

SYS Wong 黃仰山
J Woo 胡令芳
PC Leung 梁秉中

Genitourinary problems and mood disorders in elderly Chinese men in Hong Kong: an epidemiological cohort study

Key Messages

1. Genitourinary symptoms are prevalent in elderly men. They are associated with reduced quality of life and an increased risk of clinically relevant depressive symptoms.
2. Screening of genitourinary health in elderly men may help identify those who may benefit from psychological or medical treatment for lower urinary tract symptoms, sexual dysfunction and depression.

Introduction

Among elderly men, genitourinary problems and mood disorders are common. Lower urinary tract symptoms (LUTS) and erectile dysfunction (ED) are the main genitourinary problems, whereas depression is the most common mood disorder. Evidence suggests that men with these disorders/health problems have poorer quality of life. We prospectively studied the prevalence, incidence and risk factors of LUTS, depression and ED in a large sample of Hong Kong Chinese. The relationships between these health problems and health-related quality of life were investigated.

Methods

This study was conducted from February 2005 to January 2007 and formed part of a larger study on health problems in the elderly. It was approved by the ethics committee of the Faculty of Medicine of the Chinese University of Hong Kong. Recruitment notices were placed in housing estates and community centres for the elderly. Subjects were invited to the research centre for interviews and physical examination. Informed consent was obtained from all subjects. Stratified sampling was adopted to include around 33% of the subjects in each of the following age groups: 65-69, 70-74, and ≥ 75 years. A total of 1744 Chinese men aged 65 years or older and able to walk independently were followed up for 2 years.

Questionnaire

Subjects were interviewed using a standardised, structured questionnaire which covered information on age, address, place of origin, education level and occupation. Information on each subject's medical history was obtained based on self-reporting of medical conditions. Subjects were asked to bring in all medications for identification.

The severity of each subject's LUTS was graded using the Chinese version of the International Prostatic Symptoms Score,¹ which assesses seven items: nocturia, frequency, urgency, intermittency, weak stream, incomplete emptying and straining. The total score ranges from 0 to 35; a score of ≥ 1 indicates the presence of a particular symptom. Using standard cut-off points for symptom severity, subjects were defined as having severe (≥ 20), moderate (8-19) or mild LUTS (≤ 7).

For clinically relevant depressive symptoms, subjects were studied by face-to-face interviews, using a validated 15-item Chinese version of the Geriatric Depression Scale, with depression being defined with a cut-off of ≥ 8 .² The short form was found to be a useful screening tool for geriatric depression and avoid fatigue associated with longer questionnaires.³

Erectile function was measured by the five-item International Index of Erectile Function.⁴ Erectile dysfunction was classified as normal (score 22-25), mild (score 12-21), moderate (score 8-11) and severe (score 5-7).

Information on cigarette smoking, alcohol consumption, dietary intake and

Hong Kong Med J 2010;16(Suppl 3):S17-9

The Chinese University of Hong Kong:
Department of Community and Family
Medicine
SYS Wong
Department of Medicine and Therapeutics
J Woo
Department of Orthopaedics and Trauma-
tology
PC Leung

HHSRF project number: 02030661

Principal applicant and corresponding author:
Dr Samuel Yeung-shan Wong
4/F, School of Public Health, Prince of Wales
Hospital, Shatin, New Territories, Hong
Kong SAR, China
Tel: (852) 2252 8774
Fax: (852) 2606 3500
Email: yeungshanwong@cuhk.edu.hk

physical activity was also collected. Health-related quality of life was measured with the Chinese version of the Short Form-12. Body weight and height were also measured.

Results

The mean age of the cohort was 73.9 years. About 88.5% were married or living with a partner, and 59% had only primary or lower levels of education. About 9.9% were current smokers and 18.6% drank alcohol.

Lower urinary tract symptoms

The prevalence of mild, moderate and severe LUTS was 69.3%, 26.4% and 4.3%, respectively. The incidence of new cases over 2 years in those without moderate-to-severe LUTS at baseline was 28%. For baseline risk factors associated with the presence of moderate-to-severe LUTS at the end of study, only cardiac diseases (odds ratio [OR], 1.68; 95% confidence interval [CI], 1.18-2.39) and age (OR, 1.22; 95% CI, 1.05-1.42) were independent predictors in the multiple regression analysis.

Clinically relevant depressive symptoms

The prevalence and incidence of clinically relevant depressive symptoms were 3.7% and 3.3%, respectively. The risk factors for clinically relevant depressive symptoms were: being a current smoker (OR, 4.57; 95% CI, 2.23-9.36) and having moderate-to-severe LUTS at baseline (OR, 3.74; 95% CI, 2.14-6.54).

Erectile dysfunction

Among 1174 subjects who were interviewed, 12.7% had sexual intercourse over the past 6 months, whereas 67.1% had not. About 20% had sexual intercourse within 4 weeks. As only those who were sexually active over the past 6 months (stated on the questionnaire to ensure validity and reliability) could be asked the International Erectile Function Questions, only 372 subjects responded. Among these, 76.6% had mild ED, 6.5% had moderate ED, and 2.3% had severe ED. Among 36 subjects who had normal ED score at baseline, 66.7% went on to develop mild ED.

Health problems

Men who had LUTS, clinically relevant depressive symptoms and erectile dysfunction had significantly inferior health-related quality of life as measured by the Short Form-12.

Discussion

Lower urinary tract symptoms

To our knowledge, this is the first large study that describes the demographics, lifestyle and medical risk factors of LUTS in elderly community-dwelling Chinese men. Moderate-to-severe LUTS is common and its prevalence in this population is comparable to that in elderly Chinese men in other parts of Asia. It was associated with an inferior quality of life and increased risk of clinically relevant depressive

symptoms. A history of heart disease was independently associated with an increased odds of having moderate-to-severe LUTS, although lifestyle factors were not.

Clinically relevant depressive symptoms

Compared to findings from previous surveys, the prevalence of clinically relevant depressive symptoms in this population was low. In studies on depressive symptoms in Hong Kong Chinese elderly, the prevalence ranged from 4.9% to 29.2%. There are few studies on the incidence of depression in Hong Kong elderly. In this study, the incidence was about 3.8% over 2 years. However, as we did not employ random sampling, the results may not be applicable to the general elderly Hong Kong population; it is likely that the incidence was underestimated. Being a current smoker and having moderate-to-severe LUTS increased the risk of having clinically relevant depressive symptoms over the 2-year period. Although several studies have shown a significant association between incontinence and major depression in the elderly, few studies have evaluated the association between LUTS (as defined by the American Urological Association) and clinically relevant depressive symptoms in ageing men. This is an important finding, as depression is an important issue in ageing men who have a high suicide rate compared with younger men or women.

Erectile dysfunction

In this study, 67% of elderly men had not been sexually active over the past 6 months. Among the remainder, 85% suffered from mild-to-severe ED and 40% suffered from moderate-to-complete impotence. Our sample of Chinese men was less sexually active than American elderly men. Age is a significant predictor of sexual inactivity or sexual dysfunction; increasing age is associated with sexual inactivity, which is consistent with reports from the literature.

Limitations

Our study has several limitations. The sample consisted of volunteer subjects. As a result, selection bias cannot be avoided. Recruitment from community centres generally enrol healthier older adults than in the general population. The much lower prevalence of clinically relevant depressive symptoms suggests this to be the case. In addition to depression, the prevalence of LUTS and sexual inactivity may also have been underestimated.

Subjects were only followed up for 2 years, as were their associated potential risk factors at baseline. For the development of significant urinary tract symptoms or erectile dysfunction, this was a relatively short period of study. Longer follow-up might provide different results, including more medical- and lifestyle-related factors possibly predisposing to the development of LUTS.

The strength of our study lies in its large sample size, its prospective design, and the large number of controls recruited from the same sampling frame. The association

between LUTS and clinically relevant depressive symptoms was robust even after controlling for potential confounders (socio-economic status, and other lifestyle and medical factors). Findings from this study confirm an independent association between LUTS and clinically relevant depressive symptoms in elderly men.

Acknowledgements

This study was supported by the Health and Health Services Research Fund (#02030661), Food and Health Bureau, Hong Kong SAR Government. We thank the elderly subjects recruited from the community who consented and participated in this study.

References

1. Barry MJ, Fowler FJ Jr, O'Leary MP, et al. The American Urological Association symptom index for benign prostatic hyperplasia. The Measurement Committee of the American Urological Association. *J Urol* 1992;148:1549-57.
2. Lee HB, Chiu HF, Kwok WY, Leung CM, Kwong PK, Chung DW. Chinese elderly and the GDS short form: a preliminary study. *Clin Gerontol* 1993;14:37-9.
3. Yesavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res* 1983;17:37-49.
4. Rosen RC, Cappelleri JC, Smith MD, Lipsky J, Pena BM. Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. *Int J Impot Res* 1999;11:319-26.