



## Evaluation of Benign Prostatic Hyperplasia Patients in Regards to Co-Morbid Conditions and Personal Habits

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### ABSTRACT

Benign prostatic hyperplasia (BPH) is one of the most common diseases encountered in urology practice which commonly occurs in the ageing man. Similarly, diabetes, hypertension, cardiovascular disease and erectile dysfunction also increases with ageing. This study is an attempt to look at the percentage of patients presenting with any associated illness and then to assess the risk of smoking and alcohol consumption and their socioeconomic status of our group of patients by taking a thorough history of BPH patients. The study was conducted in the urology department saveetha medical college and hospital. This was a prospective cross-sectional study from October 2019 till February 2020. In this study, 150 BPH patients history was taken, and data regarding their co-morbid conditions, smoking habits and alcohol consumption were taken, and results were analyzed. Among the co-morbid conditions in this group of patients, the most typical medical condition found was diabetes (46%) and the second most common cause was erectile dysfunction (32%). Further, public health perspective research with factual data collected through various hospitals to assess future trends in BPH incidence rates and co-morbid conditions must be strongly encouraged to identify risk factors for the Indian population.

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### INTRODUCTION

Benign prostatic hyperplasia (BPH) is one of the most common diseases encountered in urology practice. It accounts for up to one-third of the work-

load in the urology department. The term 'BPH' precisely refers to a histological condition, namely the presence of stromal-glandular hyperplasia within the prostate gland (Roehrborn, 2005). Progression of BPH may lead to lower urinary tract damage, Clinical manifestation of such obstruction includes increased urinary symptoms (Djavan *et al.*, 2002). If left untreated can lead to urinary retention and kidney damage (Jacobsen *et al.*, 2001).

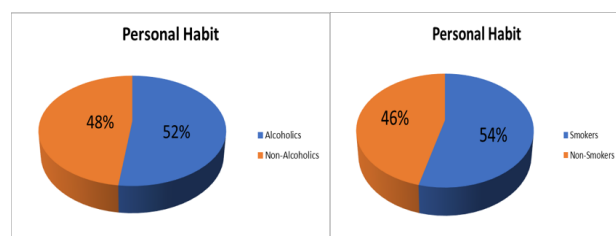
A study of beagle dogs suggested that the frequency of urination is inversely associated with the level of potential carcinogens in the urothelium (Kadlubar *et al.*, 1991). There is no exact cause of this condition, but it is generally thought that the increase in growth is related to hormonal activity in cells of the gland. Most of the patients presenting with lower urinary tract symptoms due to BPH are elderly males. Hypertension is a well-established risk factor

for cardiovascular disease; the prevalence of hypertension and diabetes also increases with age (Boyle and Napalkov, 1995).

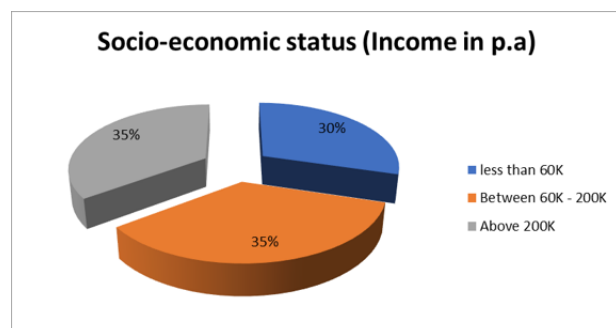
In the 60-or-older population, about 10 million people are estimated to have diabetes (National Diabetes Information Clearinghouse (NDIC), 2005). Erectile dysfunction is also an associated condition in these ageing man (Ponholzer and Madersbacher, 2007; Rosen et al., 2005). This study is an attempt to look at the percentage of patients presenting with any associated illness than to assess the risk of smoking and alcohol consumption and their socio-economic status of our group of patients.

**MATERIALS AND METHODS**

Patients presenting to the urology department with lower urinary tract symptoms suggestive of BPH were included in this study. The study was approved by Institutional ethical committee. A total of 150 BPH patients were selected, and these patients were diagnosed as BPH based on symptoms, IPSS, Physical examination, uroflowmetry and ultrasonogram. The data regarding their co-morbid conditions, smoking habits and alcohol consumption were taken, and results were analyzed.



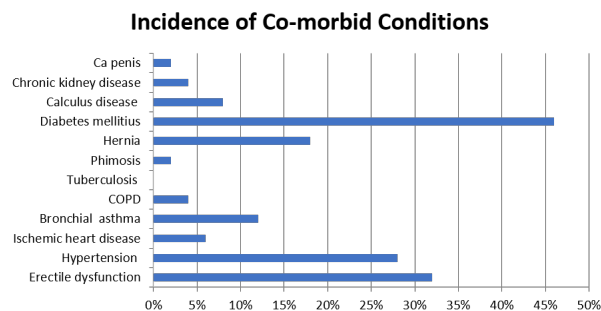
**Figure 1: The percentage reflects the personal habits among the BPH patients**



**Figure 2: Percentage of socioeconomic status among BPH patients**

**RESULTS**

Diabetes mellitus is the most familiar co-morbid condition found in the elderly group of BPH Patients (69/150). Diabetes mellitus and hypertension in



**Figure 3: Prevalence of co-morbid conditions among the BPH patients**

combination was found in (33/150) of them. COPD or Bronchial Asthma was the next common co-morbid condition (24/150). All of these patients were smokers. Erectile dysfunction was present in 32% (48/150) of patients. Up to 80% in this group of patients were alcoholic.

Inguinal Hernia was associated with BPH in a surprisingly high percentage of patients. 18%. Smoking and alcoholism are a common phenomenon in more than 50% of BPH patients (Figure 1). All socioeconomic status of patients are almost equally affected by BPH (Figure 2).

**DISCUSSION**

Among the co-morbid conditions in this group of patients, the most typical medical condition found was diabetes in 46% of patients, was followed by hypertension in 28% of BPH patients (Figure 3). Increased serum concentrations of IGF-1 and insulin-like growth factor binding protein 3 have been associated with increased risk of clinical BPH (Sarma et al., 2009).

Combination of diabetes and hypertension was present in 22% of patients. Ischemic heart disease was found in 6%, and chronic kidney disease was found in only 2% of patients. Among the associated surgical condition, inguinal Hernia was found in 18% of patients. Phimosis was found in 1%. Erectile dysfunction was reported in one-third of patients. A multinational survey of the ageing male study, which is based on the results of testing 12,815 men in the US and six European countries, who aged 50-80 years was found a significant association of BPH with ED (49% of respondents) which is comparatively higher than the current study (Rosen et al., 2003).

Men with severe BPH have significantly decreased libido, greater difficulty in achieving an erection and lower level of sexual satisfaction as compared to men with a milder form of BPH which is similar to

the study conducted by Kirby *et al.* (2013). A further complication in the treatment of patients with co-morbid Lower urinary tract symptoms caused by BPH in the presence of erectile dysfunction (ED) which has been found to occur in 25% of patients with long-term (10 or more years) type 1 diabetes (Klein *et al.*, 2005). 54% and 52% of BPH patients were smokers and alcoholic. Although BPH and hypertension appear to involve separate disease processes, it has been postulated that age-related increases in sympathetic tone may play a role in their pathophysiologies.

Patients with COPD who are physically inactive have a chance of increased risk of BPH (Parsons and Kashefi, 2008). In addition to physical activity, other factors also associated with increased risk of BPH include diabetes, dyslipidemia, hypertension and obesity (Hwang *et al.*, 2015; Chu *et al.*, 2013; Parsons, 2011).

## CONCLUSION

BPH occurs at a high frequency in the ageing man and is usually present with one or more comorbidities. Accordingly, the choice of BPH treatment should be guided by the presence of medical conditions. In this study, many co-morbid conditions and risk factors were significantly associated with Benign prostatic hyperplasia among men.

Further longitudinal investigations of the associations noted here would help physicians to understand the pathophysiology of Benign prostatic hyperplasia and co-morbid conditions and provide clinical guidelines for patient management of co-morbid conditions.

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The study was self-funded.

## Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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