Prevalence of erectile dysfunction among hypertensive and nonhypertensive Qatari men

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Key words: epidemiology; hypertension; erectile dysfunction; International Index of Erectile Function; risk factors; Qatari's population.

Summary. Objectives. The aim of this study was to investigate the prevalence of erectile dysfunction, its severity, and other sexual function domains in hypertensive and normotensive Qatari’s men and to estimate the association between hypertension and predictors of erectile dysfunction.

Material and methods. A matched case-control study was conducted at the primary health care clinics during a period from May to October 2006. Four hundred twenty-five hypertensive patients and 425 age-matched normotensive attendants of primary health care clinics, aged 30–75 years, were approached for the study. Of them, 296 hypertensive participants (74%) and 298 normotensive men (70.1%) gave their consent to participate in it. The mean age of the hypertensive participants was 54.8±11.5 years as compared to nonhypertensive participants with a mean age of 54.5±12.1 years.

Face-to-face interviews were based on a questionnaire that included variables on age, sociodemographic status, educational level, occupation, cigarette smoking, and blood pressure. Hypertension was defined as mild for systolic blood pressure (SBP) 120–139 mmHg and diastolic blood pressure (DBP) 80–89 mmHg; moderate for SBP 140–159 mmHg and DBP 90–99 mmHg; and severe for SBP >160 mmHg and DBP >100 mmHg. All patients completed a detailed questionnaire addressing their general medical history, with special emphasis on hypertension (i.e., duration of hypertension, type of treatment, and presence of any complications). Sexual function was evaluated with the International Index of Erectile Function (IIEF).

Results. Of the 296 hypertensive patients, 196 participants reported erectile dysfunction (66.2%), while among the 298 nonhypertensive participants, only 71 had erectile dysfunction (23.8%). Of the hypertensive participants studied, 25% had severe, 29.1% had moderate, and 12.1% had mild erectile dysfunction. The percentages of various sexual activity domains were highly significant and at higher risk among hypertensive patients than normotensive men (P<0.001). Frequency and severity of erectile dysfunction increased with advancing age.

Conclusions. Our results have shown that the prevalence of erectile dysfunction was significantly higher in Qatari hypertensive men than in normotensive men. Age, level of education, diabetes mellitus, occupation, and duration of hypertension were considered statistically significant predictors of erectile dysfunction. Erectile dysfunction was more common in hypertensive individuals receiving antihypertensive treatment.

Introduction

Erectile dysfunction (ED) is a very common condition in middle-aged men (1). 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

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component of the dysmetabolic syndrome of high blood pressure (2).

It was estimated that in 1995, ED affected over 152 million men worldwide. The projection for 2025 is a prevalence of 322 million men worldwide with the largest projection increases in the developing world that in Africa, Asia, and South America (3). Hypertension, a major risk factor for ED, affects 29.4 million men in the USA (4) whereas in the Qatari men (5), the prevalence rate is 32.6%. Hypertension is one of the common medical conditions, along with diabetes mellitus and high cholesterol level, associated with ED. The prevalence of ED is significantly higher among men with hypertension than in general population (6–10).

Evidence has shown that ED has a significant negative impact on quality-of-life measures. Many men with ED have low self-esteem and feel isolated because they are unable to discuss this sensitive issue with their physician for fear of embarrassment (11). However, most patients complaining of ED are diagnosed and treated by general practitioners (9). A level of intuition that may facilitate the diagnosis of ED can be improved by increased understanding of the prevalence of ED in populations that are defined by the underlying risk factors. The development of the International Index of Erectile Function (IIEF), a validated, self-administered, 5-item questionnaire, to evaluate male sexual function (12–14) and a widely used abbreviated version, the IIEF-5 (6–15), have facilitated the study of the prevalence of ED. Accordingly, the present study used the IIEF-5 to survey the prevalence of ED among Qatari patients in a general medical practice setting, who were at risk because of hypertension.

The aim of this study was to investigate the prevalence of ED, its severity, and other sexual function domains in hypertensive and normotensive Qatari men.

**Subjects and methods**

This was a matched case-control study based on the primary health care (PHC) clinics of Qatar. The study was conducted only among Qatari nationals between 30 and 75 years of age during a period from May to October 2006. The study was based on randomly selected 425 normotensive participants who visited the selected PHCs for any reason other than acute or chronic disease and 425 hypertensive patients. A multistage stratified sampling design was developed, using an administrative division of the Qatar into 21 PHCs in terms of number of inhabitants, but only 10 PHC centers were visited mostly by Qatari men, and the remaining 11 PHC centers were excluded from our survey. In addition, 10 PHC centers, which represent geographically East, West, North, South, and Central location of the Qatari population, were selected. The study participants were selected by simple random sampling among patients registered and attending 10 PHC centers (7 urban and 3 semi-urban).

Of the 425 hypertensive patients and 425 normotensive participants who were approached for the survey, 296 hypertensive patients (69.6%) and 298 normotensive participants (70.1%) gave their written consent to participate and were included in this study. One hundred twenty-nine hypertensive and 127 normotensive men were excluded from the study because they either declined to give their consent or did not complete their questionnaires.

Qualified male nurses and health educators were instructed to structurally interview the randomly selected Qatari men, and participants completed a detailed questionnaire addressing their sociodemographic characteristics, general medical history with special emphasis on hypertension history (i.e., duration of hypertension, type of treatment, compliance, and presence of any complications). Blood pressure measurement was carried out by trained practical nurses according to the World Health Organization (WHO) standardized criteria (16). These nurses were trained for one week on the use of sphygmomanometer and the technique for measuring blood pressure with the patient in the sitting position. Blood pressure was measured three times with the patient resting for 10 min after each measurement, from the right upper arm using a random-zero sphygmomanometer with a 14-cm cuff. Blood pressure was recorded to the nearest millimeter of mercury (mmHg). Systolic blood pressure (SBP) was recorded at the appearance of the first Korotkoff sound and diastolic blood pressure (DBP) at the disappearance of the fifth Korotkoff sound. The mean value obtained from three readings was used in the analysis. Hypertension was defined as mild for SBP 120–139 mmHg and DBP 80–89 mmHg, moderate for SBP 140–159 mmHg and DBP 90–99 mmHg, and severe for SBP > 160 mmHg and DBP > 100 mmHg.

Sexual function was assessed with the International Index of Erectile Function (IIEF) (12–14). An Arabic translation of IIEF was used to assess the sexual function. 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). Reliability analysis showed that the Cron-
bach's alpha value was 0.966 for the overall data, 0.954 for the hypertensive group, and 0.966 for normoten-

tive group. Before the beginning of the study, the Arabic translation of IIEF was judged by 50 persons for clarity and conformity with the local culture; and stated to be appropriate. 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 (13, 14); the total IIEF score ranged from 0 to 25, the higher score indicating the better sexual function. Direct help was given to the patients during completion of the IIEF, if needed, using the IIEF scores, 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

Table 1. The prevalence of erectile dysfunction and sociodemographic characteristics of the studied hypertensive men

| Variable                      | Hypertensive men (N=296) | Normotensive men (N=298) | P value |
|-------------------------------|--------------------------|--------------------------|---------|
| Age, years, mean±SD           |                          |                          |         |
|                               | 54.8±11.5                | 54.5±12.1                | NS      |
| Age group                     |                          |                          |         |
| 30–39 years                   | 16 (5.4)                 | 32 (10.7)                | NS      |
| 40–49 years                   | 88 (29.7)                | 84 (28.2)                |         |
| 50–59 years                   | 94 (31.8)                | 77 (25.8)                |         |
| 60 years and more             | 98 (33.1)                | 105 (35.2)               |         |
| Body mass index               |                          |                          |         |
| Normal weight                 | 69 (23.2)                | 97 (32.4)                |         |
| Overweight                    | 123 (41.5)               | 121 (40.6)               |         |
| Obese                         | 104 (35.3)               | 80 (27.0)                |         |
| Marital status                |                          |                          |         |
| Currently single              | 30 (10.1)                | 14 (4.7)                 | 0.011   |
| Currently married             | 266 (89.9)               | 284 (95.3)               |         |
| Educational level             |                          |                          |         |
| Illiterate                    | 55 (18.6)                | 60 (20.1)                |         |
| Primary                       | 73 (24.7)                | 42 (14.1)                |         |
| Intermediate                  | 42 (14.2)                | 53 (17.8)                | 0.013   |
| Secondary                     | 70 (23.6)                | 91 (30.5)                |         |
| University                    | 56 (18.9)                | 52 (17.4)                |         |
| Occupation                    |                          |                          |         |
| Retired                       | 88 (29.7)                | 38 (12.8)                |         |
| Business                      | 89 (30.1)                | 114 (38.3)               | <0.001  |
| Clerical/administrative       | 71 (24.0)                | 82 (27.5)                |         |
| Police/military               | 27 (9.1)                 | 28 (9.4)                 | <0.001  |
| Professional                  | 0 (0.0)                  | 12 (4.0)                 |         |
| Smoking status                |                          |                          |         |
| Never smoked                  | 131 (44.3)               | 177 (59.4)               | <0.001  |
| Ex-smoker                     | 128 (43.2)               | 57 (19.1)                |         |
| Current smoker                | 37 (12.5)                | 64 (21.5)                |         |
| Erectile dysfunction          |                          |                          |         |
| Yes (<21)                     | 196 (66.2)               | 71 (23.8)                | <0.001  |
| No (22–25)                    | 100 (33.8)               | 227 (76.2)               |         |
| Severity of erectile dysfunction by IIEF score | 74 (25.0) | 29 (9.7) | <0.001 |
| Severe (1–11)                 |                          |                          |         |
| Moderate (12–16)              | 86 (29.1)                | 37 (12.4)                |         |
| Mild (17–21)                  | 36 (12.1)                | 5 (1.7)                  |         |
| None (22–25)                  | 100 (33.8)               | 227 (76.2)               |         |

IIEF – International Index of Erectile Function; SD – standard deviation; NS – not significant.
function (12–14).

Approval for the study was obtained from the Medical Ethics Committee of the Hamad Medical Corporation. A consent form was obtained from the selected participants after the explanation of aims and the nature of the study. All interviews were conducted privately, and confidentiality of the participants was maintained.

Student t test and Mann-Whitney test were performed to test the significance of differences between mean values of two variables. Chi-square and Fisher exact test were performed to test for differences in proportions of categorical variables between two or more groups. Logistic regression multivariate analysis model was used to calculate independent risk factors for ED in hypertensive men. The level of P<0.05 was considered as the cutoff value for significance.

Results

Table 1 shows the sociodemographic characteristics of the studied participants and the percentage of sexual dysfunction in the hypertensive and normotensive men. More than half of the Qatari hypertensive men were either current smokers or past smokers (55.7%). The prevalence of erectile dysfunction in hypertensive patients was 66.2%, while in normotensive men 23.8%. Nearly 25% of hypertensive men reported severe ED; 29.1%, moderate ED; and 12.1%, mild ED. There were significant differences between hypertensive and normotensive groups in relation to marital status (P=0.011), educational level (P=0.013), occupation (P<0.001), presence of ED (P<0.001); however, hypertension was inversely related to smoking (P>0.001).

Table 2 shows the comparison of the prevalence of dysfunction in various domains of sexual activity among hypertensive and normotensive men as assessed by IIEF. The prevalence of various sexual activity domains were highly significant and at higher risk among hypertensive men than normotensive men (P<0.001). The erectile weakness (OR=5.99, CI 3.81–9.47; P<0.001) and impaired spontaneous erection (OR=5.1, CI 3.25–8.04; P<0.001) were highly significant and at higher risk among hypertensive men than in normotensive men. Less association was found for complete erectile failure (OR=2.99, CI 1.52–5.93; P<0.001).

Table 3 presents the differences and comparisons in IIEF scores between hypertensive and normotensive groups by sociodemographic factors. Frequency and severity of ED increased with advancing age. A

### Table 2. Comparison of the prevalence of dysfunction in various domains of sexual activity in the hypertensive and normotensive men as assessed by IIEF

| Sexual dysfunction domain         | Hypertensive men (N=296) | Normotensive men (N=298) | Odds ratio (OR) | 95% confidence interval | P values |
|----------------------------------|--------------------------|---------------------------|-----------------|--------------------------|----------|
|                                  | n (%)                    | n (%)                    |                 |                          |          |
| 1. Erectile weakness             |                          |                           |                 |                          |          |
| Present                          | 124 (41.9)               | 32 (10.7)                | 5.99            | 3.81–9.47               | <0.001   |
| Absent                           | 172 (58.1)               | 266 (89.3)               |                 |                          |          |
| 2. Impaired morning erection     |                          |                           |                 |                          |          |
| Present                          | 125 (42.2)               | 48 (16.1)                | 3.81            | 2.55–5.71               | <0.001   |
| Absent                           | 171 (57.8)               | 250 (83.9)               |                 |                          |          |
| 3. Complete erectile failure     |                          |                           |                 |                          |          |
| Present                          | 38 (12.8)                | 14 (4.7)                 | 2.99            | 1.52–5.93               | <0.001   |
| Absent                           | 258 (87.2)               | 284 (95.3)               |                 |                          |          |
| 4. Impaired spontaneous erection|                          |                           |                 |                          |          |
| Present                          | 115 (38.9)               | 33 (11.1)                | 5.10            | 3.25–8.04               | <0.001   |
| Absent                           | 181 (61.1)               | 265 (88.9)               |                 |                          |          |
| 5. Ejaculatory disturbances      |                          |                           |                 |                          |          |
| Present                          | 94 (31.8)                | 36 (12.1)                | 3.39            | 2.17–5.31               | <0.001   |
| Absent                           | 202 (68.2)               | 262 (87.9)               |                 |                          |          |
| 6. Reduced sexual interest       |                          |                           |                 |                          |          |
| Present                          | 97 (32.8)                | 34 (11.4)                | 3.78            | 2.41–5.97               | <0.001   |
| Absent                           | 199 (67.2)               | 264 (88.6)               |                 |                          |          |

IIEF – International Index of Erectile Function.
**Table 3.** The differences in IIEF-5 scores among normotensive and hypertensive men by factors such as age, educational level, occupational status, and smoking habits

| Variable                  | Hypertensive men (N=296) | Normotensive men (N=298) |
|---------------------------|--------------------------|--------------------------|
|                           | n  | Mean | SD  | 95% CI  | P value* | n  | Mean | SD  | 95% CI  | P value* |
| Age group, years          |    |      |     |         |          |    |      |     |         |          |
| 30–39                     | 16 | 20.4 | 5.9 | 17.2–23.5 | <0.001   | 32 | 23.6 | 2.3 | 22.8–24.5 | <0.001   |
| 40–49                     | 88 | 19.9 | 4.1 | 19.0–20.7 |          | 84 | 23.5 | 1.0 | 23.3–23.8 |          |
| 50–59                     | 94 | 16.4 | 5.2 | 15.3–17.4 |          | 77 | 21.3 | 3.9 | 20.4–22.1 |          |
| 60+                       | 98 | 11.1 | 6.7 | 9.8–12.5  |          | 105| 17.6 | 6.6 | 16.3–18.9 |          |
| Educational level         |    |      |     |         |          |    |      |     |         |          |
| Illiterate                | 55 | 10.8 | 7.3 | 8.8–12.8  | <0.001   | 60 | 20.5 | 15.0 | 19.2–21.8 | <0.001   |
| Primary                   | 73 | 16.3 | 5.6 | 15.0–17.6 |          | 42 | 17.6 | 5.8 | 15.8–19.4 |          |
| Intermediate              | 42 | 18.7 | 5.5 | 17.1–20.4 |          | 53 | 21.5 | 4.6 | 20.2–22.7 |          |
| Secondary                 | 70 | 17.0 | 6.0 | 15.6–18.5 |          | 91 | 20.9 | 5.6 | 19.8–22.1 |          |
| University                | 56 | 16.8 | 6.1 | 15.2–18.4 |          | 52 | 23.0 | 3.0 | 22.3–23.9 |          |
| Occupation                |    |      |     |         |          |    |      |     |         |          |
| Manual                    | 88 | 14.6 | 7.2 | 13.0–16.1 | <0.001   | 38 | 19.4 | 5.2 | 17.7–21.1 | 0.018    |
| Business                  | 89 | 14.4 | 6.0 | 13.1–15.6 |          | 114| 20.1 | 5.4 | 19.1–21.5 |          |
| Clerical/Administration   | 71 | 18.1 | 5.9 | 16.8–19.5 |          | 82 | 21.4 | 5.0 | 20.3–22.5 |          |
| Police/Military           | 27 | 18.7 | 6.5 | 16.2–21.3 |          | 28 | 21.2 | 6.0 | 18.9–23.5 |          |
| Professional              | 21 | 16.6 | 5.9 | 13.9–19.3 |          | 36 | 23.1 | 2.4 | 22.2–23.9 |          |
| Smoking status            |    |      |     |         |          |    |      |     |         |          |
| Never smoked              | 131| 18.4 | 6.4 | 17.4–21.8 | <0.001   | 177| 19.7 | 6.0 | 18.8–20.1 | 0.001    |
| Ex-smoker                 | 128| 17.7 | 6.6 | 17.4–19.3 |          | 57 | 23.3 | 1.9 | 22.8–23.8 |          |
| Current smoker            | 37 | 15.8 | 6.9 | 9.8–18.5  |          | 64 | 22.0 | 3.2 | 21.2–22.8 |          |

*Kruskal-Wallis test was performed to test for categorical values. CI – confidence interval; IIEF – International Index of Erectile Function; SD – standard deviation.
Erectile dysfunction in hypertensive men

A significant association was found in both hypertensive and normotensive men with ED score in respect of their age, educational level, occupation, and smoking habit (P<0.001).

Table 4 shows the clinical characteristics of all hypertensive men and mean IIEF-5 scores. As the duration of hypertension increased, the IIEF-5 score decreased. The patients with the duration of hypertension of more than 10 years had moderate ED (14.8±7.1). The prevalence of ED was higher in hypertensive patients who had antihypertensive treatment (13.3±8.6).

Table 5 presents the logistic regression analysis as predictors of ED in hypertensive men. Drugs used for treatment of hypertension (OR=6.06, CI 1.86–9.89; P=0.003) and diabetes (OR=4.51, CI 2.75–7.40; P=0.001) were the major contributors for the ED in hypertensive men. In addition, duration of hypertension (OR=2.81, CI 1.47–5.32; P<0.001), occupation (OR=2.26, CI 1.49–3.44; P=0.001), age (OR=2.03, CI 1.58–2.62; P<0.001), and education (OR=1.33, CI 1.13–1.57; P=0.021) were found to be significant risk factors, which affected the erectile function of hypertensive men.

Table 4. The clinical characteristics and mean IIEF-5 scores of all hypertensive men

| Variable                              | Hypertensive group (N=296) |   |   | P value* | IIEF-5 score mean±SD |
|---------------------------------------|-----------------------------|---|---|----------|----------------------|
|                                       | N (%)                       | With ED | Without ED |          |                       |
| Duration of hypertension              |                             |         |           |          |                       |
| <3 years                              | 55 (18.6)                   | 36 (18.4) | 19 (19.0) | NS       | 16.6±6.1             |
| 3–10 years                            | 129 (43.6)                  | 80 (40.8) | 49 (49.0) |          | 16.5±6.3             |
| >10 years                             | 112 (37.8)                  | 80 (40.8) | 32 (32.0) |          | 14.8±7.1             |
| Severity of hypertension              |                             |         |           |          |                       |
| Mild (120–139 / 80–89 mmHg)           | 158 (53.4)                  | 93 (47.4) | 65 (65.0) | 0.004    | 17.3±5.9             |
| Moderate (140–159 / 90–99 mmHg)       | 123 (41.6)                  | 89 (45.4) | 34 (34.0) |          | 15.1±6.5             |
| Severe (>160 / >100 mmHg)             | 15 (5.1)                    | 14 (7.1)  | 1 (1.0)   |          | 7.7±2.3              |
| Other complications                   |                             |         |           |          |                       |
| None                                  | 258 (87.8)                  | 161 (83.0) | 97 (97.0) |          | 16.7±6.0             |
| Cardiac                               | 30 (10.2)                   | 29 (14.9) | 1 (1.0)   |          | 10.2±7.1             |
| Cerebrovascular                       | 3 (1.0)                     | 3 (1.5)   | 0 (0.0)   | <0.001   | 1.3±0.6              |
| Renal                                 | 1 (0.3)                     | 0 (0.0)   | 1 (1.0)   |          | –                    |
| Others                                | 2 (0.7)                     | 1 (0.5)   | 1 (1.0)   |          | –                    |
| Treatment                             |                             |         |           |          |                       |
| Dieting                               | 142 (48.0)                  | 98 (50.0) | 44 (44.0) |          | 15.4±6.2             |
| Tablets                               | 53 (17.9)                   | 38 (19.4) | 15 (15.0) |          | 13.3±8.6             |
| None                                  | 101 (34.1)                  | 60 (30.6) | 41 (41.0) |          | 18.0±5.3             |
| Family history of HTN                 |                             |         |           |          |                       |
| Yes                                   | 226 (76.9)                  | 148 (76.3) | 78 (78.0) | NS       | 16.1±6.7             |
| No                                    | 68 (23.1)                   | 46 (23.7) | 22 (22.0) |          | 15.4±6.2             |

*P value was calculated using chi-square test by comparing participants with and without erectile dysfunction. ED – erectile dysfunction; IIEF – International Index of Erectile Function; SD – standard deviation.

Table 5. Stepwise logistic regression analysis as predictors for erectile dysfunction in hypertensive men

| Independent variable | Odds ratio | 95% confidence interval | P value |
|----------------------|------------|-------------------------|---------|
| Hypertensive drugs   | 6.06       | 1.86–9.89               | 0.003   |
| Diabetes             | 4.51       | 2.75–7.40               | 0.001   |
| Duration of hypertension | 2.81   | 1.47–5.32               | <0.001  |
| Sedentary occupation | 2.26       | 1.49–3.44               | 0.001   |
| Age                  | 2.03       | 1.58–2.62               | <0.001  |
| Low education level  | 1.33       | 1.13–1.57               | 0.021   |
Discussion

Hypertension is often cited as a risk factor for erectile dysfunction. Although it is commonly assumed that hypertension predisposes men to impotence, the precise relation of hypertension and impotence remains unknown. It is well established that hypertension and the more traditional antihypertensive drugs are associated with erectile dysfunction (17–19).

In the present study, the overall prevalence of ED in patients with hypertension alone was 66.2%, while in normotensive men – 23.8%. These patients reported some degree of erectile dysfunction. The results of our study supported the results of other study conducted by Giuliano et al. (6) in France, which showed that among the 3906 patients with hypertension alone, the overall prevalence of ED was 61%.

A few other studies have reported different prevalence rates of ED in hypertensive men, which were lower than the prevalence in Qatar. A multicenter Egyptian National study has demonstrated a lower prevalence of ED (43.2%) in the Egyptian male population (15). Other recent multicenter Spanish study (20) reported a prevalence of 45.8% of ED in 2130 patients with hypertension.

On the contrary to the above studies, Newman and Marus (21) reported a meager relationship between hypertension and ED, with similar prevalence of impotence in hypertensive and normotensive men. These controversies may be related to the nature of population examined, the sample size, and the type of instrument used to assess erectile function. Although differences in prevalence rates of ED in case of hypertension exist, most of the studies showed a higher prevalence of ED in hypertensive than normotensive men.

The findings of the present study showed the relation between the increasing age and increasing prevalence of ED in hypertensive men. These results are similar to the study on ED reported in Spain (22).

The link between hypertension and erectile dysfunction is even more complex because ED is a side effect of certain antihypertensives (18). It is quite evident in our study that the prevalence of ED was higher in hypertensive patients who had antihypertensive treatment (13.3±8.6) than in hypertensive men who did not take any antihypertensive drugs (18.0±5.3). In addition, the multivariate regression analysis revealed that antihypertensive medications were the major contributor for ED in hypertensive men. It has been well documented that many antihypertensive drugs may cause ED as a side effect (19).

The patients who had a diagnosis of hypertension for less than 5 years had moderate ED (15.3±5.8), and patients who had hypertension for more than 10 years had severe ED (12.2±6.1) (7). In addition, in our study the mean IIEF-5 score decreased with the increased duration of hypertension.

It is confirmed that ED is highly correlated with vascular disease and hypertension, dyslipidemia, diabetes, and smoking predict the risk of developing vascular disease and erectile dysfunction (7). The studied hypertensive participants with smoking habits had moderate ED, and there was a significant association found in hypertensive men in respect of smoking habit. The most common complications found in our hypertensive patients were cardiac problems (10.2%) with severe erectile dysfunction (10.2±7.1).

The higher prevalence of sexual dysfunction among hypertensive men is in agreement with the hypothesis that sexual dysfunction may be prevalent among hypertensive men.

The current study using IIEF questionnaire 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. Sometimes, sexually inactive men had increased comorbidity rate similar to those of men with severe or complete ED. This suggests that severe ED may be underestimated. Further limitations of the IIEF pertain to the fact that it does not measure the level of sexual function in clinical trials; hence, this can lead to minor variation in estimate. The strengths of this study are that this is the first matched case-control study in the State of Qatar. The study included a well-defined study population. Data were collected by trained and qualified nurses. Severity of hypertension was evaluated according to the WHO standardized criteria. We have excluded incomplete and defected questionnaires that removed the outliers and minimized potential confounding of the results.

Conclusion

The present study has revealed that erectile dysfunction was a major problem, with a higher prevalence among hypertensive men than normotensive men. Age, level of education, diabetes mellitus, occupation, and duration of hypertension were considered statistically significant predictors of erectile dysfunction. Erectile dysfunction was more common in hypertensive individuals receiving antihypertensive treatment.
Erectile dysfunction in hypertensive men

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Raktažodžiai: epidemiologija, hipertenzija, eretikinė disfunkcija, tarptautinis eretikinės funkycijos rodiklis, rizikos veiksnių, Kataro populiacija.

Santrauka. Tyrimo tikslas – ištirti eretikinės disfunkcijos paplitimą, jos sunkumą ir kitus seksualinės funkcijos aspektus tarp Kataro vyru, kuriems nustatytas padidėjęs ir normalus kraujospūdis. Taip pat įvertinti hipertenzijos ir eretikinės disfunkcijos prognotinius veiksnių sąsajas. Tiriama su kontingentais ir metodai. Atvejo ir kontrolės tyrimas atlikta ir 2006 metų gegužės–spalio mėn. Dalyvauti tyrame 425 30–75 metų pacientai, kuriems nustatytas padidėjęs kraujospūdis ir 425 to paties amžiaus vyrai, kurių kraujospūdis normalus. Iš jų 296 vyrai, kurių padidėjęs kraujospūdis (74 proc.), ir 298, kurių normalus kraujospūdis (70,1 proc.), davė sutikimą dalyvauti tyrame. Tiriama su kiekvieną pradedė, didžiausią amžių, normalus kraujospūdis. Visi pacientai užpildė klausimyną, skirtą ligos istorijai; ypatingas dėmesys buvo skirtas hipertenzijai, t. y. hipertenzijos trukmei, gydymui tipui, bet kokiai komplikacijai. Seksualinė funkcija vertinta pagal tarptautinį eretikinės funkycijos rodiklį (angl. International Index of Erectile Function – IEF).

Rezultatai. Iš 296 ligonių, kurių padidėjęs kraujospūdis, 196 (66,2 proc.) nurodė eretikinė disfunkciją, o iš 298 vyru ir kritinis hipertenzijos trukmės, 71 (23.8 proc.) vyrai rysiu eretikinė disfunkciją. 25 proc. tiriamųjų, kurių kraujospūdis padidėjęs, didėjo, o 29,0 proc. vidutinio laipsnio ir 12,1 proc. nežymaus laipsnio eretikinė disfunkciją. Eretikinės disfunkcijos paplitimo dažnis ir sunkumas su amžiumi didėjo.

Išvados. Tyrimo duomenimis, eretikinė disfunkcija labiau paplitusi tarp Kataro vyru, kurių kraujospūdis padidėjęs, palyginus su vyrais, kurių kraujospūdis normalus. Amžius, išsilavinimas, cukrinis diabetas, profesija ir hipertenzijos trukmė buvo reikšmingi eretikinės disfunkcijos prognotiniai veiksnių. Eretikinė disfunkcija labiau paplitusi tarp vyru, vartojančių antihipertenzinius vaistus.

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