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## Research Article

### AWARENESS ON BENIGN PROSTATE HYPERPLASIA AMONG MEN AT SELECTED AREA OF TIRUPATI

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#### ABSTRACT

Benign prostate hyperplasia (BPH) is a non malignant enlargement of the prostate gland and a common disease among elderly men. The disease typically manifests with lower urinary tract symptoms (LUTS), and can be classified as either voiding or storage symptoms. The aim of the study was to assess the knowledge on benign prostate hyperplasia among men and the objectives was to assess the knowledge on benign prostate hyperplasia & to associate the level of knowledge on benign prostate hyperplasia with their selected demographic variables. Non-experimental quantitative research approach was used, cross sectional descriptive research design was adopted a total of 200 samples were selected by using convenience sampling technique. Results show that 45 % (90) of men have inadequate knowledge, 50.5% (101) of men have moderate knowledge and 4.5% (9) of men have adequate knowledge on benign prostate hyperplasia and the study concludes that there is moderate knowledge on benign prostate hyperplasia among the respondents. So, there is need to improve the knowledge on disease condition for early detection of signs and symptoms.

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#### INTRODUCTION

Benign prostate hyperplasia (BPH) refers to the increase in size of the prostate in middle-aged and elderly men. When sufficiently large, resulting prostatic nodules compress the urethral canal to cause partial or sometimes virtually complete obstruction of the urethra which interferes with the normal flow of urine (Aman Deep *et al*, 2010).

Histologically benign prostatic hyperplasia (BPH) may defined as the proliferation of smooth muscle and epithelial cells within the prostatic transition zone (McVary KT *et al* 2010). The prevalence of BPH was shown to increase from 25% in the age group of 40-49 to 80% in 70-79 years (Sarma AV *et al* 2015). It was proposed that BPH may due to the reawakening of embryonic induction process in adulthood. The enlarged gland was reported to cause lower urinary tract symptoms(LUTS) by direct bladder outlet obstruction from enlarged tissue(static component) and increased smooth muscle tone and resistance within the enlarged gland(dynamic component) (McVary KT *et al* 2010). The LUTS were further categorized into obstructive voiding(urinary hesitancy, delay in initiating micturition, intermittency, involuntary interruption of voiding, weak urinary stream, straining to void, a sensation of incomplete emptying, and terminal dribbling) and storage (urinary frequency, nocturia, urgency, incontinence, and

bladder pain or dysuria) symptoms (Sarma AV *et al* 2015). Nearly 70-80% of clients with benign prostate hyperplasia in developing countries seek medical advice only when they get complications of the disease (Miller DC, 2003) Recent American Urological Association guideline suggests there is an increase in the incidence of benign prostate hyperplasia worldwide by the age of 60 years. 50% of men will have microscopic evidence of the disease and by the age of 85 years. 90% of men will be affected (AUA findings, 2006).

Benign prostate hyperplasia could be diagnosed based on description of the symptoms, family history, medical history; physical examination includes digital rectal examination, urine analysis, prostate-specific antigen blood test, cystoscopy, uroflowmetry, transurethral ultrasound, post residual volume test, prostate biopsy. (NIDDK).

Men with Benign prostate hyperplasia have a choice between treating it or opting for watchful waiting. Watchful waiting involves annual examination and lifestyle changes includes reducing the intake of liquids particularly before going out in public, or before going to bed, avoiding or monitoring the use of medications such as decongestants, antihistamines, antidepressants, and diuretics, regular physical exercise, maintaining healthy body weight, fresh fruits and vegetables consumption, reduced intake of fatty foods (Miller DC *et al*, 2003).

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If benign prostate hyperplasia left untreated, prostate enlargement can lead to complications such as acute urinary retention, recurrent urinary tract infection, upper urinary tract dilatation, bladder stone formation, renal failure, bladder diverticulae, recurrent macroscopic haematuria and most importantly prostatic malignancy. Acute urinary retention is a common complication of benign prostate hyperplasia, which refers to a sudden inability to pass urine (Birkhoff, JD). The incidence of the benign prostate hyperplasia shows that most of the men are suffering with the symptoms of benign prostate hyperplasia. This motivated the investigator to conduct a study on creating awareness on benign prostate hyperplasia among men. Hence, it is expected that the study would help to improve the knowledge on benign prostate hyperplasia among men (Potter & Perry, 2005)

**MATERIALS AND METHODS**

The research approach used for the study was non experimental quantitative approach. The research design used was cross sectional descriptive design. Men aged between 30-65 years, willing to participate and available at the time of data collection were included and Men who were already diagnosed with benign prostate hyperplasia and prostate cancer were excluded from the study. 200 men were selected as sample by using non-probability convenience sampling technique. Data collection was done by using self structured questionnaire. The questions were framed on general information, risk factors, signs and symptoms, diagnostic tests treatment, and preventive measures on BPH with yes or No options. In the questionnaire for the positive questions YES carries '1' mark, NO carries '0' mark and for the negative questions NO carries '1' mark, YES carries '0' mark. Internal consistency of the tool was established by Inter-rater reliability method using Cronbach's alpha r=0.7 and stability by split half method using Intra-class correlation coefficient r=0.8. The tool was found to be highly reliable. The investigator obtained prior permission from the Health Officer of Municipal Corporation to conduct the study in Municipal Dispensary at Tirupati.

The investigator selected the samples by non-probability convenient sampling technique. Samples were drawn retrospectively from the nominal register and made into a list, took a written consent from each participant. The investigator administered the questionnaire to the participant and asked them to select the correct answer and put a tick mark. The data collection took 15-20 minutes for completion from each participant. After the completion of data collection, with the help of A.V. Aids the investigator explained about the meaning, risk factors, signs and symptoms, diagnostic tests, treatment, preventive measures and then an information booklet was given to all participants for their future references, and thanked the participants for their willingness and cooperation for all 200 samples.

**Statistical Analysis:** It was planned to analysis the data by using Descriptive and Inferential statistics. Frequency and percentage distribution was used for demographic variables Mean and standard deviation were used for selected demographic variables, total level of knowledge score and domain wise knowledge score of benign prostate hyperplasia among men. Item wise analysis was used to assess the knowledge on various aspects of benign prostate hyperplasia. Chi-square test was

used to know the association between the level of knowledge on benign prostate hyperplasia with their selected demographic variables. Correlation was used to assess the demographic variables with knowledge on benign prostate hyperplasia. One-way ANOVA was used to know the mean variances of the demographic variables with the knowledge on benign prostate hyperplasia among men.

**Ethical considerations**

The study was conducted was approval by scientific research ethics committee faculty of nursing, SVIMS University. Participants were given explanation about the purpose of the study and they were also informed that they could withdraw from the study at any time before the completion of the study. Participants who agreed to complete the study were asked to sign a consent form. Confidentiality of participants was assured and the data were accessed only by the investigator involved in the study.

**RESULTS**

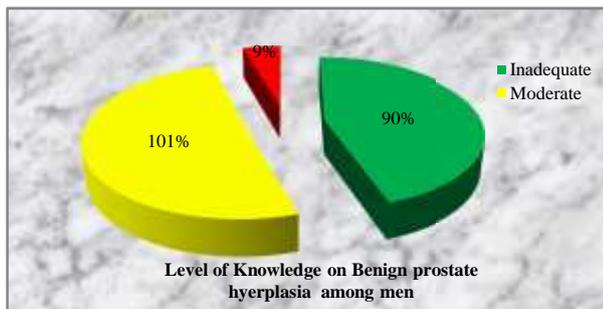
**Table 1** Shows that 40% (80) belongs to the age of 30-44 years, 78.8% (175) were Hindus, 26% (52) were secondary educators, 18% (36) were government employees, 90% (181) were married, 48.8% (97 ) were living in urban area, 68% (136) belongs to nuclear family, 44% (88) have family income of Rs.10,000, 89% (178) were Non-vegetarians, 88.5% (177) does not have family history of BPH and 84.5% (169) were not aware regarding Benign Prostate Hyperplasia.

n=200			
Sl. No	Demographic Variables	Frequency (f)	Percentage (%)
	<b>Age (in years)</b>		
	a.30-44 years	80	40.0
1	b. 45-54 years	68	34.0
	c. 55-65 years	52	26.0
	<b>Religion</b>		
2	a. Hindu	157	78.5
	b. Muslim	34	17.0
	c. Christian	9	4.5
	<b>Education</b>		
	a. Illiterate	45	22.5
	b. Primary education	23	11.5
3	c. Secondary education	52	26.0
	d. Intermediate	39	19.5
	e. Degree	36	18.0
	f. Post graduate	5	2.5
	<b>Occupation</b>		
	a. Unemployed	6	3.0
	b. Cooley	30	15.0
	c. Industrial worker	26	13.0
4	d. Cultivation	33	16.5
	e. Self employment	35	17.5
	f. Government employee	36	18.0
	g. Private employee	21	10.5
	h. Retired employee	13	6.5
	<b>Marital status</b>		
	a. Unmarried	6	3.0
5	b. Married	181	90.5
	c. Widower	11	5.5
	d. Divorced	2	1.0
	<b>Residence</b>		
	a. Rural	48	24.0
6	b. Urban-slum	55	27.5
	c. Urban	97	48.5
	<b>Type of family</b>		
7	a. Nuclear family	136	68.0
	b. Joint family	53	26.5
	c. Extended family	11	5.5

<b>Type of family</b>			
7	d. Nuclear family	136	68.0
	e. Joint family	53	26.5
	f. Extended family	11	5.5
<b>Monthly income in Rs.</b>			
	a. < 10000/-	88	44.0
8	b. 10001-20000/-	87	43.5
	c. 20001-30000/-	19	9.5
	d. > 30000/-	6	3.0
<b>Type of diet</b>			
9	a. Vegetarian	22	11.0
	b. Non-vegetarian	178	89.0
<b>If Non-vegetarian, how frequently do you take</b>			
10	a. Weekly once	66	33.0
	b. Weekly twice	50	25.0
	c. Once in two weeks	29	14.5
	d. Monthly once	33	16.5
<b>Family history of BPH</b>			
11	a. Yes	23	11.5
	b. No	177	88.5
<b>If yes, their relationship with you</b>			
12	a. Father	7	30.4
	b. Brother	9	39.1
	c. Grandfather	3	13.0
	d. Relatives	4	17.4
<b>Source of information</b>			
	a. Don't know	169	84.5
	b. Health personnel	12	6.0
13	c. Magazine, News papers	5	2.5
	d. T.V, Radio	2	1.0
	e. Public awareness programs	4	2.0
	f. Internet	4	2.0
	g. Friends	4	2.0

**Table 2** Frequency and percentage distribution of level of knowledge on benign prostate hyperplasia among men n=200

Sl. No	Knowledge On Benign Prostate Hyperplasia	Frequency (f)	Percentage (%)
1	Inadequate knowledge	90	45
2	Moderate knowledge	101	50.5
3	Adequate knowledge	9	4.5



**Table 2** Shows that 45 % (90) of men have inadequate knowledge, 50.5% (101) of men have moderate knowledge and 4.5% (9) of men have adequate knowledge on benign prostate hyperplasia.

**Table 3** Frequency and percentage distribution of level of knowledge on domains of Benign Prostate Hyperplasia among men n= 200

Sl. No	DOMAINS	Knowledge on Benign Prostate Hyperplasia					
		Inadequate (0 – 50%)		Moderate (51 – 75%)		Adequate (> 76%)	
		f	%	f	%	f	%
1.	General information	80	40.00	100	50.00	20	10.00
2.	Risk factors	42	21.00	113	56.5	45	22.50
3.	Signs and symptoms	119	59.50	56	28.00	25	12.50
4.	Diagnostic tests and treatment	69	34.50	105	52.50	26	13.00
5.	Preventive measures	22	11.00	127	63.50	51	25.50

**Table: 3** Shows that regarding general information 40% of men have inadequate knowledge, 50% have moderate knowledge and 10% have adequate knowledge on BPH. With regard to risk factors 21% have inadequate knowledge, 56.5% have moderate knowledge and 22.5% have adequate knowledge on BPH. Considering the signs and symptoms, 59.5% have inadequate knowledge, 28% have moderate knowledge and 12.5% have adequate knowledge on BPH. Pertaining to diagnostic tests and treatment 34.5% have inadequate knowledge, 52.5% have moderate knowledge and 13% have adequate knowledge on BPH. Related to preventive measures 11% have inadequate knowledge, 63.5% have moderate knowledge and 25.5% have adequate knowledge on benign prostate hyperplasia.

**Table 4** Mean and standard deviation of domain wise knowledge on benign prostate hyperplasia among men

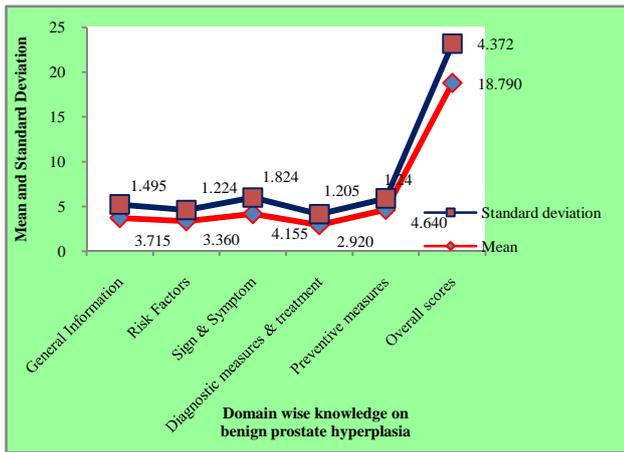
n = 200

Sl. No	DOMAINS	Mean	Standard deviation
1	General information	3.72	1.495
2	Risk factors	3.36	1.224
3	Signs and symptoms	4.16	1.824
4.	Diagnostic tests and treatment	2.92	1.205
5.	Preventive measures	4.64	1.240
<b>Overall Score</b>		<b>18.79</b>	<b>4.372</b>

**Table: 4** Shows that the total mean knowledge score was 18.7±4.4. Considering the general information of benign prostate hyperplasia, the mean knowledge score was 3.7±1.5. With regard to risk factors of benign prostate hyperplasia the mean knowledge score was 3.3±1.2. Considering the signs and symptoms of benign prostate hyperplasia the mean knowledge score was 4.1±1.8. Pertaining to the diagnostic tests and treatment of benign prostate hyperplasia the mean knowledge score was 2.9±1.2. Regarding the preventive measures of benign prostate hyperplasia the mean knowledge score was 4.6±1.24.

#### Item Wise Analysis of Knowledge on Benign Prostate Hyperplasia Among Men

Item Wise analysis of knowledge on benign prostate hyperplasia among men shows that 52% believed that prostate gland was present only in males, 26% believed that it helps in sperm delivery, 58% answered that increase in size of the prostate gland were called as BPH, 56% accepted it is a cancer, 48% accepted that it occurs in men who were above 50 years of age, 63% answered that it is curable and 80% answered that it is not a sexually transmitted disease, 56% accepted that age is the major risk factor for benign prostate hyperplasia, 48% revealed that family history increases the risk, 62% believed



that lack of exercises was one of the risk factor, 27.5% accepted that obesity decreases the risk of benign prostate hyperplasia, 41% answered that diabetes is a risk factor for benign prostate hyperplasia and 56.5% believed that intake of high fatty diet increases the risk of benign prostate hyperplasia, 59.0% accepted that frequent passing of urine is a common symptom, 43.5% answered that an urgent need to urinate is a common symptom, 44% believed that weak or intermittent urine stream is one of the symptom, 43.5% revealed that dribbling at the end of urination is one symptom, 66% opinioned that sensation of complete emptying of bladder is a symptom, 46% answered straining to void is a symptom, 81% accepted that pain during urination is one of the symptom, 30.5% believed that blood in urine is a rare symptom and 34% answered that in ability to pass urine is a serious symptom of benign prostate hyperplasia, 77% answered that ultrasound is useful to detect the benign prostate hyperplasia, 13% answered that uroflowmetry helps to diagnose benign prostate hyperplasia, 38% believed that digital rectal examination is helps to diagnose benign prostate hyperplasia, 17.5% answered that cystoscopy is one of the diagnostic test for BPH, 92% believed that medications are the best choice to treat moderate symptoms of benign prostate hyperplasia and 54.5% believed that surgery treats severe symptoms of benign prostate hyperplasia, 77% accepted that it is completely a preventable disease, 39.5% believed that limited fluid intake helps to relieve severity of symptoms of benign prostate hyperplasia, 38% answered that avoid drinking fluid before going to bed reduces the severity of nocturnal symptoms, 95% revealed that healthy diet reduces the risk of benign prostate hyperplasia, 84.5% believed that maintaining healthy body weight as per age reduces the risk of benign prostate hyperplasia, 93% answered that doing regular exercises is good for health and 91% answered that avoiding intake of alcohol or caffeine products prevents benign prostate hyperplasia.

Association between the level of knowledge on benign prostate hyperplasia with their selected demographic variables among men shows that education, monthly income, family history shows significant association with knowledge on Benign Prostate Hyperplasia with a chi-square value of 35.6, 19.4, 15.1 which were statistically significant at  $p < 0.01$  level and occupation, marital status shows significant association with a chi-square value of 28.4, 13.6 which were statistically significant at  $p < 0.05$  level. The other variables were not found to have any significant association with the level of knowledge.

Correlation of demographic variables with knowledge on benign prostate hyperplasia among men shows that education, occupation, were positively correlated at  $p < 0.01$  level. Family history was negatively correlated at  $p < 0.01$  level. Age was negatively correlated at  $p < 0.05$  level.

Mean variance of demographic variables with the knowledge on benign prostate hyperplasia among men shows that age, education, occupation, family history were significant at  $p < 0.01$  level, religion, monthly income were significant at  $p < 0.05$  level.

## DISCUSSION

The purpose of the study was to assess the knowledge on benign prostate hyperplasia among men at selected area of Tirupati. This assessment helps to provide the knowledge on benign prostate hyperplasia.

The discussion of the present study was based on findings obtained from descriptive and inferential statistical analysis of collected data. It was presented in the view of the objectives of the study.

The first objective of the study was to assess the knowledge on benign prostate hyperplasia among men. The study findings revealed that, 45 % (90) of men have inadequate knowledge, 50.5% (101) of men have moderate knowledge, 4.5 % (9) of men have adequate knowledge.

So, the null hypothesis  $H_01$  which states that, there is no significant difference in knowledge on benign prostate hyperplasia among men was rejected.

The second objective of the study was to find out the association between the level of knowledge on benign prostate hyperplasia with their selected demographic variables. The study results shows among men demographic variables like education, occupation, were positively correlated at  $p < 0.01$  level. Family history is negatively correlated at  $p < 0.01$  level. Age is negatively correlated at  $p < 0.05$  level. In comparison of mean variance among the demographic variables with knowledge on benign prostate hyperplasia among men age, education, occupation, family history are significant at  $p < 0.01$  level, religion, monthly income, are significance at  $p < 0.05$  level.

So, the null hypothesis  $H_02$  which states that there is no significant association between the level of knowledge on benign prostate hyperplasia with their selected socio demographic variables was rejected.

## CONCLUSION

It was concluded that there is moderate knowledge on benign prostate hyperplasia among the respondents. So, there is need to improve the knowledge on disease condition for early detection of signs and symptoms. Public health awareness campaigns must be conducted to provide the information regarding the benign prostate hyperplasia.

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