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**Original Research Article**

# Epidemiological profile of women with endometriosis: a study in a tertiary care hospital in Bangladesh

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## ABSTRACT

**Background:** Endometriosis is a chronic and often painful condition characterized by the growth of tissue similar to the endometrium (the lining inside the uterus) outside the uterus. It primarily affects women of reproductive age and is a leading cause of pelvic pain and infertility. This study aimed to assess the epidemiological profile of women with endometriosis.
**Methods:** This prospective observational study was conducted in the Department of Obstetrics and Gynecology, Uttara Adhunik Medical College Hospital, Dhaka, Bangladesh from January 2022 to December 2022. As the study subjects, a total of 113 women with a confirmed surgical diagnosis of endometriosis enrolled in this study purposively. A purposive sampling technique was used in sample selection. Data were analyzed by MS Office tools.
**Results:** The mean age of respondents was 32.1±5.2 years, 69% were housewives and 58% were married. Main complaints included cyclic pelvic pain (42.5%), acyclic pelvic pain (23.9%), heavy menstrual bleeding (14.2%), amenorrhea (4.4%) and palpable mass (6.2%). Premenstrual syndrome was observed in 72% of cases and 46% of participants were infertile. Investigations revealed 82.3% had ovarian cysts, 47.8% experienced dysmenorrhea and 31.9% suffered from primary infertility. Deeply infiltrating endometriosis was prevalent in 60.2%, 57.5% were in Stage-III/IV and 42.5% were in Stage-I/II.
**Conclusions:** Endometriosis is most prevalent among younger married housewives. Main complaints include cyclic/acyclic pelvic pain, heavy menstrual bleeding, amenorrhea and palpable mass. Premenstrual syndrome and ovarian cysts are very common, while deeply infiltrating endometriosis being the most prevalent among endometriosis patients.

**Keywords:** Epidemiological profile, Endometriosis, Ovarian cysts, Pelvic pain, Women

## INTRODUCTION

Endometriosis is increasingly acknowledged as a cause of chronic pelvic pain among younger women, including adolescents, with a reported incidence of 62% among adolescents undergoing laparoscopic investigation.[1,2] Endometriosis involves endometrial tissue located outside the uterine cavity.[3] It is a common, chronic, inflammatory and hormone-dependent condition affecting women of reproductive age.[4] This heterogeneous disease includes five frequently associated forms, superficial peritoneal endometriosis, ovarian endometrioma, deep pelvic sub peritoneal endometriosis (EP), adenomyosis and extra-pelvic endometriosis. Endometriosis imposes a considerable burden on women's quality of life and healthcare systems. This is primarily due to its incapacitating pain, infertility and the delays and high costs associated with diagnosis and treatment.[5,6]

Additionally, the healthcare costs for endometriosis are comparable to those of other chronic conditions.[7] The etiology of endometriosis remains unknown, with the most widely accepted theory being retrograde menstruation, first described by Sampson in 19278. However, various factors may contribute to the development and persistence of ectopic implants, including inflammatory, hormonal, genetic and environmental factors.[9-12] Research has indicated that body mass index, smoking and physical activity are inversely associated with endometriosis, although the mechanisms underlying these associations are not yet understood.[13-15] Other factors have also been linked to endometriosis, including early age at menarche and infertility, which are associated with an increased risk.[12] Conversely, parity and oral contraceptive use are associated with a decreased risk.[16,17] However, it is unclear whether these associations are causal or a result of endometriosis. Therefore, these findings should be interpreted with caution, particularly due to the difficulty of diagnosing endometriosis before symptoms appear.[7]

## METHODS

This was a prospective observational study that was conducted in the Department of Gynae & Obs, Uttara Adunik Medical College Hospital, Dhaka Bangladesh from January 2022 to December 2022. As the study subjects, a total of 113 women with a confirmed surgical diagnosis of endometriosis were enrolled in this study. A purposive sampling technique was used in sample selection. The patients participated in a face-to-face interview and provided written informed consent for the collection, analysis and sharing of their medical data and the study was approved by the Institutional Ethical Committee.

They also completed a demographic questionnaire during their appointments. Eligibility required patients to have histologically confirmed endometriosis lesions or MRI images showing infiltrative endometrial lesions. According to the American Fertility Society Score 6, patients diagnosed with endometriosis via surgery were categorized into stages I/II and stages III/IV. Endometriotic lesions were categorized into three groups, superficial endometriosis, ovarian endometrioma and deeply infiltrating endometriosis, as described elsewhere.[12] All participants underwent a standard interview and a physical examination before laparoscopy. Written consent was obtained from all participants prior to data collection. Data were analysed using MS Office tools.

## RESULTS

In our study, most participants fell within the 26-35 year's age group. The mean age of the respondents was 32.1±5.2 years. More than two-thirds of the cases (69%) were housewives. Additionally, 24.8%, 4.4% and 1.8% of the participants were service holders, students and businessmen, respectively. A first-degree family history of endometriosis was identified in 3.5% of the participants.

Regarding parity distribution, 33.6% of the participants had no previous pregnancies (parity 0), 31.9% had one previous pregnancy (parity 1), 22.1% had two previous pregnancies (parity 2) and 12.4% had three or more previous pregnancies (parity≥3). Most of the cases (58%) were married, followed by 34% who were single.

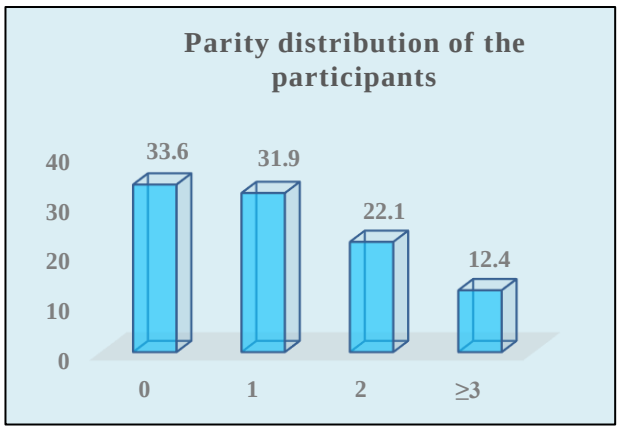


**Figure 1: Parity wise participants (n=113).**

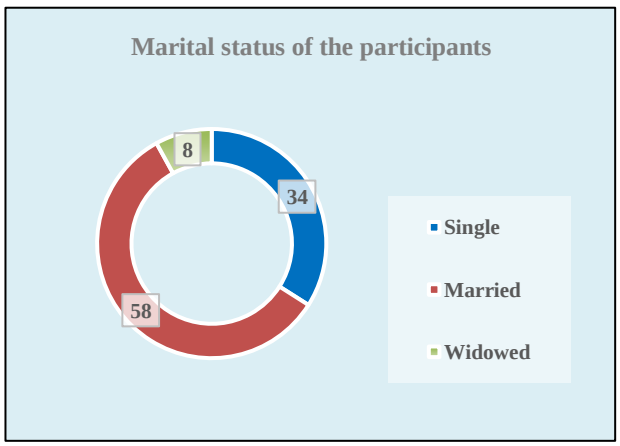


**Figure 2: Marital status wise participants (n=113).**

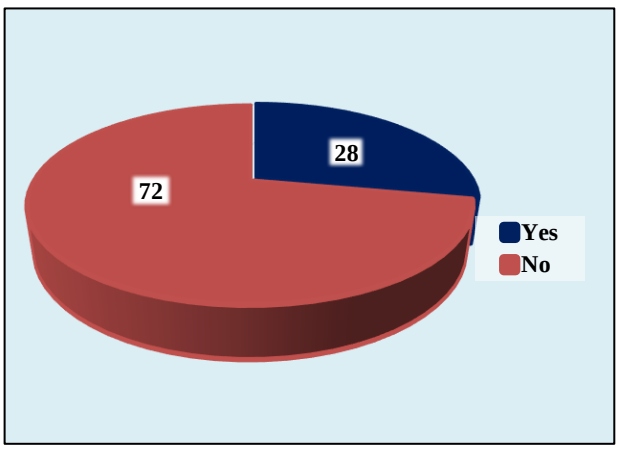


**Figure 3: Premenstrual syndrome wise participants (n=113).**

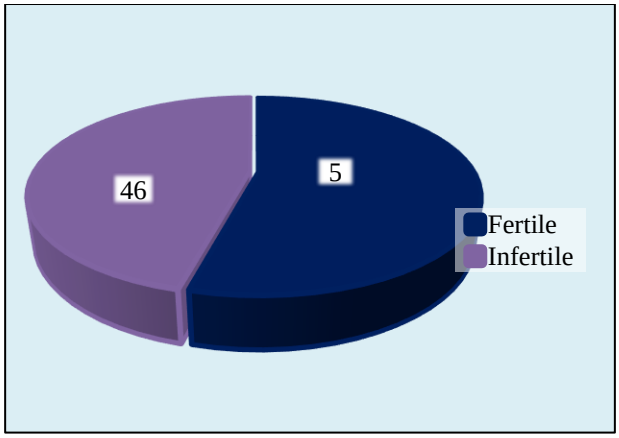


**Figure 4: Fertility status wise participants (n=113).**

The main complaints among the participants were cyclic pelvic pain, reported by 42.5% of the group, followed by acyclic pelvic pain, which affected 23.9%. Heavy menstrual bleeding was a concern for 14.2% of the participants, while 4.4% experienced amenorrhea. Additionally, 6.2% reported having a palpable mass. In nearly three-fourth of the cases (72%) premenstrual syndrome was observed. In analysing the fertility status of the participants, it was observed that 46% of the participants were infertile.

Investigation findings revealed that 82.3% of the participants had ovarian cysts, 47.8% experienced dysmenorrhea and 31.9% suffered from primary infertility. The findings showed that deeply infiltrating endometriosis was the most prevalent type, affecting 60.2% of the participants.

Ovarian endometrioma was present in 27.4% of the cases, while 12.4% of the participants had superficial endometriosis. The data on the stages of endometriosis indicated that 57.5% of the participants were in stage-III/IV, while 42.5% were in stage-I/II.

**Table 1: Age distribution of participants (n=113).**

| Age (In year) | N | % |
|---|---|---|
| **18-25** | 16 | 14.20 |
| **26-30** | 36 | 31.90 |
| **31-35** | 37 | 32.70 |
| **36-50** | 24 | 21.20 |
| **Mean ±SD** | 32.1±5.2 | |
| **Total** | 113 | |

**Table 2: Occupational status (n=113).**

| Occupational status | N | % |
|---|---|---|
| **Businessman** | 2 | 1.8 |
| **Service holder** | 28 | 24.8 |
| **Student** | 5 | 4.4 |
| **Housewife** | 78 | 69.0 |

**Table 3: Family history of endometriosis (n=113).**

| Family history | N | % |
|---|---|---|
| **First degree** | 4 | 3.5 |
| **Second degree** | 2 | 1.8 |

**Table 4: Main complains (n=113).**

| Chief complain | N | % |
|---|---|---|
| **Cyclic pelvic pain** | 48 | 42.5 |
| **Acyclic pelvic pain** | 27 | 23.9 |
| **Heavy menstrual bleeding** | 16 | 14.2 |
| **Amenorrhea** | 5 | 4.4 |
| **Palpable mass** | 7 | 6.2 |

**Table 5: Investigation findings (n=113).**

| Findings | Symptoms | |
|---|---|---|
| | N | % |
| **Ovarian cyst** | 93 | 82.30 |
| **Dysmenorrhea** | 54 | 47.80 |
| **Primary infertility** | 36 | 31.90 |
| **AUB** | 14 | 12.40 |
| **Secondary infertility** | 13 | 11.50 |
| **Chronic pelvic pain** | 11 | 9.70 |
| **Dyspareunia** | 6 | 5.30 |
| **Scar endometriosis** | 4 | 3.50 |
| **UE** | 1 | 0.90 |

**Table 6: Types of endometrioses (n=113).**

| Endometriosis types | N | % |
|---|---|---|
| **Superficial endometriosis** | 14 | 12.4 |
| **Ovarian endometrioma** | 31 | 27.4 |
| **Deeply infiltrating** | 68 | 60.2 |

**Table 7: Stages of endometriosis (n=113).**

| Stages | N | % |
|---|---|---|
| **Stage-I/II** | 48 | 42.5 |
| **Stage-III/IV** | 65 | 57.5 |

## DISCUSSION

In our study, the majority of participants were aged between 26 and 35 years, which aligns with the age range observed in other studies.[4,8] Endometriosis typically affects women during their reproductive years.[12,18] More than two-thirds of our participants were housewives and a first-degree family history of endometriosis was identified in 3.5% of them. Additionally, several studies have suggested positive associations concerning the hereditary aspects of endometriosis and a family history of the condition.[19] In this study, concerning parity distribution, one-third of the participants had no prior pregnancies, another one-third had one previous pregnancy, one-fifth had two previous pregnancies and nearly 10% had three or more previous pregnancies.

Furthermore, the majority of the participants (58%) were married, while 34% were single. Patients with endometriosis were reported to be married and had higher educational levels, which aligns with previous qualitative and case-control studies.[20,21] Chapron et al, found a higher frequency of married and university-educated women among endometriosis cases compared to women without the disease.[12] The primary complaints among our participants were cyclic pelvic pain, reported by nearly half of the cases, followed by acyclic pelvic pain, heavy menstrual bleeding was a concern for 14.2% of participants and some experienced amenorrhea.

A cross-sectional study involving 1,000 participants from Ireland, Britain and the United States reported a combined frequency of dysmenorrhea, dyspareunia and chronic pelvic pain at 34.4%.[22] In contrast, regarding symptoms such as dyspareunia, dysmenorrhea, chronic pelvic pain and urinary complaints, a few patients in our study were asymptomatic, which does not align with findings from a previous qualitative descriptive study.[21] Premenstrual syndrome was observed in nearly three-fourths of our patients.

When analyzing the fertility status, it was found that nearly half of the participants were infertile. Our investigation revealed that most participants had ovarian cysts; nearly half experienced dysmenorrhea and one-third suffered from primary infertility. Deeply infiltrating endometriosis was the most prevalent type, with ovarian endometrioma present in 27.4% of cases and superficial endometriosis in 12.4% of participants. It is believed that pain during evacuation may be due to infiltrative lesions.[23] Additionally, infertile women had nearly a three-fold increase in the risk of endometriotic lesions in the uterine tubes. Previous reports have indicated that diseases of the uterine tubes account for 25-35% of all female primary infertility cases and can be associated with endometriosis.[24,25]

This was a single-centered study with a small sample size, conducted over a very short period. Therefore, the findings may not accurately reflect the overall situation across the entire country.

## CONCLUSION

Endometriosis is particularly prevalent among younger married housewives, with primary complaints including cyclic or acyclic pelvic pain, heavy menstrual bleeding, amenorrhea and palpable masses. Common associated conditions include premenstrual syndrome and ovarian cysts, while deeply infiltrating endometriosis is the most prevalent form observed among patients. These symptoms and manifestations highlight the significant impact of endometriosis on affected individuals, underlining the need for early diagnosis and targeted treatment strategies to manage pain and improve quality of life. Comprehensive care and awareness can facilitate better management of this condition, reducing its burden on those affected.

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