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Original Article

Prevalence and factor association of premature ejaculation among adult Asian males with lower urinary tract symptoms

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ABSTRACT

Purpose: To determine the prevalence of premature ejaculation (PE) among adult Asian males presented with lower urinary tract symptoms (LUTS) and characterize its association with other clinical factors.
Methods: A cross-sectional study was conducted at a tertiary medical center to determine the prevalence of PE among adult male participants with LUTS during the Annual National Prostate Health Awareness Day. Basic demographic data of the participants were collected. All participants were assessed for the presence and severity of LUTS using the International Prostate Symptom Score (IPSS), and for the presence of PE using the PE diagnostic tool. Digital rectal examination was performed by urologists to obtain prostate size. LUTS was further categorized into severity, storage symptoms (frequency, urgency, and nocturia), and voiding symptoms (weak stream, intermittency, straining, and incomplete emptying) to determine their association with PE. Data were analyzed by comparing the participants with PE (PE diagnostic tool score $\geq$11) versus those without PE, using the independent *t* test for continuous data, Mann–Whitney *U* test for ordinal data, and Chi-square test for nominal data. The statistical significance was set at $P < 0.05$.
Results: A total of 101 male participants with a mean ± standard deviation age of 60.75 ± 10.32 years were included. Among the participants, 33% had moderate LUTS, and 7% severe LUTS. The most common LUTS was nocturia (33%). The overall prevalence of PE was 27%. There was no significant difference among participants with PE versus those without PE in terms of age, marital status, prostate size, or total IPSS score. However, significant difference between groups was noted on the level of education (Mann–Whitney *U*, $z = -1.993$, $P = 0.046$) where high educational status was noted among participants with PE. Likewise, participants with PE were noted to have more prominent weak stream (Mann–Whitney *U*, $z = -2.126$, $P = 0.033$).
Conclusions: Among the participants consulted with LUTS, 27% have concomitant PE. Educational status seems to have an impact in the self-reporting of PE, which may be due to a higher awareness of participants with higher educational attainment. A significant association between PE and weak stream that was not related to prostate size suggests a neuropathologic association.

1. Introduction

Every year, the Philippine Urological Association (PUA) celebrates Prostate Health Awareness Month with National Digital Rectal Exam (DRE) Day. This is a nationwide effort to promote awareness in men regarding prostate diseases such as benign prostatic hyperplasia and prostate cancer. This is conducted by urologists in several participating institutions. Most of the participants come in for consultation due to lower urinary tract symptoms (LUTS). Out of 925 participants in 2013, more than half (61%) were identified as cases of LUTS, with 57% reported to have moderate to severe LUTS.[1]

LUTS are common in men and have been shown to have increased frequency and severity with age.[2] Symptoms of male sexual dysfunction, including erectile dysfunction, ejaculatory dysfunction, and hypoactive desire were previously assumed to be only natural consequences of aging.[3] However, the latest evidence from epidemiological studies suggests that these symptoms are actually associated with LUTS.[2] Several community-based studies

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have also shown strong correlations between the prevalence of sexual dysfunction, especially erectile dysfunction, and the severity of LUTS with increasing age.[4]

Premature ejaculation (PE), one of the components of male sexual dysfunction, is also seen in the elderly as a primary or secondary condition.[4] Although several studies have already defined the association between male sexual dysfunction (specifically erectile dysfunction) and LUTS, only few correlations have been made between premature ejaculation alone and LUTS. Common causes for this are poor detection of this symptom and underreporting of cases.[5] This study therefore aims to determine the prevalence of PE among adult Asian males and characterize its association with LUTS and other clinical factors.

2. Methods

2.1. Data gathering

This is a descriptive cross-sectional study that included all male participants during the Annual National DRE Day in the Philippines conducted in June 2014 at St. Luke's Medical Center (Quezon City, Philippines). Demographic data obtained were age, marital status, educational attainment, and occupation including comorbidities such as hypertension and diabetes mellitus. All participants were assessed by urologists for the presence of LUTS using the International Prostate Symptom Score (IPSS), and PE using the PE Diagnostic Tool (PEDT). A PEDT score ≥11 was categorized as PE. The IPSS was further categorized into total score (IPSS sum), storage symptom domains (FUN: frequency, urgency, and nocturia), and voiding symptom domains (WISR: weak stream, intermittency, straining, and residual urine). DRE was also performed to obtain prostate size estimates.

2.2. Data analysis

Data gathered were encoded in a Microsoft Excel spreadsheet and data analysis was performed using SPSS for Windows, version 21.0 (SPSS, Chicago, IL, USA). Demographic data of the participants were summarized. The clinical characteristics differences among LUTS participants with PE versus without PE were statistically analyzed. The independent *t* test was used for analyzing continuous data such as age, IPSS sum, storage symptom score, and voiding symptom score. The Mann–Whitney *U* test was applied to analyze ordinal data with a Likert scale 1–5 of individual IPSS symptom domains, prostate size range of 20–60 g, and educational attainment (Table 1) from primary school to doctorate degree. The Chi-square test was done to analyze nominal data such as the presence or absence of comorbidity (hypertension and diabetes mellitus) and marital status. The statistical significance was set at $P < 0.05$.

Table 1
Demographic profile of participants.

No. of patients = 101		Count (%)
Marital status	Single	10 (9.9)
	Married	79 (78.2)
	Separated	5 (5)
	Widowed	7 (6.9)
Occupation	Retired	63 (62.4)
	Employed	38 (37.6)
Education	Primary	7 (6.9)
	Secondary	33 (32.7)
	College	54 (53.5)
	Postgraduate	3 (3)
	Master	4 (4)
	Doctorate	0
Comorbid illness	Hypertension	75 (74.3)
	Diabetes mellitus	21 (20.8)

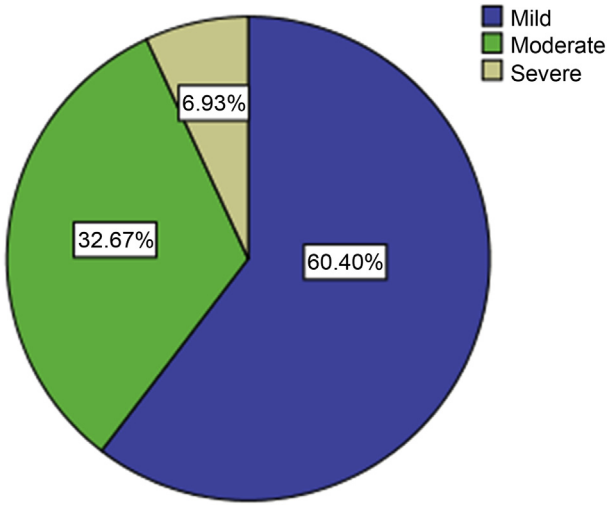

Fig. 1. Severity of lower urinary tract symptoms of participants.

3. Results

A total of 101 male participants attended the Annual National DRE Day conducted at our medical center, all of which were included in the study. The mean age of the participants was 61 years ranging from 36 years to 86 years. Most (78.2%) of the participants were married; 54% of the participants had graduated college and 63% were retired; 74.3% had comorbidity of hypertension, and 20.8% had diabetes mellitus. The demographic profile is summarized in Table 1.

The mean ± standard deviation IPSS was 5.79 ± 6.59; 60.40% had a score <8, which is categorized as mild LUTS; 32.67% scored 8–19, categorized as moderate LUTS; and only 6.93% had severe LUTS with a score of >19. Distribution of LUTS severity is illustrated in Fig. 1. Among the participants, 13.9% ($n = 14$) scored ≥3 in frequency, 4% ($n = 4$) scored ≥3 in urgency, 32.7% ($n = 33$) scored ≥3 in nocturia, 12% ($n = 12$) scored ≥3 in weak stream, 10% ($n = 10$) scored ≥3 in intermittency, 7.9% ($n = 8$) scored ≥3 in straining, and 13.9% ($n = 14$) scored ≥3 in residual urine. In clustering the LUTS score, 50.6% of the participants had storage symptoms whereas 43.8% had voiding symptoms. Distributions of individual LUTS domains are described in Fig. 2. The mean age of participants with an approximate 20-g prostate size by DRE was 56.38 years, ~30 g was 62.16 years, ~40 g was 63.96 years, ~50 g was 62.5 years, and ~60 g was 61.25 years (Table 2).

According to the PEDT assessments of the participants, 26.7% (27) of the participants scored ≥11, which signifies the presence of PE, whereas 16.8% (17) scored 9–10 indicating that PE is probably present. Independent *t* test, used to determine the difference among participants with PE versus without PE, showed no significant differences in terms of age, IPSS sum, storage symptom score, or voiding symptom score (Table 3). Mann–Whitney *U* analysis showed that educational attainment has significant association with the presence of PE, where higher educational status was noted among participants with PE (Mann–Whitney U, $z = -1.993$, $P = 0.046$). Likewise, participants with PE were noted to have more prominent weak stream (Mann–Whitney U, $z = -2.126$, $P = 0.033$); however, PE was not associated with prostate size (Table 4). There was no significant between group difference noted in the Chi-