

The Socio-Demographic Impact and Economic Burden of Treatment in Routine Abdominal Hysterectomy in Bangladesh

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ABSTRACT:

Background: Abdominal hysterectomy is one of the most commonly performed surgeries in gynecology, yet its socio-demographic and economic implications remain underexplored, particularly in low-resource settings like Bangladesh. This study aims to assess the socio-demographic characteristics of patients undergoing abdominal hysterectomy and the economic burden associated with their treatment.

Methods: A cross-sectional study was conducted at Chittagong Medical College Hospital, Bangladesh, with 88 patients undergoing routine abdominal hysterectomy. Data was collected regarding socio-demographic characteristics (age, education, family income), clinical profiles, and treatment costs, including hospital stay duration.

Results: The majority of patients (48.9%) were between 46-55 years old, with most (56.8%) having primary-level education. A significant portion (85.2%) of the patients came from lower-middle-income families, reflecting the socio-economic background of the study population. In terms of clinical profiles, most patients (94.3%) were premenopausal, with fibro-adenomyosis (31.1%) and fibroid uterus (28.4%) being the most common indications for surgery. Regarding post-operative complications, febrile morbidity (54.3%) was the most frequently observed, while the need for further treatment was required in 18.2% of patients. The average hospital stay for most patients (86.4%) was between 5-10 days, with an overall average of 7.47 ± 5.469 days. The cost of treatment was significantly influenced by antibiotic use, with the average cost for medication per patient in the study being Tk. 1867.5 ± 675 , with antibiotic expenses accounting for a major portion. Some patients faced a much higher treatment cost due to prolonged hospital stays and extended antibiotic use.

Conclusion: This study underscores the significant socio-demographic and economic burden of abdominal hysterectomy in Bangladesh. Most patients are from low-income backgrounds with limited education, highlighting the vulnerability of this group to the financial strain of medical treatment. The costs associated with hospital stays and medication use further exacerbate this burden, emphasizing the need for more cost-effective healthcare practices in low-resource settings to alleviate financial pressures on patients.

Key Words:

Socio-Demographic Characteristics, Abdominal Hysterectomy, Treatment Cost, Economic Burden, Hospital Stay, Bangladesh.

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Introduction

Abdominal hysterectomy is one of the most frequently performed surgical procedures globally, particularly in gynecology. In countries with limited healthcare resources, such as Bangladesh, the procedure not only impacts the health outcomes of women but also has significant socio-demographic and economic implications. While much research has focused on the clinical outcomes of abdominal hysterectomy, there is a dearth of comprehensive studies that explore the socio-demographic characteristics of patients and the financial burden associated with the procedure, especially in low-income settings like Bangladesh. This study seeks to bridge that gap by assessing the socio-demographic profile, clinical conditions, and economic burden of abdominal hysterectomy patients in Chittagong Medical College Hospital, Bangladesh.

The socio-demographic factors influencing health outcomes have been widely recognized in the literature. Studies show that factors such as age, education, and economic status significantly affect the health-seeking behavior, surgical decision-making, and recovery outcomes of patients (Ahmed et al., 2005; Li, X., Yang, H., Wang, H. & Liu, X. 2020; Akter, M.T. et al. 2025). In the case of abdominal hysterectomy, patients often come from diverse socio-economic backgrounds, which can influence the accessibility and affordability of surgical care. The majority of patients undergoing this surgery in Bangladesh are from lower-middle-income households, where medical expenses can create a substantial financial burden (Huq et al. 2015).

Moreover, the increasing prevalence of gynecological conditions, such as fibroids and adenomyosis, among premenopausal women has contributed to the rising demand for abdominal hysterectomy (Upson, 2020; Bina, 2024). Understanding the clinical profiles of these patients, including their age, menopausal status, and specific gynecological conditions, is crucial for improving patient care and surgical outcomes. The cost of treatment, including hospitalization and medication, further exacerbates the financial strain on patients, particularly in resource-constrained settings like Bangladesh, where healthcare funding is limited.

This study, therefore, aims to assess not only the clinical and socio-demographic characteristics of women under-

going abdominal hysterectomy but also to estimate the economic burden of treatment, considering both direct costs, such as hospital stay and medication, and indirect costs, like lost productivity and transportation. The findings are expected to provide valuable insights for policymakers and healthcare providers, aiding in the development of more cost-effective and accessible healthcare strategies that can alleviate the economic burden on patients.

In conclusion, understanding the interplay between socio-demographic factors and the economic burden of abdominal hysterectomy is vital in addressing the challenges faced by patients in low-resource settings. By providing a detailed analysis of these aspects, this study will contribute to the growing body of literature on the socio-economic dimensions of gynecological surgeries and help in formulating more equitable healthcare policies in Bangladesh.

Material and Methods:

This study employed a cross-sectional design conducted at the Department of Obstetrics and Gynecology, Chittagong Medical College Hospital, Bangladesh. It aimed to assess the socio-demographic, clinical, and economic burden of abdominal hysterectomy among 88 participants. A purposive sampling method was used to select patients undergoing routine abdominal hysterectomy during the study period. Participants were categorized into two groups: the experimental group, receiving preoperative antibiotic prophylaxis, and the control group, receiving empirical antibiotic therapy. Inclusion criteria included patients undergoing elective abdominal hysterectomy, while exclusion criteria were patients with co-existing conditions such as uncontrolled diabetes, cardiac, renal, thyroid, or hepatic disorders; those receiving other antibiotic regimens or steroids; and those unwilling to participate in the study. Informed consent was obtained from each participant or their legal guardian before their inclusion in the study.

Data collection procedure: The data collection procedure involved gathering demographic and clinical information from all patients undergoing routine abdominal hysterectomy at the Department of Obstetrics and Gynecology, Chittagong Medical College Hospital. Detailed demographic data, including age, education level, and monthly family income, were obtained through interviews with

patients or their legal guardians. Clinical data, including menopausal status, gynecological history, and the indication for surgery, were recorded from patient medical records and clinical examinations. All relevant data were documented in a case record form, ensuring thorough and accurate data collection for the study.

Statistical Analysis

Data were analyzed using SPSS version 27. Continuous variables were analyzed using descriptive statistics, including means and standard deviations, while categorical variables were compared using the Chi-square test. A p-value of less than 0.05 was considered statistically significant.

Results:

The age distribution of the study participants revealed that the majority of patients (48.9%) were in the 46-55 years age group, followed by 45.5% in the 36-45 years range. Only 5.7% of patients were over 55 years old, indicating that most patients undergoing abdominal hysterectomy in this study were middle-aged. This distribution reflects the common age range for gynecological surgeries in the population. The Mean $\pm$ SD age was 46.58 ± 5.055 .

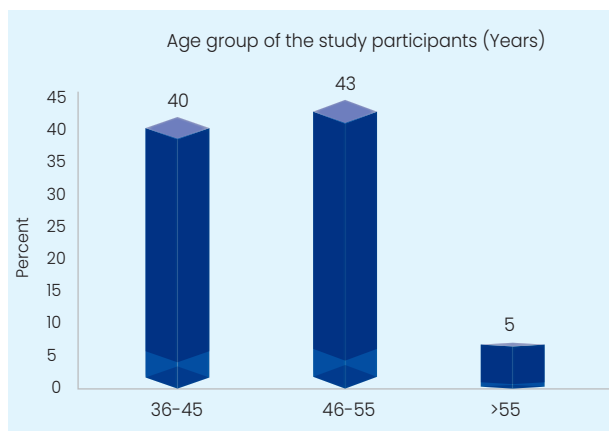


Figure 1: Age group distribution of the study population (n=88)

Table 1 presents the literacy level of the study participants. The majority of participants (56.8%) had completed primary education, followed by 39.8% who were illiterate. Only a small portion of the participants had completed SSC (1.1%) or HSC (2.3%), highlighting a low educational attainment among the study population.

Table 1: Literacy level of the study participants (n=88)

Characteristics	Total (n=88)	Percentage (%)
Illiterate	35	(39.8%)
Primary	50	(56.8%)
SSC	01	(1.1%)
HSC	02	(2.3%)

The economic condition of the study population indicates a predominantly lower-middle-class group, with 85.2% of participants falling under this category. Only 14.8% of the participants were from the upper-middle class, reflecting a skew towards a lower socio-economic status in the study sample.

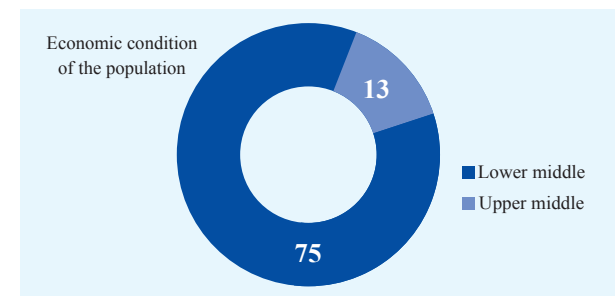


Figure 2: Economic status of the study participants (n=88)

Table 2 presents the indications for surgery among the study participants. The most common indication was fibro-adenomyosis (31.1%), followed by fibroid uterus (28.4%) and adenomyosis (22.7%). A smaller proportion of patients had other conditions, including endometriosis (2.3%), or combined conditions such as fibro-adenomyosis and endometriosis (2.3%). Additionally, a few patients had mixed indications, such as fibroid and endometriosis (1.1%) or fibroid and other conditions (1.1%). These findings highlight the prevalence of benign gynecological conditions as the primary reasons for undergoing abdominal hysterectomy.

Table 2: Indication for Surgery of the study population (n=88)

Indication for Surgery	Total (n=88)	Percentage (%)
Fibroid Uterus	25	28.4%
Fibro-adenomyosis	30	31.1%
Adenomyosis	20	22.7%
Endometriosis	02	2.3%
Others	05	5.7%
Fibroid & Endometriosis	01	1.1%
Fibroid & Others	01	1.1%
Fibro-adenomyosis & Endometriosis	02	2.3%
Adenomyosis & Endometriosis	02	2.3%

The menopausal status of the study participants reveals that the majority (94.3%) were premenopausal, with only a small proportion (5.7%) being postmenopausal. This highlights that most patients undergoing abdominal hysterectomy in this study were in their premenopausal phase, which is consistent with the typical demographic for this type of surgery.

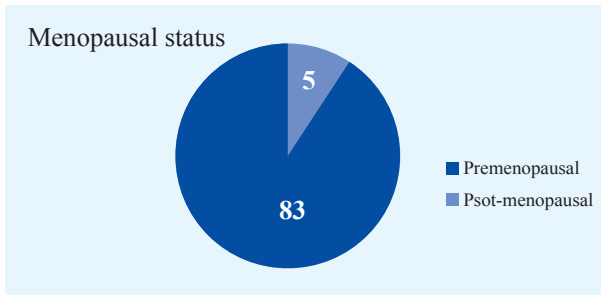


Figure 3: Menopausal status of the study population (n=88)

Table 3 presents the distribution of hospital stay duration among the study participants. The majority of patients (86.4%) had a hospital stay between 5 and 10 days. A smaller proportion of patients stayed 11-15 days (5.7%), while only 2.3% stayed 16-20 days. Hospital stays longer than 20 days were rare, with 1.1% staying over 25 days. The average hospital stay was 7.47 ± 5.469 days, with a range from 5 to 30 days.

Table 3: Duration of hospital stay after surgery

Hospital Stay (days)	Total (n=88)	Percentage (%)
05-10	76	86.4%
11-15	05	5.7%
16-20	02	2.3%
21-25	04	4.5%
>25	01	1.1%
Mean $\pm$ SD	07.47 $\pm$ 5.469 days	
Range	05 – 30 days	

Table 4 shows the average medication cost for the study participants. The mean medication cost was 1867.5 $\pm$ 675 BDT, with a range from 1192.5 to 2542.5 BDT. This variation in cost reflects the differences in treatment regimens and hospital stay durations among the patients.

Table 4: Medication cost for the hospital stay duration

Antibiotic Cost (BDT)	Mean $\pm$ SD (BDT)	Range (BDT)
Average	1867.5 $\pm$ 675	1192.5-2542.5

The distribution of the distance from the hospital to home for the participants (n=88) showed that 25.0% of participants lived between 6-10 km from the hospital, while 20.5% were located 11-15 km away. A significant portion (13.6%) resided within 5 km of the hospital, and 17.0% were between 16-20 km away. Fewer participants lived farther, with 11.4% between 21-25 km, 6.8% between 26-30 km, and 5.7% living more than 31 km away. These distances highlight the varied geographical spread of the study population.

Table 5: Distribution of Distance from the Hospital to Home of the Participants (n=88)

Distance (km)	Frequency	Percentage (%)
0-5	12	13.6
6-10	22	25.0
11-15	18	20.5
16-20	15	17.0
21-25	10	11.4
26-30	6	6.8
31+	5	5.7
Total	88	100.0

Discussion

This study highlights the significant economic burden associated with abdominal hysterectomy in Bangladesh. The findings reveal that a majority of patients undergoing the procedure belong to lower-middle-income households (85.2%) with a low level of education (56.8% having only primary education), emphasizing the vulnerability of this population to high medical costs. The average treatment cost, primarily driven by antibiotic use and hospital stays, was Tk. 1867.5 $\pm$ 675, with a range from Tk. 1192.5 to Tk. 2542.5. This variation in costs underscores the impact of prolonged hospital stays and complications, such as febrile morbidity, which affected 54.3% of patients.

The socio-economic background of the patients plays a critical role in their ability to afford medical expenses. The significant proportion of patients from lower-middle-income families suggests that financial constraints might limit access to timely and effective care, thus exacerbating health inequalities. Similar studies in low-resource settings, such as those by Sarker, 2022; Ahmed et al., 2022; Rahman et al., 2025, have found that lower socio-economic status directly correlates with poor access to healthcare services and higher financial burdens, leading to delayed or suboptimal treatment.

The cost burden is further compounded by the long duration of hospital stays, with 86.4% of patients requiring 5-10 days in the hospital. Extended stays often translate into increased direct costs for the patient, not only in terms of medication but also for accommodation and transportation. The significant variation in hospital stay duration reflects different clinical outcomes and complications, with some patients incurring higher costs due to post-operative complications such as the need for extended antibiotic therapy leading to significant financial strain on patients (Hedou et al., 2026; Khan, 2023; Totty, 2021).

Further compounding the economic burden is the indirect cost of treatment, such as lost income due to prolonged recovery times. This is especially challenging for patients who are primary breadwinners in their families, highlighting the broader socio-economic impacts of medical procedures (Huq et al. 2015, Ahmed et al. 2022). These findings are consistent with other research indicating that the financial burden of surgical treatment is not limited to direct medical costs but also includes lost productivity and additional family expenses (Platt et al., 2021; Hailemichael et al., 2026; Hah et al., 2021).

In conclusion, the study reveals that abdominal hysterectomy in Bangladesh imposes a substantial economic burden on patients, particularly those from lower socio-economic backgrounds. The costs associated with prolonged hospital stays, medication, and the need for post-operative care are significant. This underscores the need for more cost-effective healthcare interventions, including improved preoperative counseling, efficient resource utilization, and better access to affordable healthcare, to alleviate the financial strain on patients in low-resource settings.

Conclusion:

This study highlights the significant socio-demographic and economic burden of abdominal hysterectomy in Bangladesh, particularly among lower-middle-income women. The high costs associated with extended hospital stays, medication, and post-operative care exacerbate financial strain, especially for those with limited resources. Addressing these challenges requires the implementation of cost-effective healthcare strategies, better preoperative counseling, and improved access to affordable treatment options. Reducing the economic burden of surgical procedures is crucial for enhancing healthcare accessibility and equity in low-resource settings.

References

1. Huq NM, Al-Amin AQ, Howlader SR, Kabir MA. Paying Out of Pocket for Healthcare in Bangladesh - A Burden on Poor? *Iran J Public Health*. 2015 Jul;44(7):1024-5. PMID: 26576387; PMCID: PMC4645756.
2. Ahmed, S., Ahmed, M.W., Hasan, M.Z., Mehdi, G.G., Islam, Z., Rehnberg, C., Niessen, L.W. & Khan, J.A.M., 2022. Assessing the incidence of catastrophic health expenditure and impoverishment from out-of-pocket payments and their determinants in Bangladesh: evidence from the nationwide Household Income and Expenditure Survey 2016. *International Health*, 14(1), pp. 84–96.
3. Upson, K., 2020. Epidemiology of adenomyosis: prevalence in women undergoing hysterectomy and co-occurrence with other uterine pathologies. *PMC Articles*.
4. Bina, I., 2024. A study on causes for hysterectomy in Bangladesh: adenomyosis (79.5%) and fibroids (41.8%) most prevalent. *TajRMJ*.
5. Ahmed, S.M., Adams, A.M., Chowdhury, M. & Bhuiya, A. (2005) Socio economic status overrides age and gender in determining health seeking behaviour in rural Bangladesh, *Bulletin of the World Health Organization*, 83(2), pp.109–117.
6. Li, X., Yang, H., Wang, H. & Liu, X. (2020) Effect of Health Education on Healthcare Seeking Behavior of Migrant Workers in China, *International Journal of Environmental Research and Public Health*, 17(7), p.2344.
7. Akter, M.T. et al. (2025) Impact of Education and Income on Health Status among Rural Residents, *Saudi Journal of Medicine & Public Health*, 83, pp.80–85.
8. Sarker, A.R., Ali, S.M.Z., Ahmed, M., Chowdhury, S.M.Z.I. & Ali, N., 2022. Out of pocket payment for healthcare among urban citizens in Dhaka, Bangladesh. *PLOS ONE*.
9. Ahmed, S., Hasan, M.W., Hasan, M.Z., Mehdi, G.G., Islam, Z., Rehnberg, C., Niessen, L.W. & Khan, J.A.M., 2022. Assessing the incidence of catastrophic health expenditure and impoverishment from OOP payments in Bangladesh. *International Health*, 14(1), pp.84–96.
10. Rahman, M.M. & Hossain, S., 2025. Unmet healthcare needs, out of pocket payments and catastrophic health expenditures among hypertensive adults in Bangladesh. *BMC Health Services Research*, 25, article 1088.
11. Hedou, J., et al., 2026. Impact of postoperative complications on cost and length of stay. *National Center for Biotechnology Information*. Available at: <https://www.ncbi.nlm.nih.gov/articles/PMC12810577/>
12. Khan, O.H., et al., 2023. The burden of surgical site infection at Hospital Universiti. *MDPI*. Available at: <https://www.mdpi.com/2079-6382/12/2/208>
13. Totty, J.P., 2021. The impact of surgical site infection on hospitalisation. *International Wound Journal*. Available at: <https://onlinelibrary.wiley.com/doi/10.1111/iwj.13526>
14. Platt, E., et al., 2021. Economic impact of surgery on households and individuals in low-income countries: direct and indirect costs. *International Journal of Surgery Economics*, 28(4), pp. 190-198.
15. Hailemichael, Y., et al., 2026. Household costs, catastrophic out-of-pocket payments and impoverishment from surgical care. *PLOS ONE*, 17(2), pp. 1-12.
16. Hah, J.M., et al., 2021. Return to work and productivity loss after surgery. *International Journal of Surgery*, 37(6), pp. 238-246.