

APPS

The 1st Congress of Asian Pacific Prostate Society

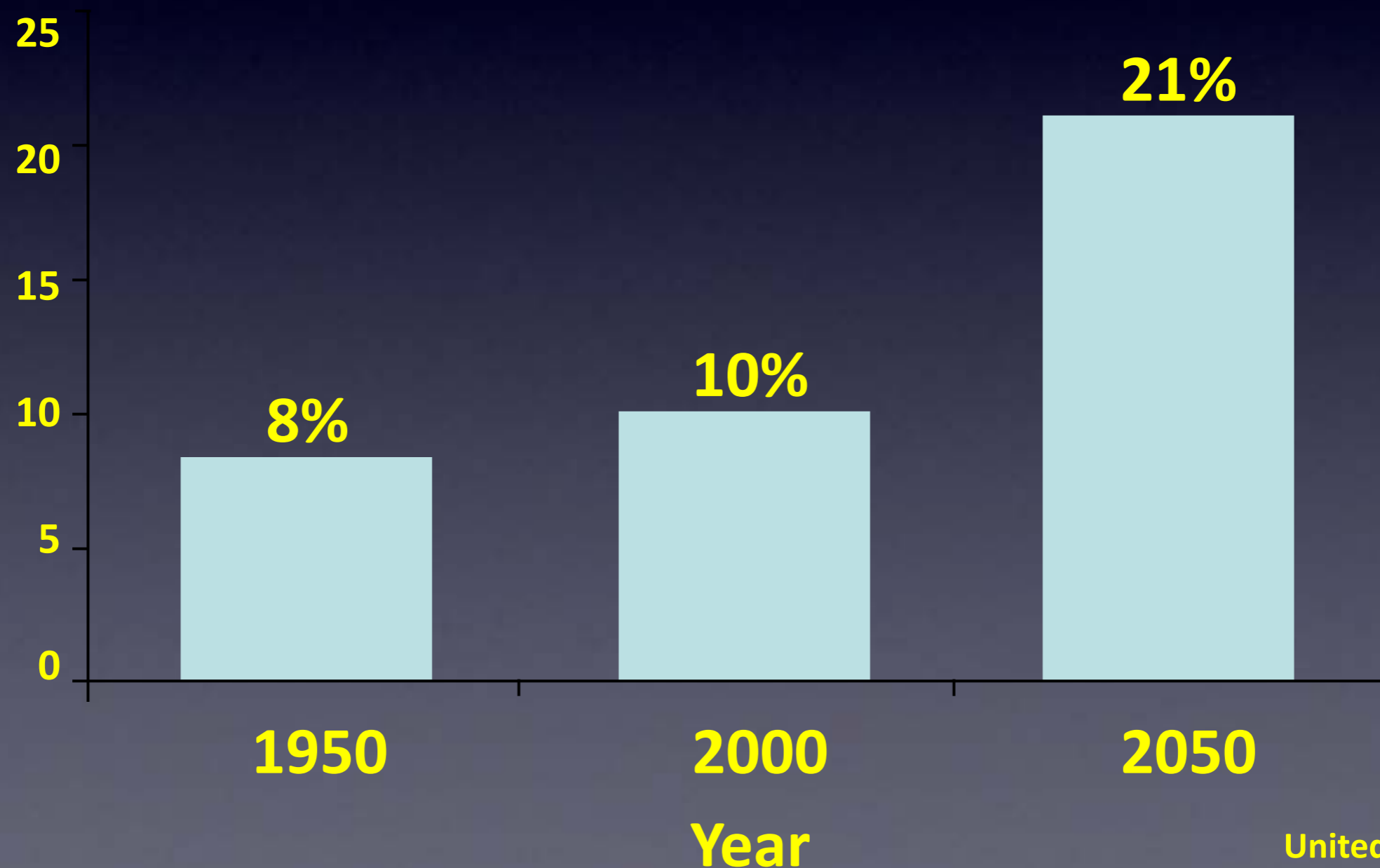
The Burden of LUTS and BPH in Asia

DENNIS P. SERRANO, MD
Philippines

Proportion of world population 60 years or older: 1950–2050

40% of men >60 years have symptomatic BPH

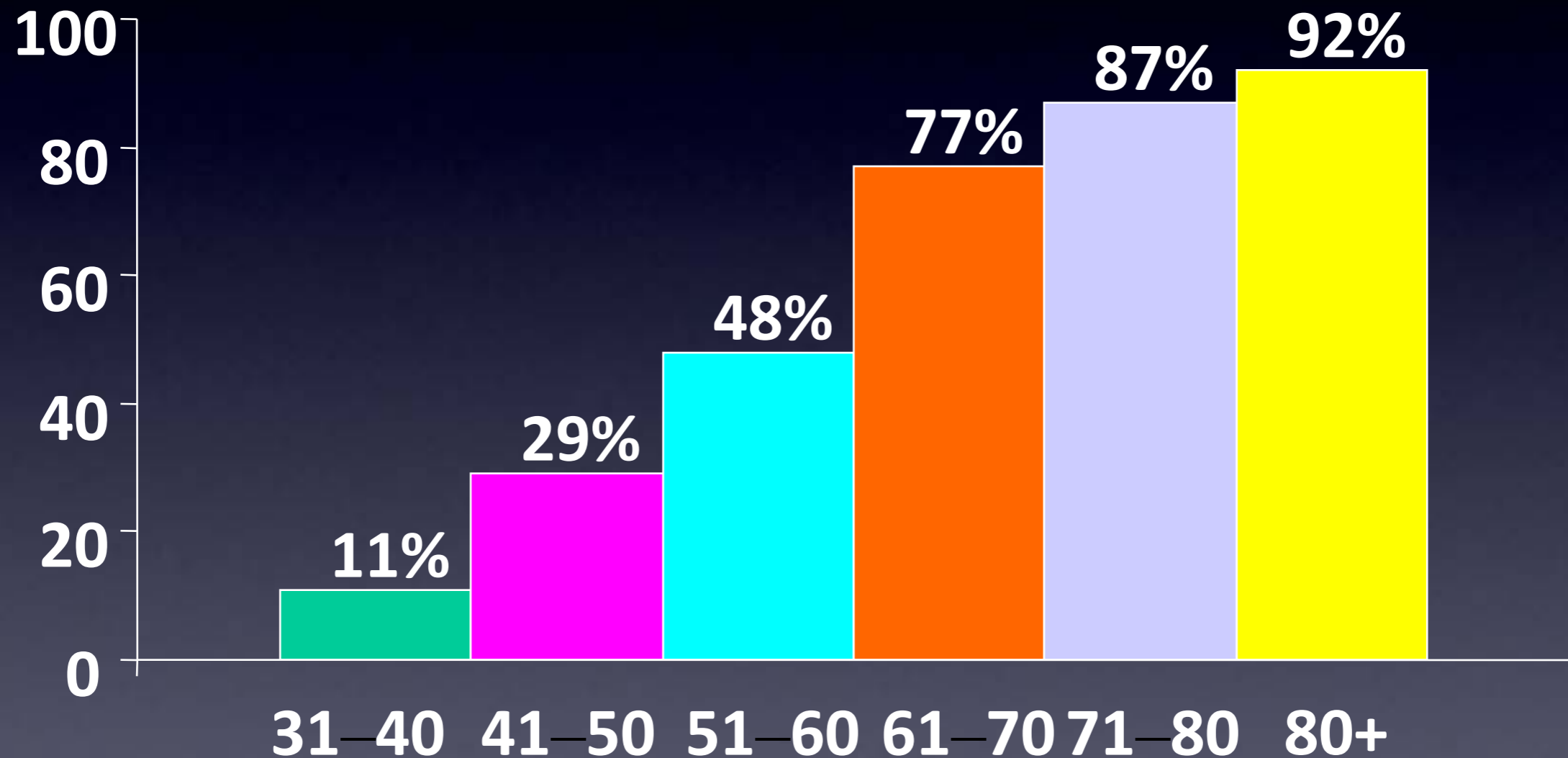
Men (%)



United Nations (1999)

Prevalence of histological BPH with age

Prevalence (%)



Defining the Burden of LUTS and BPH

- Incidence/prevalence
- Economic costs
 - Direct vs indirect
 - Personal vs healthcare system
- Quality of life effects
- Lost productivity

A population based study of incidence and treatment of benign prostatic hyperplasia among residents of Olmsted County, Minnesota: 1987 to 1997.

Sarma AV, Jacobson DJ, McGree ME, Roberts RO, Lieber MM, Jacobsen SJ.

Department of Urology and Epidemiology, University of Michigan, Ann Arbor, Michigan, USA.

Comment in:

J Urol. 2005 Jun;173(6):1852.

Abstract

PURF Urology. 2004 Nov;64(5):959-65.

has lo popul **Longitudinal changes in lower urinary tract symptoms among a cohort of black American men: the Flint Men's Health Study.**

MATE Sarma AV, McLaughlin JC, Jacobsen SJ, Logie J, Dolin P, Dunn RL, Cooney KA, Montie JE, Schottenfeld D, Wei JT.

avai minim Department of Urology, University of Michigan Health System, Ann Arbor, Michigan 48109-0759, USA.

0022-5347/05/1734-1309/0

THE JOURNAL OF UROLOGY®

Copyright © 2005 by AMERICAN UROLOGICAL ASSOCIATION

Vol. 173, 1309-1313, April 2005

Printed in U.S.A.

DOI: 10.1097/01.ju.0000152318.79184.6f

Abstract

RESU of 854 **OBJECTIVES:** To examine t and longitudinal data regard

subse watch cancer/surgery participated i decre after baseline, 175 of the 36 the 10 hyperplasia and had comple

CONC **RESULTS:** The mean and st includ change was found in the me

increased with patient age a mild to no symptoms (AUASI symptom severity was obser

CONCLUSIONS: In this popi measurable progression in u progression.

ECONOMIC COSTS OF BENIGN PROSTATIC HYPERPLASIA IN THE PRIVATE SECTOR

CHRISTOPHER S. SAIGAL,* GEOFFREY JOYCE

From the Department of Urology, University of California-Los Angeles, Los Angeles and RAND Health, Santa Monica, California

ABSTRACT

Purpose: Several studies document the impact of benign prostatic hyperplasia (BPH) in working, aged men. Direct medical costs related to BPH treatment are largely borne by employees through higher premiums. However, indirect costs related to lost work are primarily borne by the employer. In this study we used claims data and absentee records from large employers to estimate the costs associated with BPH in working age males.

Materials and Methods: We used 2 data sources to examine direct and indirect costs associated with BPH in a privately insured, nonelderly population. Multivariate regression models were used to predict spending for persons with and without a medical claim for BPH, controlling for relevant covariates. Data on work loss were linked to medical claims to estimate work loss related to treatment for BPH.

Results: Mean annual expenditures were \$4,193 for men without a medical claim for BPH. In contrast, annual spending was \$5,729 for men with a claim for BPH. Thus, the incremental cost associated with a diagnosis of BPH was \$1,536 yearly. Overall the average employee with the condition missed 7.3 hours of work yearly related to BPH with approximately 10% reporting some work loss related to a health care encounter for BPH.

Conclusions: Treatment of men with BPH places a significant burden on employees and their



Mongolia

China

Shanghai

North Korea

South Korea

Japan

Taiwan

Burma

Laos

Thailand

Vietnam

Philippines

Cambodia

Brunei

Federated States of Micronesia

Marshall Islands

Malaysia

Singapore

Indonesia

Solomon Islands

Kiribati

Papua New Guinea

Vanuatu

Samoa

Fiji

Australia

Palau

New Zealand

What is lacking in Asia?

- Well designed community based studies
- Large study population base
- Appropriate standardized survey instruments
- Reliable economic indicators

Study search

- Community based
- Screened >40 year old men
- Used IPSS to evaluate symptomatology and QoL index
- PubMed Search from 1990 to present
- Personal communication with key urologists

Singapore

- Cross sectional study of men >40 in more than 5,000 community based households
- Incidence of moderate to severe LUTS was 10% (frequency 22.5%; nocturia 21.5%)
- Less compared to US – 13% and Japan- 45%

Singapore

PREVALENCE OF MEN WITH IPSS>7

	40-49	50-59	60-69	>70
TAN, HY et al (1997)	6%	8%	18%	27%

Thailand

- Community survey for the prevalence of symptomatic BPH in 879 elderly men aged ≥ 60 year.
- 388 men (45.8) had complete follow up at 1 year
- Moderate to severe LUTS in 41.3%

Prevalence of symptomatic BPH accdg. to age in Thailand

	N	60-69	70-79	>80
TANTIWONG et al (2002)	879	37%	47%	61%

Japan

- Community survey of men 40-79 years old

PREVALENCE OF MEN WITH IPSS>7

	40-49	50-59	60-69	>70
TSUKAMOTO et al (1995)	41%	29%	31%	56%

China

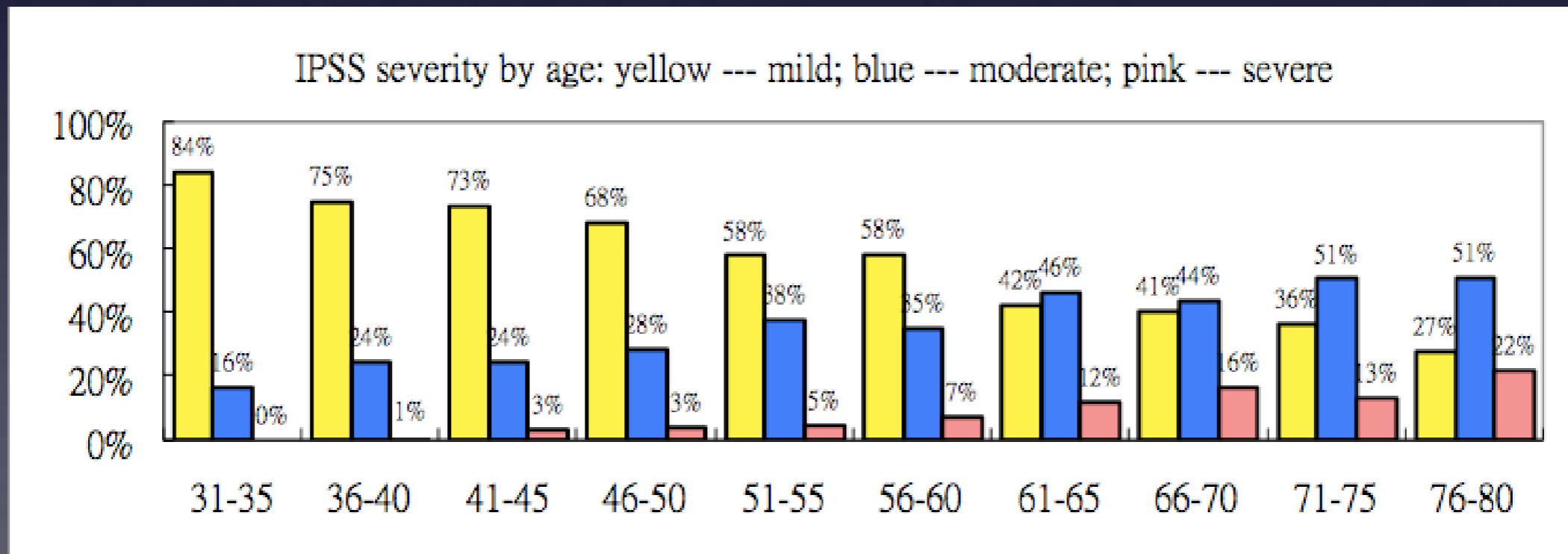
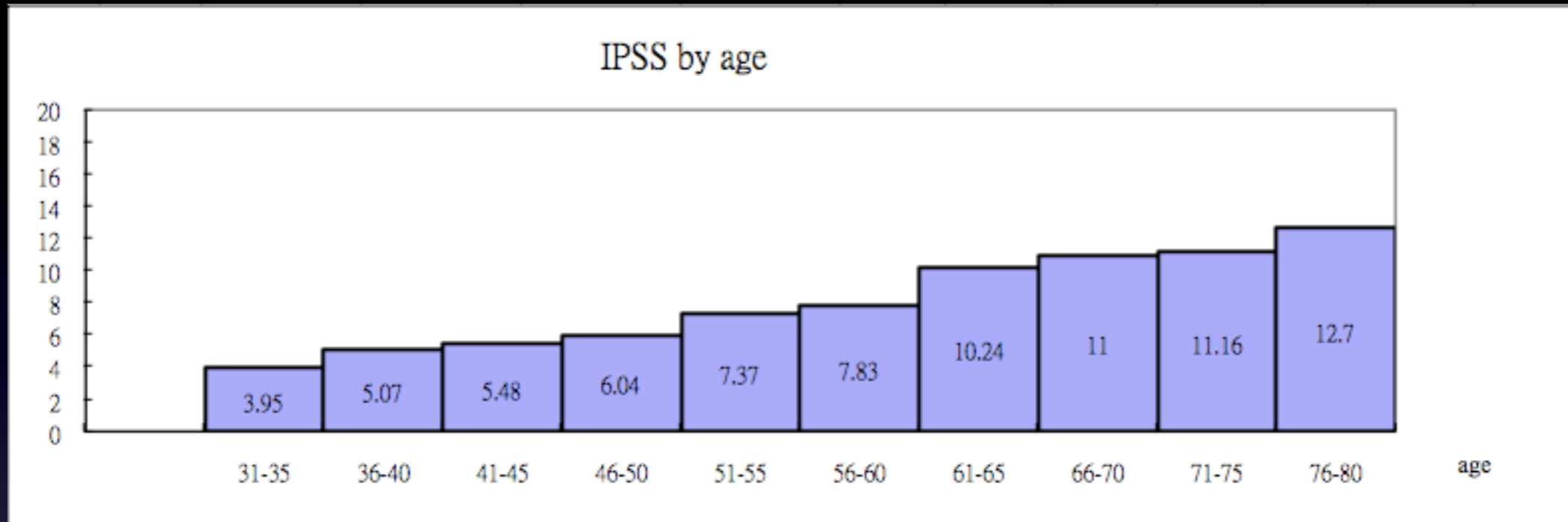
- A survey of 187 hospitals over 6 provinces and 4 metropolises in 1997
- Hospital incidence of BPH was 16.1%
- Steady increase over the past 47 years
- Similar to the US

China

PREVALENCE OF MEN WITH IPSS>7

	40-49	50-59	60-69	>70
GU, F.L. (1997)	19%	24%	33%	49%

Taiwan



Korea

DISTRICT/AUTHOR (DATE), N	40-49	50-59	60-69	>70
JEONG-EUP Chung, GT (1999) N= 653		4.3 %	13.2 %	16.2 %
SEOUL Kyu Seon Cho (2001) N = 1,356	10%	16%	29%	45%
ANYANG, So Kor Eun-Hyun Lee (2005) N = 417			17.6%	21%

Chung, GT, et al., Kor J Urol 1999;40; 52-58
 Cho, KS, et al Kor J Urol 2001;42; 840-848
 Lee et al, Jour Kor Acad Nurs (2005) 35:8

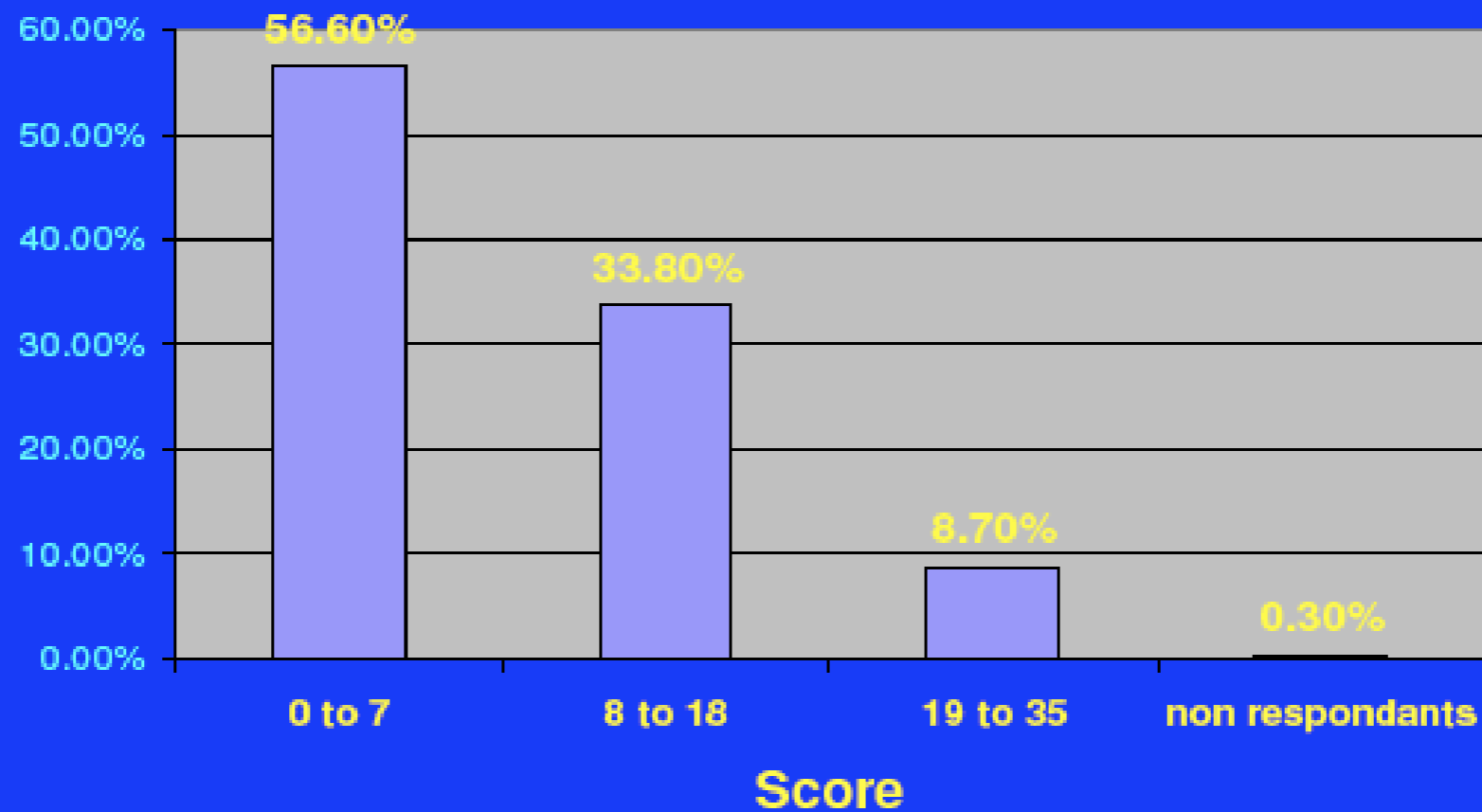
Australia

PREVALENCE OF MEN WITH IPSS>7

	40-49	50-59	60-69	>70
MARSHALL, V (1997)		36%	33%	37%

Malaysia

IPSS (n= 2770) (2005)



(IPSS for 2004 almost same, Report by M Rohan)

Philippines

PREVALENCE OF MEN WITH IPSS>7

	40-49	50-59	60-69	>70
DELA CRUZ, R (1997)	44%	24%	52%	64%

Asian Prevalence of LUTS and BPH

COUNTRY	STUDY/AUTHOR	AGE RANGE	PREVALENCE (%)
SINGAPORE	TAN, H et.al. (2009)	60-69	18
TAIWAN	LIU	51-60	36
THAILAND	TANTIWONG, A (2002)	60-69	37
MALAYSIA	LEI (2005)	NOT SPECIFIED	42
CHINA	GU, F. (2001)	NOT SPECIFIED	16
JAPAN	TSUKAMOTO (1995)	60-69	31
PHILIPPINES	DE LA CRUZ, (1997)	50-59	24
KOREA	CHO, K et al. (2001)	60-69	29
AUSTRALIA	MARSHALL (1997)	60-69	33
USA	OLMSTED COUNTY (2003)	50-59	32
	FLINT MEN'S HEALTH (2003)	50-59	42

Epidemiologic Survey of Lower Urinary Tract Symptoms in Asia and Australia Using the International Prostate Symptom Score

Yukio Homma,^{1*} Kazuki Kawabe,¹ Taiji Tsukamoto,² Hidetoshi Yamanaka,³ Kiyoki Okada,⁴ Eigoro Okajima,⁵ Osamu Yoshida,⁶ Joichi Kumazawa,⁷ Gu Fang-Liu,⁸ Chongwook Lee,⁹ Te-Chin Hsu,¹⁰ Reynaldo C dela Cruz,¹¹ Anupan Tantiwang,¹² Peter HC Lim,¹³ Masood A Sheikh,¹⁴ Sharad D Bapat,¹⁵ Willis R Marshall,¹⁶ Kazuo Tajima,¹⁷ and Yoshio Aso¹⁸

Departments of Urology, ¹Tokyo University, Tokyo, Japan, ²Sapporo Medical University, Sapporo, Japan, ³Gunma University, Utsunomiya, Japan, ⁴Nihon University, Tokyo, Japan, ⁵Nara Medical University, Nara, Japan, ⁶Kyoto University, Kyoto, Japan, ⁷Kyushu University, Fukuoka, Japan, ⁸Beijing Medical University, Beijing, China, ⁹Seoul National University, Seoul, Korea, ¹⁰National Taiwan University, Taipei, Taiwan, ¹¹Philippine Urological Association Inc, Manila, The Philippines, ¹²Rajavithi Hospital, Bangkok, Thailand, ¹³Toa Payoh Hospital, Singapore, ¹⁴Jinnah Postgraduate Medical Center, Karachi, Pakistan, ¹⁵Muljibhai Patel Urological Hospital, Nadiad, India, ¹⁶Department of Surgery, Flinders Medical Centre, Bedford Park, Australia, ¹⁷Department of Epidemiology, Aichi Cancer Center Research Institute, Nagoya, Japan, and ¹⁸Fujieda Municipal General Hospital, Fujieda, Japan

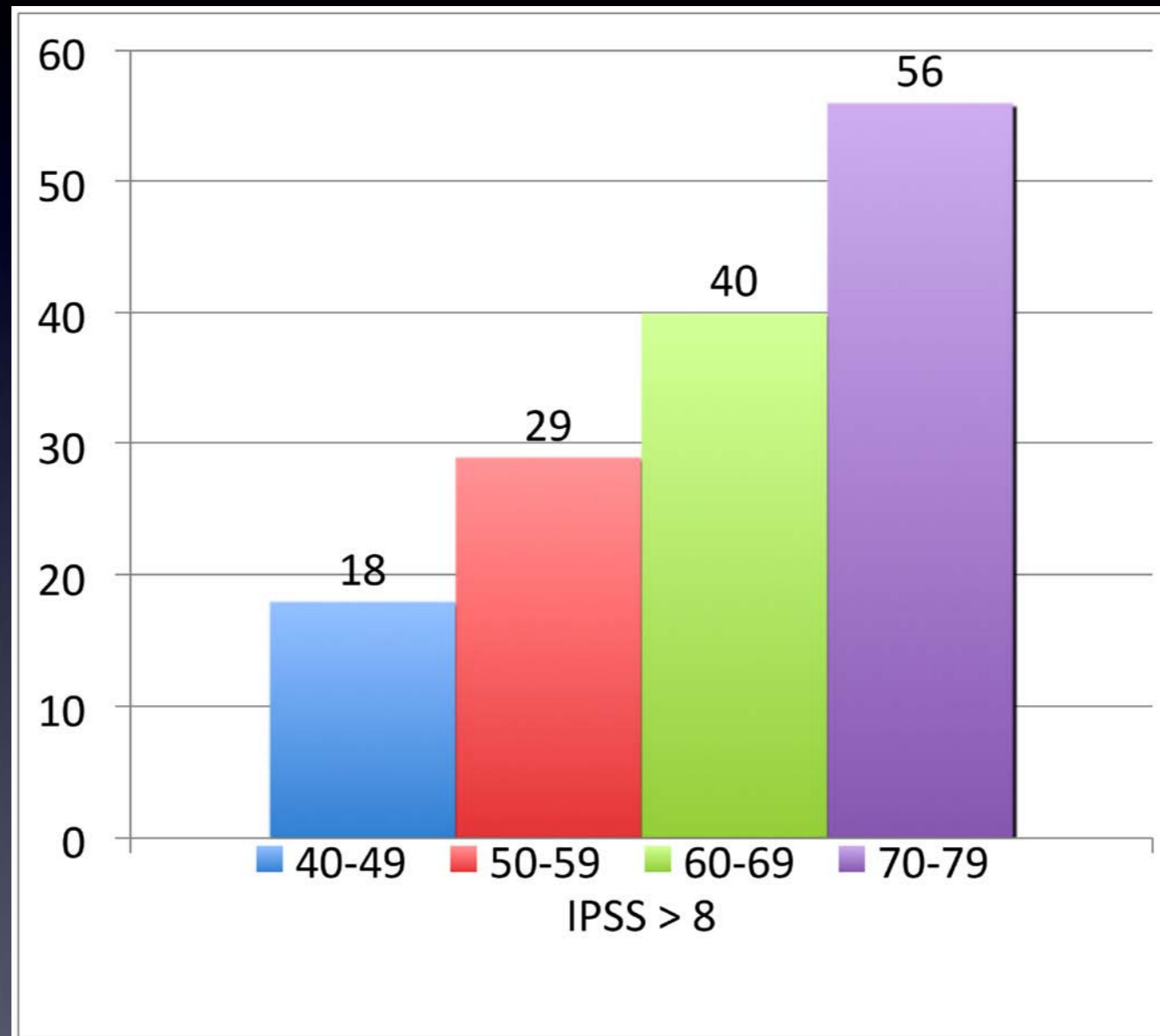
Background: The prevalence of lower urinary tract symptoms was determined by survey as an initial step in estimating the significance of benign prostatic hyperplasia (BPH) in Asia and Australia.

Methods: The symptom index (0 to 35) and quality-of-life (QOL) index (0 to 6) of the international prostate symptom score were measured in 7588 men in 9 Asian countries and 146 men in Australia.

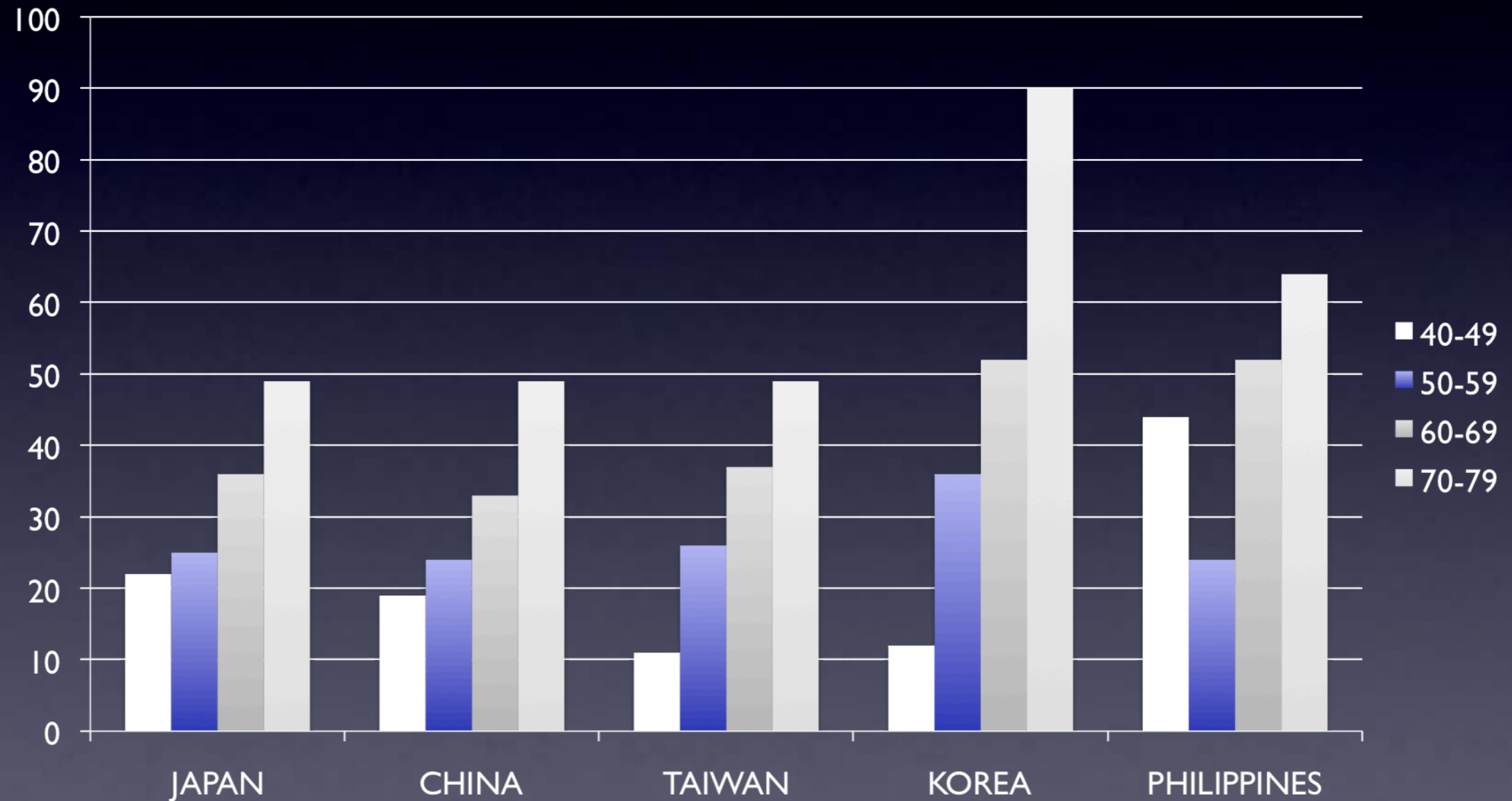
Results: The percentages of Asian men considered to be symptomatic (symptom index ≥ 8) were 18%, 29%, 40%, and 56% in the age groups of 40 to 49, 50 to 59, 60 to 69, and 70 to 79 years, respectively. For Australian men, these figures were 36%, 33%, and 37% in the 50 to 59, 60 to 69, and 70 to 79 year age groups, respectively.

Conclusions: Our estimates indicate that the prevalences of symptomatic men in Asia and Australia are similar to or greater than those in Europe and America, and suggest BPH is similarly common in these areas.

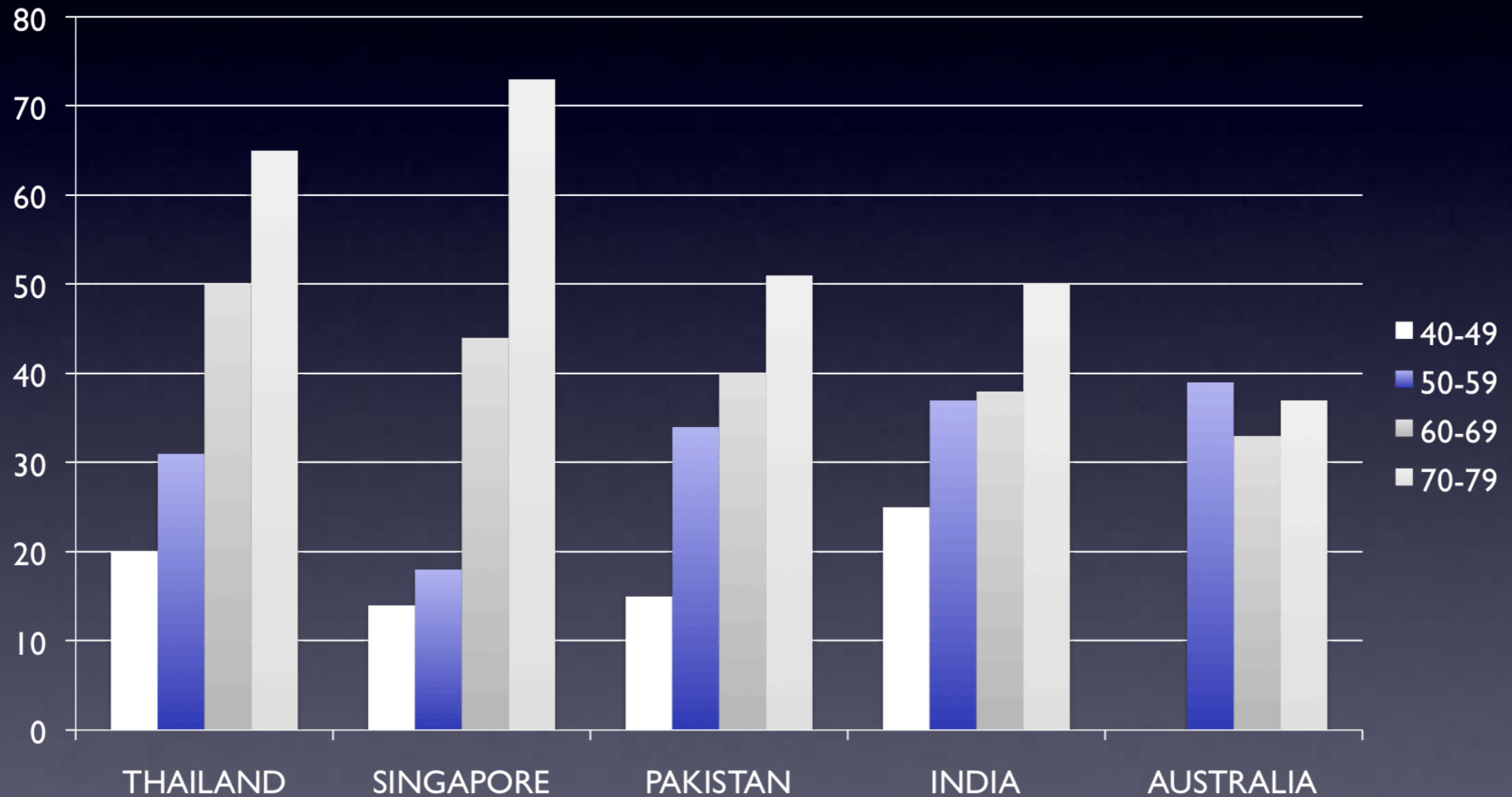
PERCENTAGE OF ASIAN MEN WITH IPSS ≥ 8 ACCDNG TO AGE GROUP



FREQUENCY OF ASIAN MEN WITH IPSS ≥ 8 ACCORDING TO AGE GROUP AND COUNTRY

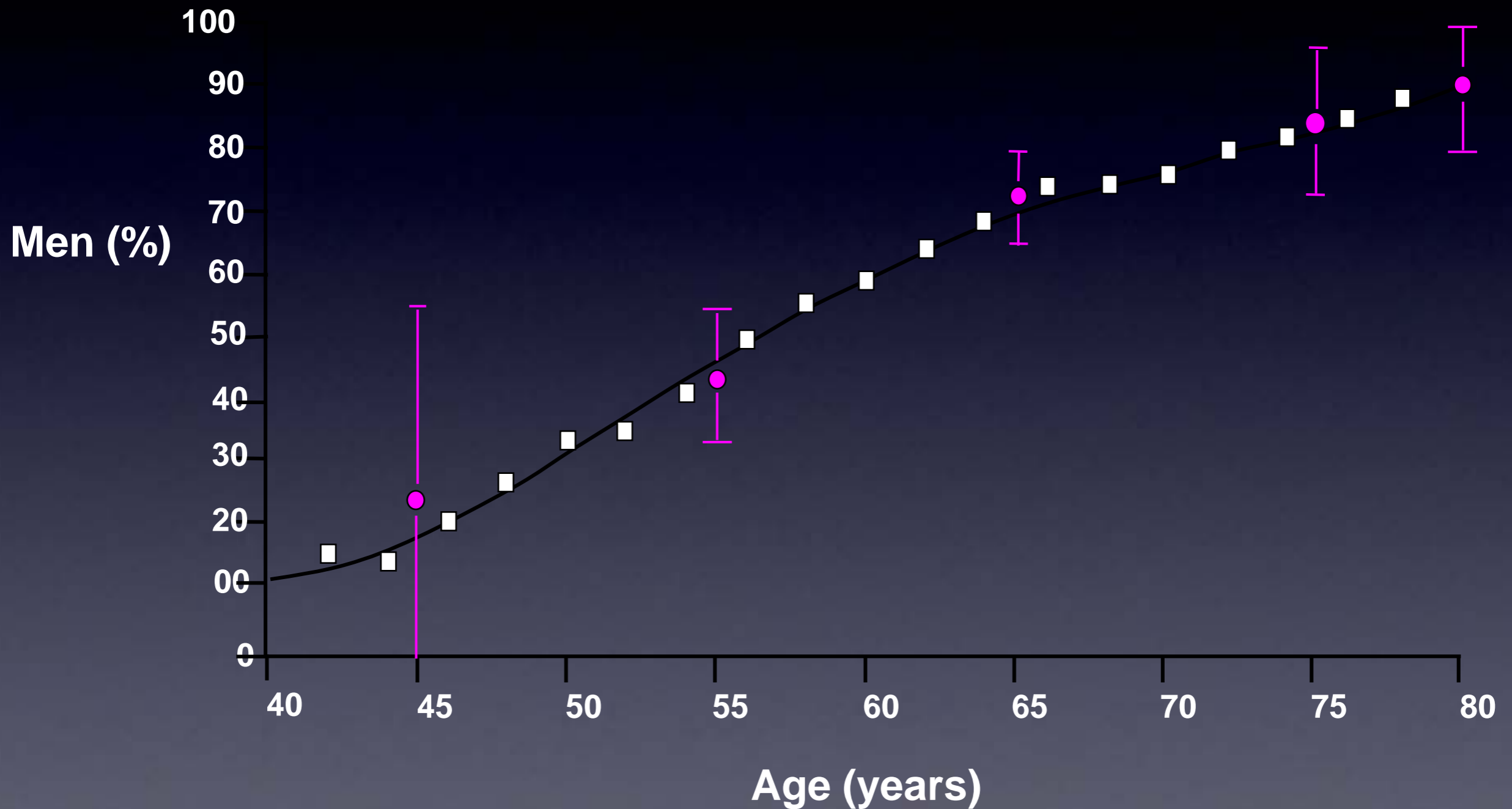


FREQUENCY OF MEN WITH IPSS ≥ 8 ACCORDING TO AGE GROUP AND COUNTRY



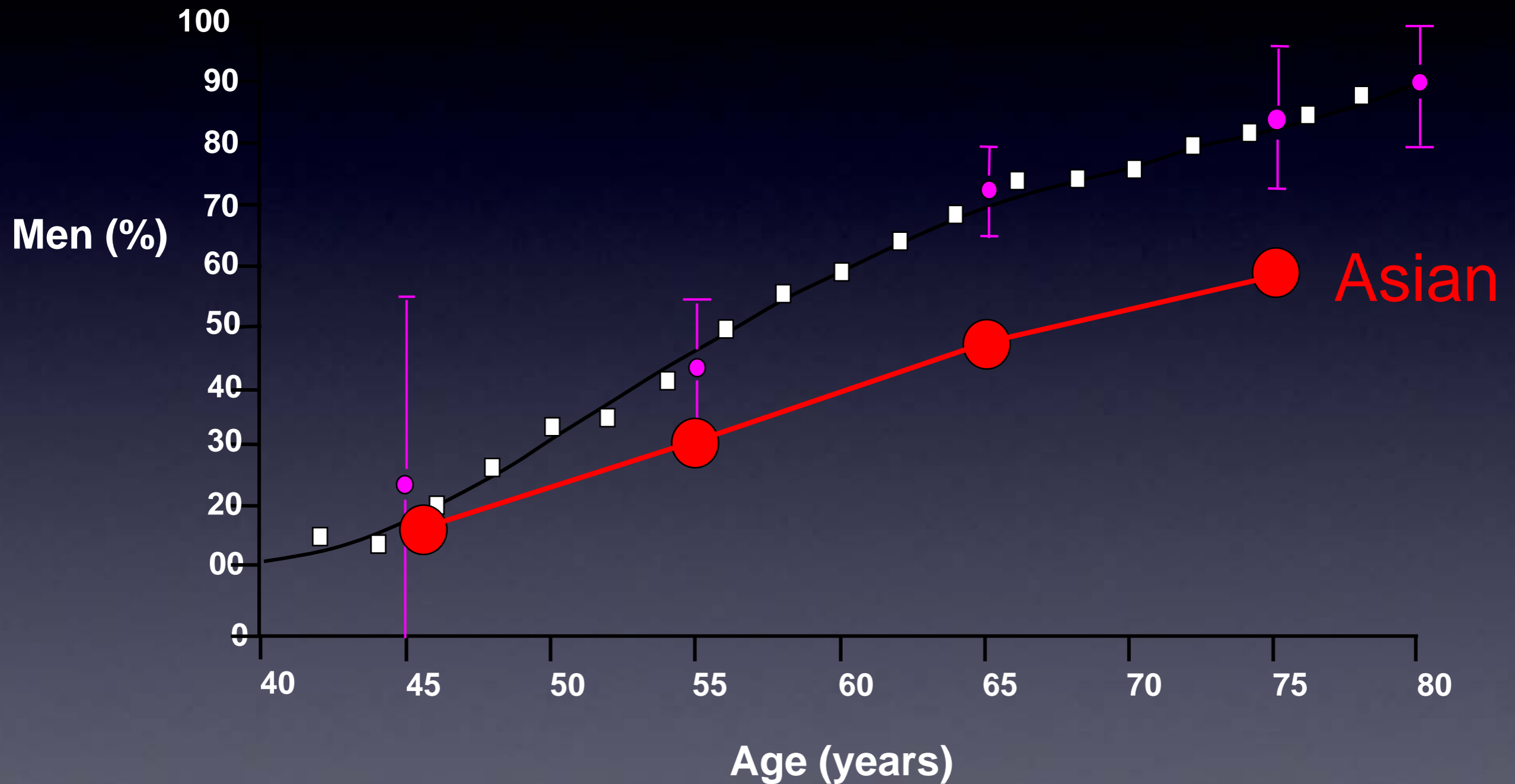
Why is there a perception that BPH and LUTS are lower among Asian men as compared to their western counterparts?

Epidemiology of BPH: age-specific prevalence

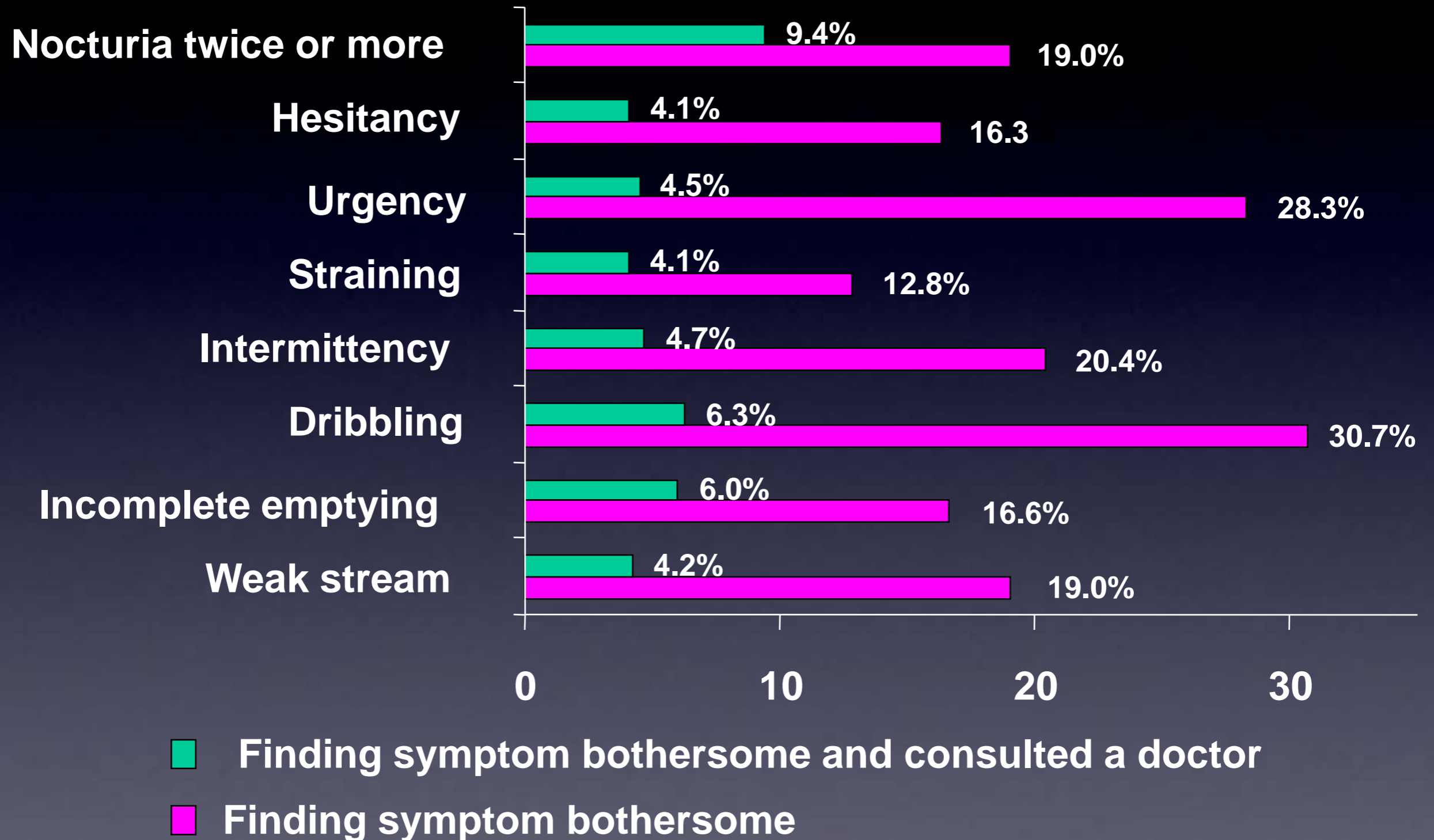


Guess HA et al. Prostate 1990; 17: 241-6

Epidemiology of BPH: age-specific prevalence



Men consulting a physician



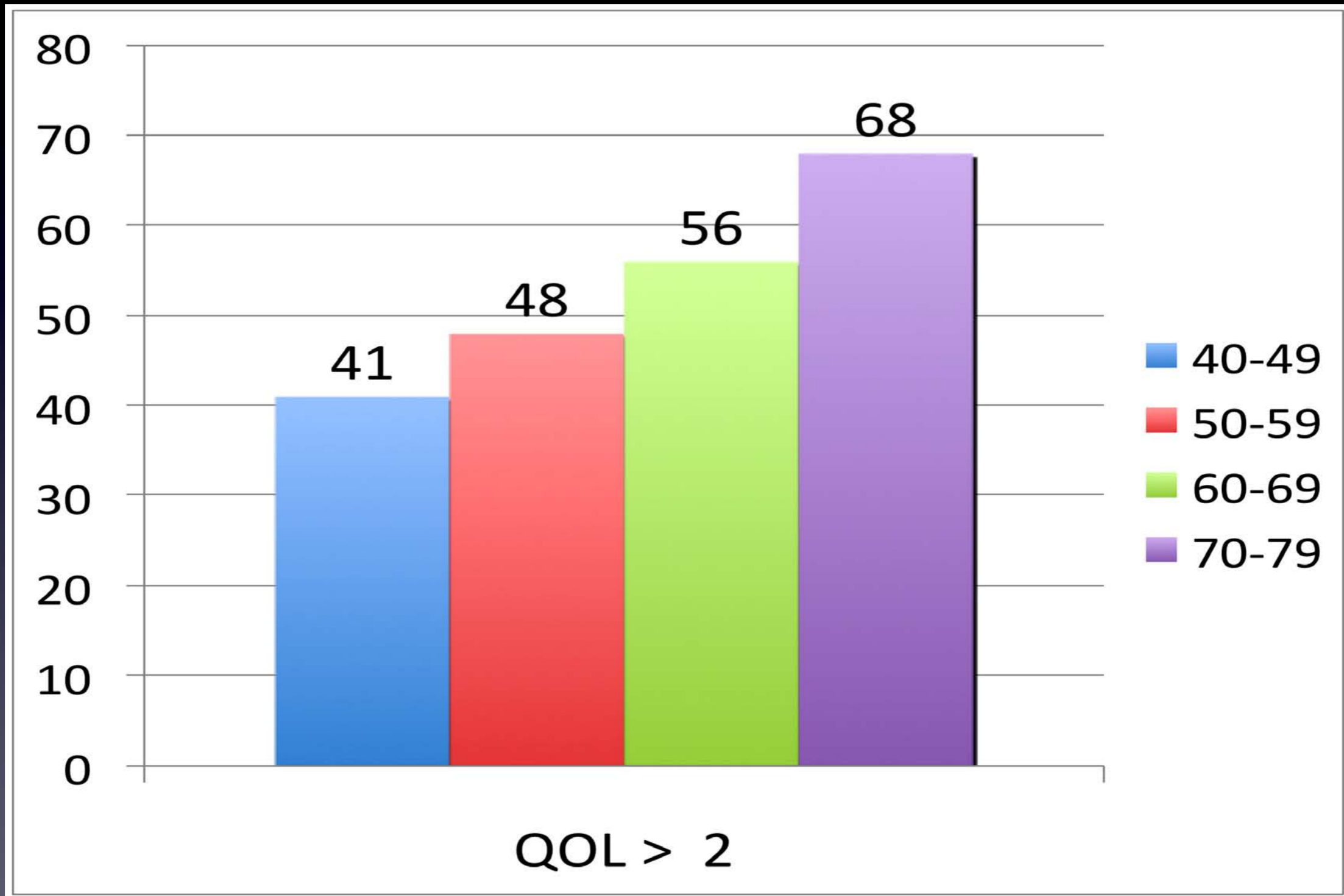
I-PSS 8th question

*Bother score due to LUTS is sometimes deemed as most important

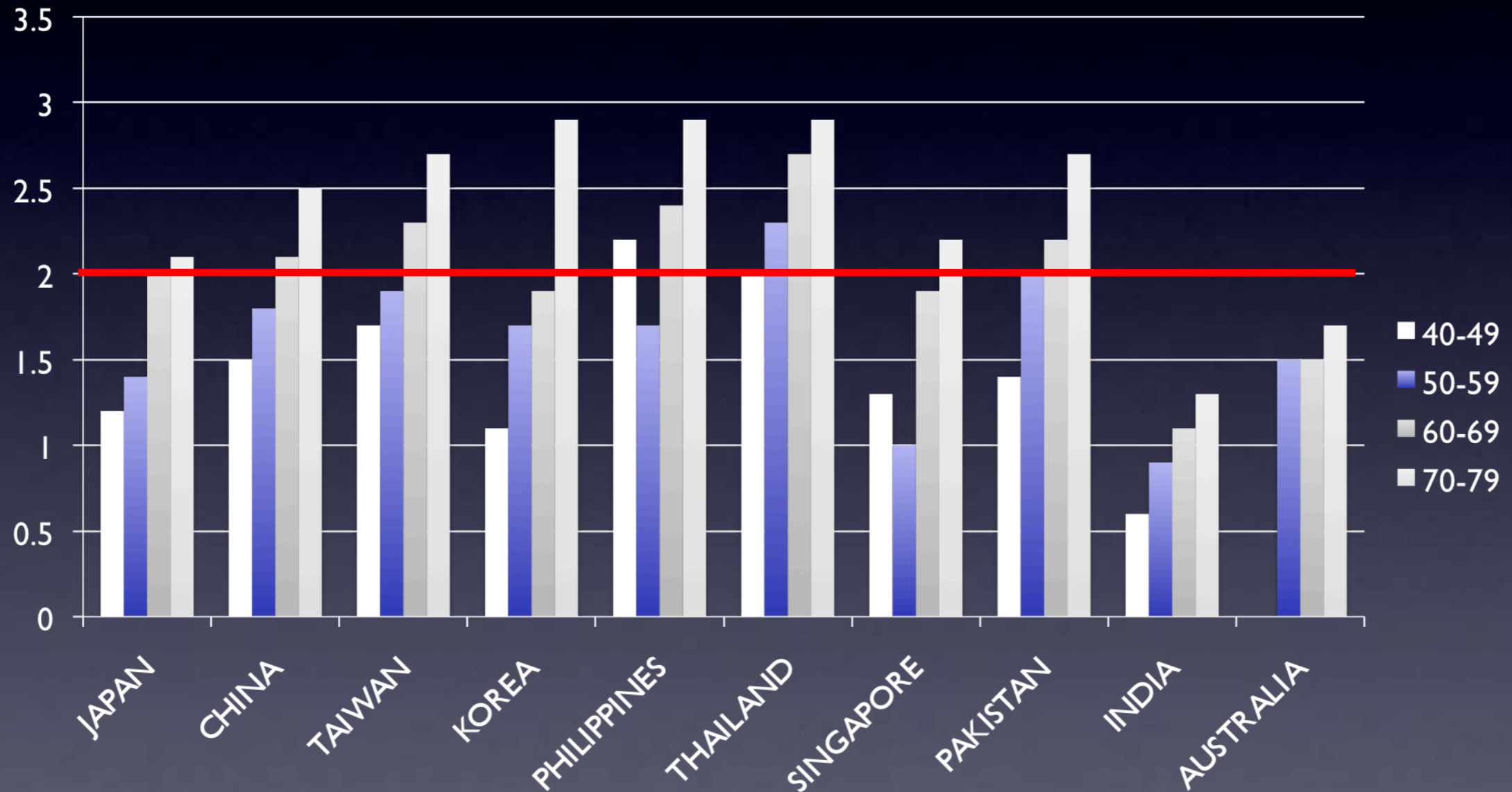
If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?	Delighted	Pleased	Mostly satisfied	Mixed- about equally satisfied and dissatisfied	Mostly dissatisfied	Unhappy	Terrible
	0	1	2	3	4	5	6

BOTHER SCORE (BS) = _____

QOL > 2 AMONG ASIANS ACCDGD TO AGE GROUP



QOL_(AVE) SCORES ACCDGD TO AGE AND COUNTRY



In Singapore....

- The prevalence of prostatic symptoms was approximately 3 or more times less than in the Scottish, United States and Japanese populations, while
- the prevalence of bother was approximately 10 times less.
- For symptomatic individuals there was poor correlation between symptom severity and bother scores.
- Bother scores correlated better with quality of life scores and were more closely associated with health seeking behavior than symptom severity scores.

In Japan...

- No significant differences in symptomatology between Japanese and American men
- However, Japanese men tended to report 50% less bother than American men with the same symptoms
- Less clinical BPH/ less TURP

In Korea...

- Of the subjects with BPH...
 - 12% consulted friends and spouses
 - 45% consulted healthcare professionals
 - 43% never consulted because they felt the condition was part of aging and untreatable, embarrassing, or were fearful of cancer

Economic Costs

Treatment and Productivity Loss

REPORTS

The Cost of Treating the 10 Most Prevalent Diseases in Men 50 Years of Age or Older

*Thomas C. Fenter, MD; Michael James Naslund, MD, MBA;
Manan B. Shah, PharmD, PhD; Michael T. Eaddy, PharmD, PhD;
and Libby Black, PharmD*

Abstract

Objective: Costs of treating the 10 most prevalent diagnosed diseases in men ≥ 50 years of age were examined in hopes of identifying areas for better medical management and opportunities to decrease healthcare costs.

Methods: A retrospective analysis of a large national managed care database was utilized to assess the costs of treating the 10 most diagnosed diseases in aging men. All men initiating pharmacy treatment between July 1, 1997, and January 31, 2003, for (1) hypertension; (2) coronary artery disease (CAD); (3) type 2 diabetes; (4) enlarged prostate; (5) osteoarthritis; (6) gastroesophageal reflux disease; (7) bursitis; (8) arrhythmias; (9) cataracts; and (10) depression were included. Patients were continuously followed 6 months before and 12 months after initiating treatment. Costs of treatment and likelihood of experiencing

Despite having most of the social determinants of health in their favor, men have higher mortality rates for all 15 leading causes of death and are more likely to die than women at every stage of life.^{1,2} This imbalance has been associated with men exhibiting one of the most precarious health behaviors: a delay in seeking medical treatment in response to physical symptoms.^{1,3-5} Male-related factors, such as stoicism and an inability to leave the workforce to seek medical care, have been some of the challenges associated with this behavior.

In addition to these challenges, the attention given to men's health has been considerably less than that of women's health. As

Costs of treating the enlarged prostate

- total annual medical costs \$400-500
- highest likelihood of a clinical event within 1 year of treatment
- annual risk for AUR or surgery 19.2%
- represents a therapeutic area with highest likelihood of impact

ECONOMIC COSTS OF BENIGN PROSTATIC HYPERPLASIA IN THE PRIVATE SECTOR

CHRISTOPHER S. SAIGAL,* GEOFFREY JOYCE

From the Department of Urology, University of California-Los Angeles, Los Angeles and RAND Health, Santa Monica, California

ABSTRACT

Purpose: Several studies document the impact of benign prostatic hyperplasia (BPH) in working, aged men. Direct medical costs related to BPH treatment are largely borne by employees through higher premiums. However, indirect costs related to lost work are primarily borne by the employer. In this study we used claims data and absentee records from large employers to estimate the costs associated with BPH in working age males.

Materials and Methods: We used 2 data sources to examine direct and indirect costs associated with BPH in a privately insured, nonelderly population. Multivariate regression models were used to predict spending for persons with and without a medical claim for BPH, controlling for relevant covariates. Data on work loss were linked to medical claims to estimate work loss related to treatment for BPH.

Results: Mean annual expenditures were \$4,193 for men without a medical claim for BPH. In contrast, annual spending was \$5,729 for men with a claim for BPH. Thus, the incremental cost associated with a diagnosis of BPH was \$1,536 yearly. Overall the average employee with the condition missed 7.3 hours of work yearly related to BPH with approximately 10% reporting some work loss related to a health care encounter for BPH.

Conclusions: Treatment of men with BPH places a significant burden on employees and their employers through direct medical costs as well as through lost work time. Direct and indirect costs to the private sector related to BPH treatment are estimated to be \$3.9 billion.

KEY WORDS: prostate; costs and cost analysis; prostatic hyperplasia; insurance, major medical; economics, medical

Economic Burden

- Average annual expenditure \$5,729
- Incremental Cost of diagnosis \$1,536
- Mean Annual expenditure \$4,193
- Missed 7.3 hours of work annually
- 10% work loss due to a health care encounter
- Direct and Indirect costs est. \$3.9B



Medicine vs Surgery



intervention	insurance cost	medicare cost	duration of response	days lost
alpha blockers	\$2422	\$1820	2y	8
5-ARIs	\$2860	\$2161	2y	8
TURP	\$6411	\$3874	2y	22

Loss of productivity in pre-retirement men

Hourly frequency



10 minutes per visit



1 hour per day
or 15% of time



Result: loss to employer of
\$8300 (€8368) for a \$55,200 salary

What is the cost in
Asia?

Conclusions

- BPH and LUTS in Asia is among the most prevalent disease to affect men beyond the middle age with a prevalence ranging from 16-22%
- Patterns of IPSS severity in Asia are similar to the Western countries
- There seems to be less perception of the degree of bother brought about by LUTS among Asian males

Conclusions

- More large scale, community based studies are needed to assess the true incidence and prevalence, economic impact, reduction in quality of life and productivity of men suffering from moderate to severe LUTS and BPH in Asia.

Acknowledgments

- Prof. Ji Youl Lee, MD (Korea)
- Prof. Foo Keong Tatt, MD (Singapore)
- Prof. Bannakij Lojanapiwat, MD (Thailand)
- Prof. Shih Ping Liu, MD (Taiwan)
- Prof. Henry Woo, MD (Australia)
- Prof. David Consiglieri (Singapore)
- Prof. Chris Cheng, MD (Singapore)
- Prof. Clarence Lei, MD (Malaysia)
- Prof. Reynaldo Dela Cruz, MD (Philippines)
- Dr. Francis Arkoncel (Philippines)



thank you