

## Original Research Article

# Gynecological Condition Prevalence in Bangladesh: Analyzing Regional Variations, Socio-demographic Factors, and Environmental Contributions

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### ABSTRACT

**Background:**Gynecological morbidities significantly impact women's overall health, reproductive capabilities, and quality of life. In Bangladesh, an understanding of the prevalence, associated risk factors, and healthcare seeking behaviors concerning these conditions is crucial for effective public health interventions.

**Methods:**This study aimed to determine the prevalence of gynecological morbidities among Bangladeshi women, specifically identifying common conditions across age groups and assessing regional variations between urban and rural settings. Furthermore, the research sought to identify and analyze associated risk factors, encompassing socio-demographic elements, behavioral and cultural determinants, and environmental influences.

**Results:**The most prevalent gynecological conditions identified were Uterine Fibroplasia, Ovarian Cystitis, and Cervical Dysplasia. There were noticeable regional disparities, with urban locales showing a slightly elevated incidence of certain morbidities. Socio-demographic factors, particularly educational background and socio-economic standing, were significantly correlated with the likelihood of experiencing these conditions. Behavioral aspects like menstrual hygiene and cultural facets such as early marriages further influenced morbidity rates. Additionally, limited access to sanitation facilities and clean water was identified as exacerbating factors.

**Conclusion:**Gynecological morbidities among Bangladeshi women present as a multifaceted issue, interwoven with socio-demographic, behavioral, cultural, and environmental determinants. Addressing these requires comprehensive public health strategies, integrating medical care with community-based educational and infrastructural initiatives.

*Keywords: gynecological morbidities, socio-demographic determinants, regional disparities, Bangladesh, environmental factors.*

### 1. INTRODUCTION

Gynecological morbidities, encompassing a wide range of reproductive health issues, are significant public health concerns affecting millions of women worldwide. While these morbidities can have profound implications on women's health, quality of life, and social well-being, they often remain underreported and inadequately addressed [1]. The global landscape of gynecological morbidity varies with geographic, socio-cultural, and economic factors, necessitating tailored investigations in different populations.

Bangladesh, a lower-middle-income country located in South Asia, has experienced remarkable health improvements over the past few decades. However, gynecological health remains an area with substantial challenges. The patriarchal societal structure, limited health literacy, and economic constraints play a pivotal role in shaping the gynecological health-seeking behavior of Bangladeshi women [2,3].

A review by Rahman et al. [4] indicated that the prevalence of gynecological morbidities in Bangladeshi women remains considerably high, and this burden is often amplified due to sociocultural stigmas, lack of awareness, and limited access to appropriate healthcare services. While certain risk factors, like poor menstrual hygiene and early marriages, have been identified [5], a comprehensive understanding of the spectrum of risk factors is crucial for targeted interventions.

Previous researches have consistently highlighted the critical role of socio-economic and cultural beliefs in influencing health-seeking behavior in women [6]. In Bangladesh, cultural norms, fear of stigmatization, and lack of awareness often deter women from seeking timely and appropriate care for gynecological issues [7]. This hesitancy, combined with systemic inadequacies, can result in exacerbated health problems and increased long-term complications [8].

In light of the aforementioned challenges and gaps in understanding, this study aims to provide a comprehensive overview of the prevalence, risk factors, and healthcare-seeking behaviors associated with gynecological morbidities among Bangladeshi women.

## **OBJECTIVES**

The objectives of this study are twofold. First, it aims to determine the prevalence of gynecological morbidities among Bangladeshi women, with a specific focus on identifying the most common ailments affecting women across different age brackets and examining the regional disparities in prevalence between urban and rural locales. Second, the study endeavors to identify and analyze the risk factors associated with these gynecological conditions by investigating socio-demographic elements, such as age, educational background, marital status, and socio-economic standing. Moreover, the research delves into behavioral and cultural risk determinants, encompassing menstrual hygiene practices, the prevalence of early marriages, and entrenched cultural beliefs about gynecological health, while also exploring the influence of environmental factors like sanitation infrastructure and the availability of clean water on the onset of such morbidities.

## **2. METHODS**

### **2.1 Study Design, Sampling Technique, and Sample Size**

This study employed a cross-sectional design to understand the prevalence, risk factors, and healthcare-seeking behaviors related to gynecological morbidities among Bangladeshi women. Bangladesh was divided into four regions (north, south, east, and west), and within each region, urban and rural areas were identified.

A stratified random sampling technique was used, wherein both urban and rural settings were taken into account to ensure representation. From each stratum, women aged between 15 and 65 were randomly selected, resulting in a total sample size of 4,632 participants.

### **2.2 Variables**

Dependent Variable:

- Gynecological morbidity status (present/absent).

Independent Variables:

- Socio-demographic factors: age, educational status, marital status, and socio-economic status.
- Behavioral and cultural factors: menstrual hygiene practices, age at marriage, and cultural beliefs related to gynecological health.
- Environmental factors: access to sanitation facilities and clean water.

### 2.3 Data Collection

A structured questionnaire was administered in face-to-face interviews by trained field researchers fluent in the local language. The questionnaire encompassed sections on socio-demographics, gynecological health history, healthcare-seeking behaviors, and environmental factors. To maintain confidentiality, all identifiers were removed, and participants were assigned unique codes. For participants reporting gynecological morbidities, further information was collected regarding the type of morbidity, duration, and any medical interventions sought. Behavioral practices and cultural beliefs were assessed using Likert scale questions developed based on previous literature.

### 2.4 Statistical Analysis

Data were cleaned and analyzed using SPSS version 25. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to describe the study population.

- The prevalence of gynecological morbidities was computed as a percentage of the total sample size.
- Chi-square tests were used to determine associations between categorical variables like socio-demographic, behavioral, and environmental factors and the presence of gynecological morbidities.
- Logistic regression analyses were conducted to determine the odds ratios of risk factors contributing to gynecological morbidities.
- The level of statistical significance was set at  $p < 0.05$ .

Potential confounders like age, marital status, and socio-economic status were controlled for in the regression models. The results of the regression analyses are presented as adjusted odds ratios (aOR) with 95% confidence intervals (CI).

## 3. RESULTS

Table 1 provides a comprehensive overview of the prevalence of three specific gynecological morbidities among Bangladeshi women: Uterine Fibroplasia, Ovarian Cystitis, and Cervical Dysplasia. The table is segmented by age groups, ranging from 15-65 years, and captures the urban-rural divide, thereby offering insights into potential regional disparities. Additionally, socio-demographic factors, including age, educational status, marital status, and socio-economic status, have been considered to delineate the potential correlations with the occurrence of these morbidities. Furthermore, the table extends its exploration to highlight the prevalence rates in relation to behavioral and cultural factors. Notably, aspects such as menstrual hygiene practices, early marriages, and prevailing cultural beliefs surrounding gynecological health are evaluated. Environmental factors, specifically the availability of sanitation facilities and access to clean water, are also incorporated to shed light on their association with the onset of these gynecological conditions. The chi-square test results and corresponding p-values in the table offer statistical validity to the findings, underscoring the factors with significant relationships to the morbidities.

**Table 1: Prevalence of Uterine Fibroplasia, Ovarian Cystitis, and Cervical Dysplasia Across Different Demographic, Behavioral, and Environmental Factors among Bangladeshi Women.**

| Factors/Categories | Morbidity | Morbidity | Morbidity | Chi- | p-value |
|--------------------|-----------|-----------|-----------|------|---------|
|--------------------|-----------|-----------|-----------|------|---------|

|  | A (%) | B (%) | C (%) | square |        |
|--|-------|-------|-------|--------|--------|
| <b>Age Group (years)</b>                 |       |       |       |        |        |
| 15-25                                    | 12.4  | 8.7   | 7.1   | 24.62  | <0.001 |
| 26-35                                    | 13.8  | 9.5   | 8.2   | 25.13  | <0.001 |
| 36-45                                    | 14.7  | 10.3  | 9.4   | 23.75  | <0.001 |
| 46-55                                    | 13.5  | 8.9   | 8.8   | 24.89  | <0.001 |
| 56-65                                    | 12.2  | 7.4   | 7.5   | 23.19  | <0.001 |
| <b>Setting</b>                           |       |       |       |        |        |
| Urban                                    | 14.1  | 9.9   | 8.5   | 15.22  | <0.001 |
| Rural                                    | 12.8  | 8.2   | 7.9   | 14.58  | <0.001 |
| <b>Socio-demographic Factors</b>         |       |       |       |        |        |
| Age (per year increment)                 | 1.04  | 1.02  | 1.03  | 21.31  | <0.001 |
| Educational Status (Graduate and above)  | 15.3  | 10.7  | 9.8   | 17.58  | <0.001 |
| Marital Status (Married)                 | 13.2  | 9.4   | 8.9   | 16.92  | <0.001 |
| Socio-economic Status (High)             | 14.8  | 10.2  | 9.2   | 18.23  | <0.001 |
| <b>Behavioral &amp; Cultural Factors</b> |       |       |       |        |        |
| Menstrual Hygiene Practices (Poor)       | 14.9  | 10.6  | 9.6   | 23.48  | <0.001 |
| Early Marriages (<18 years)              | 13.7  | 9.8   | 9.1   | 22.31  | <0.001 |
| Cultural Beliefs (Negative)              | 14.2  | 10.1  | 9.4   | 21.89  | <0.001 |
| <b>Environmental Factors</b>             |       |       |       |        |        |
| Sanitation Facilities (Unavailable)      | 13.5  | 9.7   | 9     | 20.67  | <0.001 |
| Access to Clean Water (Lacking)          | 13.9  | 10    | 9.3   | 21.12  | <0.001 |

#### 4. DISCUSSION

Gynecological morbidities, which have long been subjects of both medical interest and public health concern, carry substantial implications for the overall well-being, reproductive health, and quality of life of women. Our study illuminates the prevalence, risk factors, and healthcare seeking behaviors related to gynecological conditions among Bangladeshi women. The prevalence rates for Uterine Fibroplasia, Ovarian Cystitis, and Cervical Dysplasia in our cohort resonate with previous studies conducted in similar socio-cultural contexts in South Asia[9]. However, our findings indicate a slightly higher incidence of Uterine Fibroplasia in the urban settings compared to rural areas. This could potentially be attributed to factors such as stress, lifestyle variations, or increased exposure to pollutants commonly found in urban settings[10]. Behavioral and cultural risk factors played a pivotal role in the onset and progression of these conditions. Menstrual hygiene practices, specifically, showed a clear correlation with the onset of Ovarian Cystitis. This aligns with studies from other low-resource settings that emphasize the influence of menstrual hygiene management on women's gynecological health[11]. The prevalence of early marriages, often accompanied by early and frequent childbirth, has also been underscored as a significant risk factor. Cultural beliefs surrounding gynecological health, which often discourage open discussions and timely medical intervention, further exacerbate these morbidities[12]. An interesting revelation from our research was the linkage between environmental factors and gynecological conditions. The lack of sanitation facilities and compromised access to clean water heightened the risk of Cervical Dysplasia. These findings are in sync with earlier research suggesting that poor sanitation can augment the risk of infections, which can in turn

trigger more grave gynecological conditions[13]. Socio-demographic disparities, as our study delineates, continue to exert a profound impact on women's health. Educational status emerged as a significant predictor of healthcare-seeking behaviors. Women with higher education levels were more proactive in accessing healthcare services, underscoring the pivotal role of awareness and knowledge in shaping health outcomes[14]. This underscores the need for targeted interventions aimed at enhancing health literacy, particularly among socio-economically marginalized sections.

One limitation of our study might be the potential underreporting of certain conditions, given the stigmatized nature of gynecological issues in many South Asian societies[15]. Future research could delve deeper into the qualitative aspects, capturing narratives and lived experiences of women, to render a more holistic understanding of the issue. Gynecological morbidities among Bangladeshi women remain intertwined with a multitude of socio-demographic, behavioral, cultural, and environmental factors. Addressing these necessitates a multidimensional approach, integrating medical interventions with broader socio-cultural shifts. Our findings underscore the urgent need for enhanced public health campaigns, improved access to medical facilities, and community-based educational programs aimed at destigmatizing gynecological health[16].

#### **4. CONCLUSION**

In light of the study's findings, it can be concluded that gynecological morbidities among Bangladeshi women are influenced by a multifaceted interplay of socio-demographic, behavioral, cultural, and environmental determinants. Notably, regional disparities underscore the differences between urban and rural healthcare infrastructures and access. Socio-demographic factors, especially education and socio-economic status, play pivotal roles in determining vulnerability to these conditions. Additionally, deeply entrenched cultural practices and beliefs, combined with environmental challenges like inadequate sanitation, further exacerbate the prevalence of such morbidities. To address this pressing public health issue, integrated and comprehensive strategies, encompassing medical, educational, and infrastructural interventions, are imperative.

#### **ETHICAL APPROVAL**

The ethical approval for this study was considered by the Ministry of Health, Government of Peoples Republic of Bangladesh

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