

RESEARCH ARTICLE

Prevalence and Clinical Features of Erectile Dysfunction in Bangladeshi Men

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Received: 23 October 2024 Accepted: 15 November 2024 Published: 18 November 2024

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Abstract

Background: Erectile dysfunction (ED) is a common global issue affecting men's sexual health, defined as the inability to maintain an erection for intercourse. ED results from neurovascular, endocrine, and psychological processes and leads to significant impacts on intimacy, productivity, and quality of life. ED is age-related and inversely related to education and income. High stress, anxiety, and risky lifestyles like smoking and drinking increase ED risk.

Aim of the study: The study aims to assess the prevalence and clinical profile of patients presenting with ED among Bangladeshi men.

Methods: This cross-sectional analytical study took place at the Department of Dermatology & Venereology, BSMMU, Dhaka, Bangladesh, utilizing a purposive sampling technique. Forty-five adult married male patients with erectile dysfunction, aged 21-70, were selected. Erectile dysfunction severity was assessed using the Bengali version of the IIEF. Data were analyzed using SPSS 23.0, and the results were presented in tables and graphs.

Result: The study population primarily consisted of younger individuals, with 42.2% aged 21-30 and 37.8% aged 31-40. The average age was 35.07 ± 7.45 years. In terms of education, 35.6% had primary education, and 22.2% had graduate-level education. Most participants were employed in service-related jobs (55.6%) or were businessmen (26.7%). Nearly all (97.8%) were from middle-income backgrounds. Moderate ED affected 51.1%, mild ED 37.8%, and severe ED 11.1%. Obesity was common, with 64.44% being obese. Smokers comprised 37.8%. Sexual comorbidities affected 51.11%, with premature ejaculation being the most common. Psychiatric comorbidities were observed in 40%, including major depressive disorder.

Citation: Dr. A K M Rejaul Haque, Dr. Md. Atiqul Haque, Dr. Momenun Nahar Saki *et al.* Prevalence and Clinical Features of Erectile Dysfunction in Bangladeshi Men. Archives of Dermatology and Skin Care. 2024;6(1):6-13.

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Conclusion: Erectile dysfunction (ED) is prevalent among younger Bangladeshi men, with a mean age of 35.07 years. Moderate ED affected 51.1%, while 51.11% had sexual comorbidities, and 40% had psychiatric conditions like major depressive disorder. Early intervention, lifestyle changes, and comprehensive healthcare strategies are crucial for effective management.

Keywords: Prevalence, Clinical Features, Erectile Dysfunction.

1. Introduction

The World Health Organization defines sexual health as “fundamental to the physical or emotional health and well-being of individuals, couples, and families and their social or economic development” [1]. Erectile dysfunction (ED) is a widespread issue affecting men globally and represents a significant challenge in sexual health. ED is defined as “the consistent or recurrent inability to attain and maintain a penile erection sufficient for sexual intercourse” [2]. The global prevalence of ED is projected to rise, with estimates ranging from 3% to 76.5% [3]. By 2025, it is anticipated that 322 million men worldwide will be affected by ED, an increase from 152 million men in 1995 [4]. Penile erection is a physiological response resulting from neurovascular events combined with endocrine and psychological processes. It includes the relaxation of smooth muscles, the filling of sinusoids with arterial blood, and the blockage of venous outflow. Any disruption in these processes can cause erectile dysfunction [5]. The study identified the syndrome as primarily characterized by complaints of semen loss through urine, nocturnal emissions, or masturbation, along with nonspecific symptoms such as weakness, fatigue, palpitations, and insomnia [6]. ED results in withdrawal from sexual intimacy, decreased work productivity and reduced quality of life [7,8]. It negatively affects employers as men with ED have higher absenteeism rates due to psychosocial reasons that lead to work productivity impairment [9]. ED is an age-dependent disorder, possibly resulting from physiological changes associated with the aging process [10]. Some studies show an inverse relationship between education and household income and ED. Higher socioeconomic status is associated with better health, as more educated men tend to have less physically and emotionally stressful lives. Low education levels often correlate with a higher prevalence of undiagnosed diseases, while lower income is frequently linked to increased stress levels [11]. High levels of stress, anxiety, and depression are known to be linked with ED. Chronic stress raises corticosteroid levels, which lowers testosterone, leading to challenges in sexual performance and response [10]. It has been suggested that the worrisome

increase in ED among young men may be a reflection of current lifestyle factors such as cigarette smoking and alcohol consumption [12]. The prevalence of ED was high among men with underlying medical problems and risky lifestyles, including cardiovascular disease (CVD), hypertension, dyslipidemia, obesity, and diabetes [13]. ED itself poses a financial burden to the healthcare system, let alone its complications [14]. A study analyzing prescribing patterns and costs in England revealed that the rate of primary care prescriptions for ED doubled between 2009 and 2019, largely due to an increase in men being screened or seeking treatment for the condition [15]. By identifying the prevalence and clinical characteristics of ED, effective service delivery, resource allocation, and preventive strategies can be developed. Hence, this study assessed the prevalence and clinical profile of patients presenting with ED among Bangladeshi men.

2. Methodology and Materials

This cross-sectional analytical study was conducted at the Department of Dermatology & Venereology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh. A purposive sampling technique was employed to gather the sample from the study population between [start date] and [end date]. Forty-five adult married male patients with erectile dysfunction were selected for the study.

2.1 Inclusion Criteria

- Men diagnosed with erectile dysfunction.
- Age range: 21 to 70 years.
- Subjects must have attempted sexual intercourse at least once in the past four weeks.
- Participants must be in a stable relationship with a female partner.

2.2 Exclusion Criteria

- Acute or chronic diseases
- Past lower urinary tract or urethral/penile surgery
- History of trauma of the perineal region or pelvic fracture or surgery
- History of spine injury or surgery

- Patients on medications that could modify hormonal levels or affect erectile function
- Any known disease of the male genitalia, penile or genital deformities
- Clinical antecedents of known hypogonadism
- Psychological causes, e.g. anxiety, depressive disorders, etc.

The Erectile Function (EF) domain of the International Index of Erectile Function (IIEF) was utilized to evaluate baseline erectile function (EF) and identify erectile dysfunction (ED). The validation of the IIEF was conducted using its Bengali version. The severity of ED was classified into four diagnostic categories based on EF scores: no ED (EF score ≥ 26), mild ED (EF score = 17-25), moderate ED (EF score = 11-16), and severe ED (EF score ≤ 10) [16]. After conducting laboratory investigations, other potential causes of erectile dysfunction were excluded as per the exclusion criteria, and serum total and free testosterone levels were measured.

A data collection sheet was used to record patients' demographic data and health-related habits, which were gathered through face-to-face interviews. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 23.0 for Windows. All data were presented in tables or graphs according to their relevance, with descriptions provided for each table and graph to ensure clear understanding.

3. Results

The majority of the study population fell within the younger age groups, with 42.2% being aged 21-30

years and 37.8% aged 31-40 years. The mean age was 35.07 ± 7.45 years. In terms of educational status, 35.6% of the participants had received a primary education, followed by 22.2% who had attained a graduate level or higher. Over half (55.6%) of the participants were employed in service-related jobs, while 26.7% were business people. Nearly all participants (97.8%) were from middle-income backgrounds (Table 1). Moderate ED is the most common, affecting 51.1% of individuals. Mild ED and severe ED impacts 37.8% and 11.1% of the population, respectively (Figure 1). Table 2 shows that a significant proportion of participants, 48.89%, have experienced ED for less than one year, and 20% have had the condition for 1-2 years. ED lasting 2-5 years affects 17.78% of the individuals, whereas 13.33% have been dealing with the condition for more than five years. Participants who are classified as obese (BMI ≥ 25), overweight (BMI 23-24.9), and have a normal (18-22.9) comprise 64.44%, 26.67% and 8.89%, respectively. Habitual status indicates 37.8% of the population as smokers and 62.2% as non-smokers (Table 2). Sexual comorbidities were present in 51.11% of the participants, with premature ejaculation being the most common (46.67%) and Dhat syndrome affecting 6.67%. Psychiatric comorbidities were observed in 40%, including major depressive disorder (28.89%), generalized anxiety disorder (6.67%), and other conditions like somatic symptoms and obsessive-compulsive disorder. Medical and surgical comorbidities were less frequent, affecting 15.56% of participants, with dyslipidemia (11.11%), diabetes (8.89%), and hypertension (6.67%) being the most prevalent (Table 3).

Table 1. Socio-demographic status of study populations (n=45).

Variables	Frequency (n)	Percentage (%)
Age range (in years)		
21-30	19	42.2
31-40	17	37.8
41-50	8	17.8
51-60	1	2.2
61-70	0	0
Mean \pm SD	35.07 \pm 7.45	
Educational status		
Illiterate	4	8.9
Primary	16	35.6
SSC	7	15.5
HSC	8	17.8
Graduate and above	10	22.2
Occupational status		
Farmer	0	0

Businessmen	12	26.7
Service	25	55.6
Unemployed	0	0
Other	8	17.7
Socioeconomic status		
Lower income	1	2.2
Middle income	44	97.8
Upper income	0	0

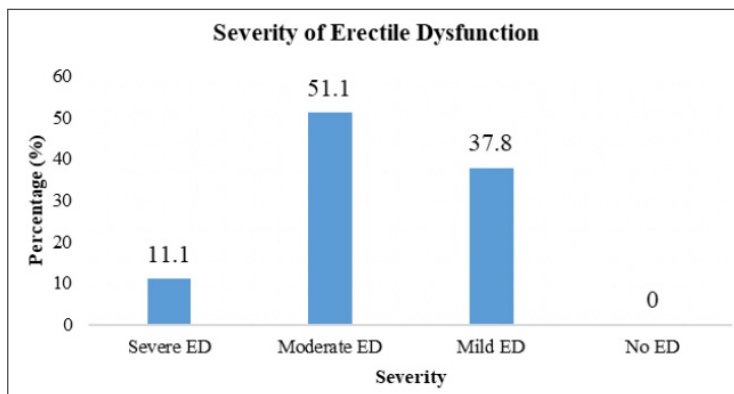


Figure 1. Severity of ED of the study subjects

Table 2. Clinical Characteristics of the study population (n=45).

Clinical Variables	Frequency (n)	Percentage (%)
Duration of Illness (in Years)		
<1 year	22	48.89
1–2 years	9	20.00
2–5 years	8	17.78
>5 years	6	13.33
Mean years of illness ± SD	1.84 ± 1.17	
BMI		
Normal (18-22.9)	4	8.89
Overweight (23–24.9)	12	26.67
Obese (≥25)	29	64.44
Habitual status		
Smoker	17	37.8
Non-smoker	28	62.2

Table 3. Distribution of Comorbidities (n=45).

Variables	Frequency (n)	Percentage (%)
Comorbidity		
Sexual comorbidity	23	51.11
Psychiatric comorbidity	18	40.00
Medical and surgical comorbidity	7	15.56
Comorbid Sexual Illness		
Premature ejaculation	21	46.67
Dhat Syndrome	3	6.67
Comorbid Psychiatric Illness		
Major depressive disorder	13	28.89
Generalized anxiety disorder	3	6.67
Somatic symptoms and related disorders	2	4.44
Obsessive-compulsive disorder	1	2.22
Dissociative disorder	1	2.22
Medical and Surgical Comorbidity		

Dyslipidemia	5	11.11
Diabetes mellitus	4	8.89
Hypertension	3	6.67
Hypothyroidism	2	4.44
Pulmonary tuberculosis	1	2.22
Coronary artery disease	1	2.22
Hernia	1	2.22
Benign prostate hyperplasia	1	2.22
Renal stone	1	2.22

4. Discussion

ED is a prevalent male sexual health issue that can significantly impact quality of life, relationships, and psychological well-being. Understanding the unique sociocultural, lifestyle, and healthcare services in Bangladesh is crucial for effectively addressing this issue. This study aims to fill the existing knowledge gap by exploring the epidemiology of ED in Bangladesh and highlighting its clinical presentation in this population. In this study, the mean age of the patients with ED was 35.07 ± 7.45 years. A maximum of 42.2% of patients belong to the age range 21-30 years, followed by 37.8% of patients in the 31-40 years age range. A similar age distribution was reported in the study of Huang et al., showing the mean age of the patients with ED was 30.56 ± 4.81 years [17]. This result is also consistent with the study by Hassan et al. where the mean age of the study population was 39.08 ± 20.02 and the majority (44.5%) of patients were 40-49 years old [18]. The higher mean age is due to the exclusion of younger subjects. Our study found that the most common level of education was primary (35.6%), over half (55.6%) of the participants were service holders, and the majority belonged to the middle-income group (97.8%). A similar study done by Ahn et al. reported that ED was more prevalent in those with a low education level and low household income [19]. A lower prevalence of ED was noted for those with a higher education level and higher-income households. In the present series, the maximum (51.1%) had moderate ED followed by mild ED (37.8%) and 5 (11.1%) patients had severe ED. Moreira et al. observed in a study that the frequency of mild, moderate, and severe erectile dysfunction was 31.5%, 12.1%, and 2.6%, respectively [20]. Another study also included 78.6% mild to moderate ED and 21.4% severe ED [17]. Our study sample's mean years of illness were 1.84 ± 1.17 , with a range of 0.8 to 10 years. Other studies reported even longer mean years of illness compared to this study 3.,18 years in the study by Langer et al. and 5.68 years by Pozzi et al. [21,22]. Although our study sample reached the treatment center relatively

early in comparison to data reported by other studies, patients of ED seek consultation after a considerable delay [21,22]. As happens in other medical illnesses, chronic illness increases its severity and treatment resistance and may result in poor outcomes. Hence, attempts should be made to encourage early help-seeking for patients with ED. Early initiation of the management is likely to reverse underlying etiopathogenesis and might lead to better outcomes. Only 8.89% of patients were in the normal BMI range. The rest of the patients with ED had BMI above standard limits, with 64.44% of the sample falling in the obese category. Our results are consistent with the findings in a study conducted on the role of lifestyle and psychological variables in ED. We found similar results and observed a direct relationship between obesity and a sedentary lifestyle with ED [21,23]. Thus, obesity, via increased cardiometabolic risk and decreased testosterone levels, may act as a significant risk factor for ED. Hence, its effective management is crucial from a clinical point of view [23]. According to our study, 37.8% of cases were smokers. Ahn et al. conducted a study where smokers showed a higher prevalence of ED than nonsmokers, although the difference was not statistically significant, which is consistent with this study [19]. In accordance with Kupelian et al. reported that the severity of ED was increased with long pack-years of smoking [24]. The exact etiopathology of ED in substance use disorder remains poorly understood. However, impairment of endothelium-mediated smooth muscle relaxation is commonly implicated. Stopping cigarette smoking is a factor that rapidly improves penile tumescence and rigidity in patients treated for ED. Reduction of smoking and alcohol use is considered an important harm-reduction strategy for ED [25]. In comorbidities, sexual comorbidities were reported among 51.11% of participants. The common sexual comorbidity was PE, followed by Dhat syndrome. Verma et al. reported similar findings. A study by Tsai et al. analyzed the relationship between ED and PE comorbidity [26,27]. ED and PE frequently coexist and have a complex relationship. The coexistence of both is associated

with higher rates of psychiatric symptoms, namely depression and anxiety. Patients of ED need intense stimulation to achieve and maintain an erection. This may lead to early ejaculation. Shared etiological biological mechanisms may also explain higher rates of this comorbidity. Dhat syndrome is a common sexual neurosis reported by patients with sexual dysfunction in Southeast Asia. Patients concerned with sexual dysfunction try to explain their problems due to Dhat syndrome, as this is one of the most common cultural explanatory models for sexual dysfunction [28]. Psychiatric comorbidities include depression, followed by anxiety symptoms. This was comparable to the study by Nordin et al.; hence, depression is commonly comorbid with ED [29]. Depression has been reported to be an etiological factor for ED, and ED has been reported to be causing or exacerbating depression, resulting in bidirectional causation [30]. Depression may also complicate the assessment and management of the ED. A detailed clinical evaluation may help assess which disorder was first developed, its relative severities, and its impact on life. This may help in deciding management priorities. Medical comorbidities were not common in our study. Obesity was commonly reported. Other metabolic dysfunctions were less commonly found. Obesity is a common precursor of other metabolic dysfunctions. However, other metabolic comorbidities and related medical illnesses like dyslipidemia, diabetes, and hypertension may develop later. ED is considered an early manifestation of cardiovascular (CV) disease. Current recommendations suggest that men with ED should be carefully assessed for CV disease to prevent significant CV events. Effective management of CV risk factors reduces the risk of major CV events in the future and improves ED in the long term [31].

Limitations of the Study

The main limitation of this study is its small sample size of only 45 participants, which may not adequately represent the broader population of Bangladeshi men with erectile dysfunction (ED). Additionally, the cross-sectional design also restricts the ability to establish causal relationships between ED and its associated factors. Furthermore, the exclusion of individuals with certain medical and psychological conditions might have led to an underestimation of the true prevalence and severity of ED in the population.

5. Conclusion

The study highlights that erectile dysfunction (ED) is prevalent among younger Bangladeshi men, with a mean age of 35.07 years. Moderate ED was the

most common, affecting 51.1% of individuals. Sexual comorbidities, particularly premature ejaculation, were present in 51.11% of participants, while psychiatric conditions, notably major depressive disorder, affected 40%. The findings emphasize the need for early intervention, lifestyle modifications, and comprehensive healthcare strategies to manage ED effectively.

Funding: No funding sources

Conflict of Interest: None declared

Ethical Approval: The study was approved by the Institutional Ethics Committee.

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