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THE IMPACT OF CHRONIC PELVIC PAIN ON THE QUALITY OF LIFE OF PATIENTS WITH ENDOMETRIOSIS – A SYSTEMATIC REVIEW

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ABSTRACT

Background: Endometriosis is a chronic gynecological condition affecting 6–10% of women of reproductive age, with chronic pelvic pain (CPP) being its most common symptom. The purpose of this article is to compile information on the impact of CPP on the quality of life (QoL) of women with endometriosis, based on the results of observational studies.
Methods: The authors searched the PubMed, Google Scholar, Embase, and Scopus databases, including English-language articles published since January 2023. The following search terms were used: “chronic pelvic pain”, “endometriosis AND chronic pelvic pain”, “chronic pelvic pain AND quality of life”, “endometriosis AND quality of life”. The Newcastle-Ottawa Scale (NOS) was used to assess the quality of the studies.
Results: The authors analyzed the results obtained from a literature search and identified six studies describing the findings of observational research. Although the selected articles are characterized by heterogeneity in terms of methods and study populations, all studies suggested that the greatest clinical and psychosocial burden is associated not only with the diagnosis of endometriosis itself, but primarily with the pain component, especially when the pain is chronic.
Conclusion: Given the close link between CPP and patients’ quality of life, the authors emphasize the importance of a holistic approach among physicians treating women with endometriosis.

KEYWORDS

Endometriosis, Chronic Pelvic Pain, Quality of Life

CITATION

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1. Introduction

Endometriosis is a chronic gynecological condition that affects approximately 6–10% of women of reproductive age [Rasp et al., 2024; Sinai et al., 2024; Carvalho et al. 2025]. It is characterized by the presence of endometrium-like tissue outside the uterine cavity [Rasp et al., 2024; Carvalho et al. 2025]. The number of diagnosed cases has increased in recent years, yet it remains low in certain groups, which may be associated with prolonged physical and psychological suffering – this applies, among others, to orthodox religious communities where diseases related to fertility disorders are considered taboo [Sinai et al., 2024], and more generally among younger women, whose symptoms are often nonspecific [Rasp et al., 2024]. The cause of endometriosis remains unknown; the influence of complex inflammatory processes, hormones, immune disorders, and genetic factors has been suggested [Carvalho et al. 2025; Kigloo et al., 2024; Morrone et al., 2025]. Its symptoms include dysuria, dyschezia, dyspnea, painful menstruation, and fertility disorders; however, the most commonly reported complaints are pain, including chronic pelvic pain (CPP) [Sinai et al., 2024; Carvalho et al. 2025; Samami et al., 2023]. In addition to physical symptoms, women with endometriosis experience a deterioration in their mental health [Sinai et al., 2024; Del Pino-Sedeño et al., 2024; Diaz et al., 2026].

The aim of this article is to assess the impact of chronic pelvic pain on quality of life among patients with endometriosis and to identify potential long-term effects.

2. Methodology

From March 23 to April 1 2026, the authors conducted a search of the following databases: PubMed, Google Scholar, Embase, and Scopus. Studies and reviews published no earlier than January 2023 were sought. The following search terms were used: “chronic pelvic pain,” “endometriosis AND chronic pelvic pain,” “chronic pelvic pain AND quality of life,” “endometriosis AND quality of life.” Only studies in English were included.

The Newcastle-Ottawa Scale (NOS) was used to assess the quality of the content and methodology of articles presenting the results of observational studies. The NOS is used to evaluate non-interventional studies. The original version of the tool is primarily intended for cohort and case-control studies, awarding stars from 0 to 9 in the following categories: Selection (0-4), Comparability (0-2), and Outcome (0-3). When assigning stars for Selection, the following are evaluated: the representativeness of the selected cohort, selection relative to the source population, the method of determining exposure, and the presence or absence of the outcome of interest at the start of observation. Comparability concerns the control of confounding factors – one star is awarded for controlling the main factor, and two stars when additional factors were also controlled. Stars for Outcome are awarded based on the reliability of the outcome assessment, the adequacy of the observation period, and the number of participants who completed the study. The following meanings were assigned to the individual scores:

- 7–9 stars – good quality,
- 5–6 – fair quality,
- 0–4 – poor quality.

The NOS is subject to certain significant limitations. It is a fairly subjective assessment that is not always well-suited to all types of cross-sectional studies [Gualdi-Russo & Zaccagni, 2026].

There are several versions of the NOS adapted for other types of studies, including one designed to evaluate cross-sectional studies. The authors used one of the unofficial versions intended to assess the quality of cross-sectional studies that did not meet the requirements for evaluation in the basic version. In the Newcastle-Ottawa Scale adapted for cross-sectional studies, assessment is conducted in the same categories as in the standard version of the NOS, but the scoring ranges from 0 to 10 stars, respectively: Selection (0-5), Comparability (0-2), Outcome (0-3). Points awarded for Selection relate to representativeness, sample size, the number of non-respondents, and the identification of risk factors. Comparability is assessed in the same way as in the original version, while for Outcome, the study receives stars for: objective determination of the

result (2) and correct description of statistical tests (1). The results are interpreted by assigning the study to one of four categories:

9–10 – very good quality,
7–8 – good quality,
5–6 – satisfactory quality,
0–4 – unsatisfactory quality [Blanchard et al., 2024; Herzog et al., 2013].

3. Results

3.1. Search and selection results

The search of all databases identified 43,441 records. A selection process was then conducted to exclude article types other than those describing the results of observational studies. The next step was to select studies based on the content of abstracts and keywords. Six studies were included in the final qualitative synthesis; these aligned with the review's objective and provided data on the quality of life of women with endometriosis and chronic pelvic pain or related aspects of mental health.

3.2. Characteristics of the included studies

The review included six observational studies that differed in terms of study design, sample size, and the range of outcomes assessed.

Two studies were retrospective analyses of large databases: the Finnish cohort study conducted by Rasp et al. included 4,532 women with surgically confirmed endometriosis before the age of 25 and 9,014 matched women in the control group [Rasp et al., 2024], while the Israeli study conducted by Sinai et al. included 1,291,963 patients, including 24,259 cases of endometriosis [Kigloo et al., 2024]. A third large analysis, conducted by Kigloo et al., was based on the HCUP database and included 12,904,324 hospitalized women, of whom 91,530 had endometriosis alone, 212,848 had only chronic pain, and 3,340 had both conditions simultaneously [Sinai et al., 2024].

The remaining three studies were smaller and more clinically relevant to the scope of this review. Morrone et al. conducted a single-center observational study among 47 outpatient patients with endometriosis aged 18-45 years, assessing pain intensity using the VAS scale and affective symptoms using the MOODS-SR questionnaire [Morrone et al., 2025]. Ahmad et al. conducted a cross-sectional study in a group of 354 women with endometriosis, using the WHOQOL-BREF, Patient Health Engagement Scale, and Numerical Pain Rating Scale to assess quality of life, patient engagement, and the severity of chronic pain [Ahmad et al., 2025]. Casas Diaz et al. conducted a prospective observational study involving 97 women aged 18-55 with chronic pelvic pain and suspected endometriosis who were scheduled to undergo surgery; The Central Sensitization Inventory questionnaire, the EHP-30 scale, and the postoperative PGI-I scale were used as assessment tools [Diaz et al., 2026].

3.3. Results of individual studies

A study by Rasp et al. demonstrated that women with surgically confirmed endometriosis diagnosed before the age of 25 had a higher risk of subsequent depressive, anxiety, and bipolar disorders than the reference group; the authors suggested that chronic pain may be a significant mechanism underlying the development of this psychological burden. Although the study did not measure quality of life directly, these results support the hypothesis that long-term pain and the chronic nature of the disease may indirectly impair patients' well-being [Rasp et al., 2024].

A study by Sinai et al. found that women with endometriosis were more likely to have psychiatric diagnoses – such as mood disorders, anxiety disorders, PTSD, and eating disorders – than the control group, and most of these diagnoses preceded the formal diagnosis of endometriosis. The authors emphasized that the psychological impact of endometriosis is significant and may reduce quality of life and exacerbate physical symptoms, although the study itself did not measure QoL directly [Sinai et al., 2024].

A study by Kigloo et al. demonstrated associations between endometriosis, chronic pain, anxiety, and depression in a population of over 12.9 million hospitalized women. The strongest association with anxiety was found in women with coexisting endometriosis and chronic pain; after adjustment, the highest OR for anxiety was 2.719 (95% CI 2.481–2.979). This study did not assess QoL using a psychometric tool, but it shows that the coexistence of chronic pain significantly increases psychological distress, which may translate into poorer functioning and quality of life [Kigloo et al., 2024].

The study by Morrone et al. demonstrated positive correlations between pain symptoms and the severity of affective symptoms. Chronic pelvic pain was positively correlated with depressed mood, decreased energy,

cognitive impairments in depression, and the rhythmicity of symptoms, and in the analyzed sample, 10 patients reported CPP. The study did not use a separate QoL questionnaire, but its results indicate that greater pain severity is associated with impaired mental functioning, which constitutes an important indirect explanation for the decline in quality of life [Morrone et al., 2025].

The study by Ahmad et al. was one of the two that most directly addressed the review's question. In a sample of 354 women with endometriosis, significant associations were found between chronic pain and reduced quality of life as measured by the WHOQOL-BREF, while higher levels of patient engagement were associated with better QoL. SEM analysis suggested that patient engagement partially mediates the relationship between chronic pain and quality of life [Ahmad et al., 2025].

The second key study was that by Casas Diaz et al., which included women with CPP and suspected endometriosis undergoing surgery. A higher preoperative CSI score was associated with a worse postoperative PGI-I score and poorer quality of life as assessed by the EHP-30; the correlation between preoperative CSI and postoperative EHP-30 was $r = 0.52$; $p < 0.01$, and between CSI and postoperative pain intensity, $r = 0.42$; $p < 0.01$. Patients who reported improvement had significantly better EHP-30 scores and lower pain scores than the group without improvement [Diaz et al., 2026].

3.4. Results of synthesis

Registry and population-based studies provide indirect but consistent evidence suggesting that chronic pain may impair quality of life by increasing psychological distress. In a study by Rasp et al., women with surgically confirmed endometriosis diagnosed before the age of 25 were more likely to develop depressive, anxiety, and bipolar disorders, and the authors identified chronic pain as a likely key mechanism underlying these associations [Rasp et al., 2024]. In a study by Kigloo et al. involving 12,904,324 hospitalized women, the strongest association with anxiety was observed in the group with both endometriosis and chronic pain [Kigloo et al., 2024]. Similarly, Sinai et al. demonstrated that women with endometriosis were more likely to have mental health disorders than controls, and most of these diagnoses were present even before the diagnosis of endometriosis [Sinai et al., 2024]. Overall, these studies do not measure quality of life directly as precisely as those by Ahmad or Casas Diaz, but they support a model in which the pain component exacerbates psychological distress and indirectly contributes to a decline in well-being and daily functioning [Morrone et al., 2025; Diaz et al., 2026; Ahmad et al., 2025]. A limitation of this synthesis is that some studies did not assess QoL using a separate tool, and one of them was a cross-sectional administrative database without the ability to determine temporal relationships.

3.5. Quality assessment of articles

All included studies contained results from observational research and were assessed for quality using the NOS in its classic version, as well as an unofficial modified version designed to evaluate the quality of studies involving observational research other than cohort and case-control studies [Gualdi-Russo & Zaccagni, 2026; Blanchard et al., 2024; Herzog et al., 2013]. Three studies were assessed using the classic version of the NOS and received 8, 6, and 2 stars, respectively. The three studies whose assessment required the use of the modified NOS were awarded 7, 3, and 6 stars, respectively. Detailed information on the scores awarded is provided below in Table 1.

Table 1. A summary of the assessment of content quality and the methodology of individual observational studies based on scores from the Newcastle–Ottawa Scale (NOS), both in its classic and modified versions, taking into account the stars awarded in each category and the overall score. The authors conducted the assessment based on their own knowledge and capabilities, and it is as subjective as the NOS allows.

Study	Study type	NOS version	Selection	Comparability	Outcome	Summary (stars)
Rasp et. al., 2024	retrospective registry cohort	classic NOS (0–9)	3/4	2/2	3/3	8/9 – good quality
Kigloo et. al., 2024	administrative cross-sectional	NOS cross-sectional adaptation (0–10)	2/5	2/2	3/3	7/10 – good quality
Sinai et al., 2024	retrospective EHR cohort	classic NOS (0–9)	3/4	1/2	2/3	6/9 – fair quality
Morrone et al., 2025	observational study without control group	NOS cross-sectional adaptation (0–10)	2/5	0/2	1/3	3/10 – unsatisfactory quality
Ahmad et. al., 2025	cross-sectional	NOS cross-sectional adaptation (0–10)	3/5	1/2	2/3	6/10 – satisfactory quality
Diaz et al., 2026	prospective observational	classic NOS (0–9)	2/4	0/2	0/3	2/9 – poor quality

4. Discussion

Chronic pain, and particularly CPP, is reported as one of the most significant symptoms of endometriosis [Carvalho et al. 2025; Morrone et al., 2025; Samami et al., 2023; Del Pino-Sedeño et al., 2024]. Data on its prevalence are inconsistent – more recent studies report a rate of 6-14% [Sinai et al., 2024], whereas previous reports indicated that it affects approximately 80% of patients [Diaz et al., 2026]. CPP is underpinned by mechanisms at the cellular and neuronal levels that disrupt the functioning of the serotonergic and dopaminergic systems. In some patients, a mechanism of central sensitization develops [Morrone et al., 2025]. A large retrospective study by Kigloo et al. showed that risk factors for chronic pain include older age, Caucasian ethnicity, comorbidities, and smoking [Kigloo et al., 2024]. At the same time, CPP, just like endometriosis, increases the risk of mental health disorders and significantly reduces quality of life [Kigloo et al., 2024; Morrone et al., 2025].

Previous reviews have described the association between endometriosis and an increased risk of mood disorders, anxiety disorders, and depression, and consequently, a decline in quality of life [Del Pino-Sedeño et al., 2024; Szypłowska et al., 2023]. The studies included in this review confirm these findings [Rasp et al., 2024; Sinai et al., 2024; Kigloo et al., 2024; Morrone et al., 2025]. Rasp. et al., studying a population of young patients with endometriosis in Finland, noted that different types of endometriosis show varying correlations with the occurrence of mental disorders – the risk was lower in patients with ovarian endometriosis, previously described as the least painful [Rasp et al., 2024]. Morrone et al. noted that the relationship between chronic pain and mental health is bidirectional, i.e., mood disorders exacerbate the sensation of pain, and pain is a risk factor for mood disorders. However, they were unable to establish a precise cause-and-effect relationship [Morrone et al., 2025]. This issue requires further investigation, taking into account differences arising from social factors affecting the women studied. For example, the relationship between experiencing chronic pain and a partner's reaction has been described previously, but that analysis did not specifically address endometriosis [Donohue et al., 2026].

The issue of endometriosis's impact on quality of life (QoL) was addressed in four studies included in this review [Rasp et al., 2024; Sinai et al., 2024; Morrone et al., 2025; Ahmad et al., 2025], but only one of them actually focused on assessing this issue using standardized tools [Szypłowska et al., 2023]. Ahmad et al. assessed QoL in a group of 354 patients using the WHOQOL-BREF questionnaire. They also assessed the level of engagement and pain intensity using the Patient Health Engagement Scale and the Numerical Pain Rating Scale, respectively. The results showed that quality of life is significantly influenced by the severity of chronic pain. It has also been demonstrated that active involvement in the treatment process can affect both pain perception and QoL [Ahmad et al., 2025].

Given the potential for mental health issues among patients with endometriosis, there is a need to provide them with interdisciplinary care and to remain vigilant for possible symptoms related to their mental health and the pain they experience [Rasp et al., 2024; Sinai et al., 2024; Kigloo et al., 2024; Morrone et al., 2025]. These women are at risk of poorer treatment outcomes [Diaz et al., 2026]; however, it has been shown that with appropriate engagement, their prognosis improves [Ahmad et al., 2025].

5. Conclusions

This review was subject to a number of limitations. The most significant of these is the considerable heterogeneity of study types and study populations. Other limitations include the narrow time frame of the included publications, the small number of databases analyzed, and the lack of access to the full texts of some articles. The authors suggest that a more detailed analysis of data on the quality of life of patients with endometriosis and chronic pelvic pain is warranted.

Based on the information gathered, it can be concluded that awareness of the impact of CPP as a component of endometriosis on patients' quality of life is growing. However, this issue has not yet been sufficiently studied, and dynamic changes in healthcare systems, as well as socioeconomic differences among various social groups, make it difficult to draw uniform conclusions. The authors point to the need for more detailed studies of populations that have not yet been studied. The knowledge gained in this way could help both to better understand the mechanisms underlying chronic pelvic pain and to tailor medical care to the needs of patients with endometriosis.

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