Original Research Article

A Cross-sectional study to explore Sexual dysfunctions among male Hypertensive Patients attending Medicine OPD of Tertiary care centre, Western India

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ABSTRACT

Background: Sexual dysfunction has been traditionally attributed to psychogenic origins and managed by mental health professionals and urologists. However, advances in pathophysiology research point to a vascular origin of the problem in the majority of patients, possibly due to atherosclerotic lesions in the genital arteries that result in decreased blood flow. During management of Hypertension; even the highly skilled physicians fail to raise the question of sexual dysfunction as they have never been accustomed to do it in their routine practice.
Aim: The study has two aims- (i) to evaluate sexual dysfunctions in male patients of Hypertension and (ii) comparison of sexual dysfunctions and other variables between case and control group.
Methodology: Consecutive 200 Hypertensive patients were included in the study. Individuals with comparable age served as a control group. Detailed socio-demographic variables, substance history and treatment history for hypertension obtained using a semi-structured Performa. Subject's sexual dysfunctions were assessed by ASEX (Arizona Sexual Experience Scale), IIEF (International Index of Erectile Dysfunction), PEDT (Premature ejaculation diagnostic tools).
Result: Of the 200 hypertensive patients, 74(37%) participants reported erectile dysfunction, 16(8%) participants reported premature ejaculation, while among 200 normotensive participants, only 8(4%) reported erectile dysfunction, 15(7.5%) reported premature ejaculation. Of the hypertensive participants studied, 23% had severe, 8% had moderate, 6% had mild erectile dysfunction. Frequency of erectile dysfunction increase with advancing age.
Conclusion: The present study has revealed that erectile dysfunction was a major problem, with a higher prevalence among hypertensive men than normotensive men. Age was considered statistically significant predictors of erectile dysfunction.

Keywords: Sexual dysfunctions, International Index of Erectile dysfunction, Arizona sexual experience scale, Premature ejaculation diagnostic tools, hypertension.

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INTRODUCTION

Sexual dysfunction represents a common condition in the general population placing a major burden on patients' and their sexual partners' quality of life. Sexual dysfunction has been traditionally attributed to psychogenic origins and managed by mental health professionals and urologists. However, advances in pathophysiology research point to a vascular origin of the problem in the majority of patients, possibly due to atherosclerotic lesions in the genital arteries that result in decreased blood flow. During management of

Hypertension; even the highly skilled physicians fail to raise the question of sexual dysfunction as they have never been accustomed to do it in their routine practice.

In 1993, a meeting of the Consensus Development Panel on Impotence at the National Institutes of Health defined erectile dysfunction (ED) as the persistent inability to attain and maintain a penile erection adequate for satisfactory sexual performance [1]. Recently, many analyses of hypertensive patients suggested that the prevalence of ED in hypertensive populations is high [2-3]. However, epidemiological data used to be relatively scanty to prove that hypertension was really a potential risk factor for ED.

Sexual dysfunction is a frequently encountered problem in patients with hypertension and may occur either as a side effect of some types of antihypertensive medications or as a component of the dysmetabolic syndrome of high blood pressure [4]. The prevalence of ED is significantly higher among men with hypertension than in general population [5-9]. A decrease risk of premature ejaculation (PE) has been reported in men with treated diabetes, while no association was found with hypertension, cardiac disease, hypercholesterolemia and peripheral or central neuropathy [10].

Few studies have been done on this topic in India and hence doing such a study in our setup will be helpful in identifying sexual dysfunctions in hypertensive male patients and treating this aspect of the disease as well.

METHODOLOGY

A cross sectional case-control study which was carried out on patients with clinical diagnosis of Hypertension who were referred consecutively from medicine department in a tertiary health care centre in Ahmedabad. The study was conducted on Hypertensive patients between 30 to 70 years of age during a period from September 2018 to May 2019. Ethical clearance has been taken from the institutional ethics committee. The subjects have been recruited on the basis of written informed consent.

A detailed questionnaire addressing their socio-demographic characteristics, general medical history with special emphasis on hypertension history (i.e., duration of hypertension, type of treatment and presence of any complications). Sexual function was assessed with Arizona sexual experience scale (ASEX), Premature ejaculation diagnostic tools (PEDT) and International index of Erectile Function (IIEF). A Gujarati and Hindi translation of ASEX, PEDT and IIEF was used to assess the sexual function.

The ASEX scale is a five-item rating scale that quantifies sex drive, arousal, penile erection, ability to reach orgasm, and satisfaction from orgasm. Possible total scores range from 5 to 30, with higher score indicating more sexual dysfunction. A total ASEX score of >=19 would have sexual dysfunction [11].

The PEDT scale is a five-questions rating scale. The total PEDT score ranged from 0 to 20, with higher score indicating more premature ejaculation. A total score of >=9 indicates premature ejaculation [12].

The IIEF and its scoring system were found to be a reliable and valid measure of the five relevant domains of sexual function in men, including erectile functions (EF), orgasmic function (OF), sexual desire (SD), intercourse satisfaction (IS), and overall satisfaction (OS). The IIEF items – EF, IS, and OF – are considered to reflect predominantly physical functions, and SD and OS to reflect mainly psychological functions.

The responses to questions 1–5 were rated on a 5-point scale. [14,15]; the total IIEF score ranged from 0 to 25, the higher score indicating the better sexual function. Patients were classified as having no (22 to 25), mild (17 to 21), moderate (12 to 16), or severe (1 to 11) ED; a higher score indicates better function [13-15].

Inclusion criteria:

1. Hypertensive male (age 30 to 70) attending Medicine outpatient department at tertiary health care centre in Ahmedabad.
2. Patients who are currently sexually active (married or unmarried) and suffering from Hypertension.
3. Patients who have been diagnosed with Hypertension for a period of 6 months or more.

Exclusion Criteria:

1. Not willing to provide informed consent for the study.
2. Patients having any other acute comorbidities and Major Depression, Anxiety and Psychotic spectrum disorders and their treatment.
3. Patients who have diabetes along with hypertension.

STATISTICAL ANALYSIS

Chi square test has been used to determine the association between categorical variables. The P value of less than 0.05 has been considered statistically significant.

RESULTS

Table 1: Comparison of sexual dysfunction assessed by ASEX scale between Hypertension cases and Normotensive control group

ASEX score	Hypertension case	Control	P value <0.00001
Sexual Dysfunction (>= 19)	58 (29.0)	4 (2.0)	
Normal (<19)	142 (71.0)	196 (98.0)	
Total	200 (100)	200 (100)	

Table shows the comparison of ASEX score between the cases of hypertension and control group. Here the P value for correlation between sexual dysfunction and hypertension is less than the significance level of 0.05, which indicates that the correlation coefficient is **significant** which means that sexual function is significantly impaired in hypertension in comparison to control group. Here 29% of hypertensive cases have sexual dysfunction, whereas 2% of controls have sexual dysfunction.

Table 2: Comparison of erectile dysfunction assessed by IIEF scale between Hypertension cases and Normotensive control group.

IIEF score	Case	Control	P value <0.00001
Erectile dysfunction (<=21)	74 (37.0)	8 (4.0)	
Normal (>21)	126 (63.0)	192 (96.0)	
Total	200 (100)	200 (100)	

Table shows the comparison of IIEF score between the cases of hypertension and control group. Here the P value for correlation between erectile dysfunction and hypertension is less than the significance level of 0.05, which indicates that the correlation coefficient is significant which means that erectile dysfunction is significantly present in hypertension in comparison to control group. Here 37% of hypertensive cases have erectile dysfunction, whereas 4% of controls have erectile dysfunction.

Table 3: Comparison of premature ejaculation assessed by PEDT tools between Hypertension cases and Normotensive control group.

PEDT score	Case	Control	P value 0.851663
Premature ejaculation (>=9)	16 (8.0)	15 (7.5)	
Normal (<9)	184 (92.0)	185 (92.5)	
Total	200 (100)	200 (100)	

Here the P value for correlation between premature ejaculation and hypertension is more than the significance level of 0.05, which indicates that the correlation coefficient is insignificant which means premature ejaculation is not significantly present in hypertension in comparison to control group. Here 8% of hypertensive cases have premature ejaculation, whereas 7.5% of controls have premature ejaculation.

Table 4: Comparison of severity of erectile dysfunction assessed by IIEF score between Hypertension cases and Normotensive control group.

Severity of erectile dysfunction by IIEF score	Case	Control	P value <0.00001
Severe (1-11)	46 (23.0)	1 (0.5)	
Moderate (12-16)	16 (8.0)	6 (3.0)	
Mild (17-21)	12 (6.0)	1 (0.5)	
None (22-25)	126 (63.0)	192 (96.0)	

Nearly 23% of hypertensive men reported severe ED; 8%, moderate ED; 6%, mild ED. 0.5%, of normotensive men reported severe ED; 3%, moderate ED; 0.5%, mild ED.

Table 5: The difference IIEF-5 scores among hypertensive and normotensive men by factor such as age, educational level, socioeconomic class, smoking status and duration of hypertension

Variable	Hypertension Case	Normotensive men	P value
Age group (years)			
<40	1 (0.5)	1 (0.5)	<0.00001
40-59	17 (8.5)	2 (1.0)	
>=60	56 (28.0)	5 (2.5)	
Education			
Uneducated	14 (7.0)	1 (0.5)	0.3616
Primary	22 (11.0)	1 (0.5)	
Secondary	18 (9.0)	2 (1.0)	
Higher secondary	4 (2.0)	-	
Graduate	16 (8.0)	4 (2.0)	
Socioeconomic class			
Lower class	20 (10.0)	1 (0.5)	0.43899
Lower middle class	26 (13.0)	-	
Middle class	6 (3.0)	4 (2.0)	
Upper middle class	16 (8.0)	3 (1.5)	
Upper class	6 (3.0)	-	
Smoking status			
Substance	25 (12.5)	3 (1.5)	0.833224
Non-substance	49 (24.5)	5 (2.5)	
Duration of hypertension (years)			
1-2	16 (8.0)	NA	NA
3-4	20 (10.0)		
5-6	8 (4.0)		
7-8	10 (5.0)		
9-10	14 (7.0)		
>10	6 (3.0)		

Table 5 presents the differences and comparisons in IIEF scores between hypertensive and normotensive groups by socio-demographic factors. Frequency increase with advance age. A significant association was found in both hypertensive and normotensive men with ED score in respect of their age. (P<0.00001).

DISCUSSION

Hypertension is often cited as a risk factor for sexual dysfunctions, especially for Erectile dysfunction. In the present study over all prevalence of erectile dysfunction in patients with hypertension alone was 37%, while in normotensive was 4%. The present study reported some degrees of erectile dysfunction. Overall prevalence for Premature ejaculation in patients with hypertension was 8%, while in normotensive was 7.5%. The results of our study supported the results of other study conducted by Mittawae et al. in Egypt, which showed that among 800 patients with hypertension alone, the overall prevalence of ED was 43.2% [16]. Other multicentre Spanish study [17] reported a prevalence of 45.8% of ED in 2130 patients with hypertension. A few other studies have reported different prevalence rates of ED in hypertensive men, which were higher than the prevalence in our study. Case-control study in Qatari hypertensive and normotensive men, reported a prevalence of 66.2% [18].

Study limitations:

- The present study using IIEF has certain limitations. A prevalence estimate of the IIEF questionnaire may not cover all the domains of sexual dysfunction. The study may not include all the targeted population.
- We could not find the direction between different substance like (Alcohol, nicotine, cannabis etc.) and sexual dysfunctions, that is whether substances cause sexual dysfunctions or vice versa.
- Factors which we did not consider: Age, Substance use (Alcohol, Cannabis, Smoking), Psychological assessment (Stress, Depression, Anxiety), Anti-hypertensive drugs and any chronic medical illness.

CONCLUSION

The present study has revealed that sexual dysfunctions, especially erectile dysfunction was a major problem, with a higher prevalence among hypertensive men than normotensive men. Age was considered statistically significant predictors of erectile dysfunction.

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