than 10.1 in less severe cases ($p < 0.01$).

Table 4: Mental Health Scores (HADS)

Mental Health Aspect	Average Score (out of 21)	Severe Endometriosis	Mild/Moderate Endometriosis	Significance (p-value)
Anxiety	12.8 (\pm 3.6)	14.2	11.4	<0.01
Depression	11.5 (\pm 4.2)	13.1	10.1	<0.01

Decreased sexual satisfaction was reported by 72% of participants (n=166), with poor communication with partners affecting 58% (n=134). Women experiencing severe pain during intercourse (dyspareunia) reported the lowest satisfaction scores, averaging 4.3 out of 10. Additionally, relationship strain was significantly higher in cases of dyspareunia ($p < 0.05$), emphasizing the need for addressing both physical and emotional aspects of endometriosis in clinical care.

Table 5: Sexual Satisfaction and Communication Issues

Aspect	Value
Decreased Sexual Satisfaction	72% (n=166)
Poor Communication with Partner	58% (n=134)
Satisfaction Score (out of 10)	4.3 (for severe pain)
Relationship Strain (Dyspareunia cases)	Significant ($p < 0.05$)

The symptoms of endometriosis significantly impact daily life, with chronic pelvic pain being the most prevalent, affecting 85% of participants (n=196) and scoring 7.8 out of 10 in terms of its impact on daily activities. Fatigue, reported by 78% (n=179), had the highest impact score of 8.2, indicating its debilitating effect on overall functionality. Heavy menstrual bleeding affected 72% (n=166) with an impact score of 6.9, while dyspareunia was reported by 64% (n=147) with a score of 7.4, reflecting its toll on intimate relationships.

Table 6: Relationship Between Endometriosis Symptoms and Impact on Daily Life

Symptom	Percentage of Participants Affected	Impact on Daily Life (Average Score out of 10)
Chronic Pelvic Pain	85% (n=196)	7.8
Heavy Menstrual Bleeding	72% (n=166)	6.9
Dyspareunia (Pain During Intercourse)	64% (n=147)	7.4
Fatigue	78% (n=179)	8.2
Gastrointestinal Issues	55% (n=127)	6.5

Discussion

The findings of this study highlight the multifaceted impact of endometriosis on women's quality of life, fertility, mental health, and overall well-being. The chronic nature of the condition and its diverse symptoms, including pelvic pain, heavy bleeding, and gastrointestinal issues, significantly impair daily functioning and social participation. The results underscore the importance of a holistic approach to managing endometriosis, considering not only its physical but also its emotional, social, and economic dimensions. Chronic pelvic pain emerged as the most commonly reported symptom, affecting 85% of participants and severely impacting their daily lives [11]. This aligns with existing literature suggesting that pain is a defining characteristic of endometriosis and a primary reason for medical consultation. The association between severe pain and reduced quality of life emphasizes the need for effective pain management strategies. Additionally, the high prevalence of anxiety and depression among participants underscores the emotional toll of living with endometriosis [12]. Mental health scores from the HADS reveal that women with severe disease are disproportionately affected, suggesting that targeted psychological support should be an integral part of care. The study found that 58% of participants reported infertility, with those experiencing severe endometriosis facing significantly greater challenges in conceiving [13]. This aligns with previous research indicating that endometriosis is one of the leading causes of infertility. The emotional strain of infertility, compounded by the financial and physical demands of assisted reproductive treatments, adds to the overall burden of the condition [14]. The low success rates of these treatments in the study cohort highlight the need for continued research into more effective fertility interventions for women with endometriosis. The delayed diagnosis of endometriosis, often taking several years, remains a critical issue [15]. Many participants reported years of unrecognized or dismissed symptoms, leading to disease progression and increased severity [16-17]. This highlights the need for improved awareness among healthcare

providers and the general population to facilitate earlier diagnosis and intervention. Furthermore, the recurrence of symptoms despite surgical and medical treatments indicates the need for more effective and sustainable therapeutic options. The findings of this study suggest several areas for future research and intervention. First, advancements in diagnostic tools, such as non-invasive biomarkers or imaging techniques, could enable earlier detection of endometriosis. Second, exploring personalized treatment options that address both the physical and emotional aspects of the condition is essential.

Conclusion

It is concluded that endometriosis significantly impacts various aspects of women's lives, including physical health, mental well-being, fertility, and social functioning. The study findings demonstrate that chronic pelvic pain, heavy menstrual bleeding, and infertility are the primary challenges faced by women with this condition, severely reducing their quality of life. Furthermore, the high prevalence of anxiety, depression, and relationship strain highlights the emotional toll associated with endometriosis.

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