

Knowledge about urology in the general population: alarming results

Louis-Olivier Gagnon, MD; Andréanne Simard; Le-Mai Tu, MD, MSc, FRCSC

See related article on page 392

ABSTRACT

Introduction: For different reasons, urology appears to be one of the least known specialties in medicine. In this study, the main objective was to measure the knowledge about urology in the general population.

Methods: A questionnaire was completed by 150 respondents. Seventy-five respondents were from Sherbrooke, QC (a French-speaking city) and 75 were from Burlington, VT (an English-speaking city).

Results: Of the 150 respondents, 75% (113) said they knew little or nothing about urology and 63% (95) did not know that urology involves surgery. Also, when asked to name 3 diseases within the field of urology, 59% (89) of the respondents were unable to name at least 1 disease.

Conclusion: This study demonstrates the lack of knowledge about urology in the general population. As urologists, we have to consider the need to conduct an informational campaign to increase the awareness of urology and the services urologists provide.

Can Urol Assoc J 2009;3(5):388-91

Résumé

Introduction : Pour toutes sortes de raisons, l'urologie semble être une des spécialités les moins connues de la médecine. Notre étude avait pour principal objectif de vérifier les connaissances de la population générale en ce domaine.

Méthodologie : Un questionnaire a été rempli par 150 personnes, réparties comme suit : 75 personnes de Sherbrooke, au Québec (ville francophone), et 75, de Burlington, au Vermont (ville anglophone).

Résultats : Sur les 150 répondants, 75 % (113) avouaient avoir des connaissances faibles ou nulles dans le domaine de l'urologie et 63 % (95) ignoraient que la chirurgie peut parfois être utilisée comme traitement urologique. En outre, lorsqu'on a demandé aux répondants de nommer 3 maladies traitées par un urologue, 59 % (89) des répondants étaient incapables de nommer seulement une maladie.

Conclusion : L'étude illustre le manque de connaissances de la population générale dans le domaine de l'urologie. En tant qu'urologues, nous devons reconnaître la nécessité de mener une campagne d'information afin de sensibiliser la population au sujet de l'urologie et des services que nous offrons.

Introduction

Urology is the branch of medicine and surgery involved with the study, diagnosis and treatment of diseases of the genito-urinary tract of the male and the urinary tract of the female.¹ It has been practised for centuries and represents an important specialized field of medicine. However, for different reasons, urology appears to be one of the least known specialties in medicine. In fact, when mentioning the discipline of urology in conversation, it is often confused with other specialties.

With increased and improved knowledge about urology, patients could be consulted and treated earlier for urological problems; this knowledge could also lead to disease prevention.

The main objective of this study was to evaluate the knowledge of urology in the general population, with the use of a questionnaire. The secondary objective was to compare the knowledge about urology in two different cultures: a French-speaking culture from Canada and an English-speaking culture from the U.S.

Methods

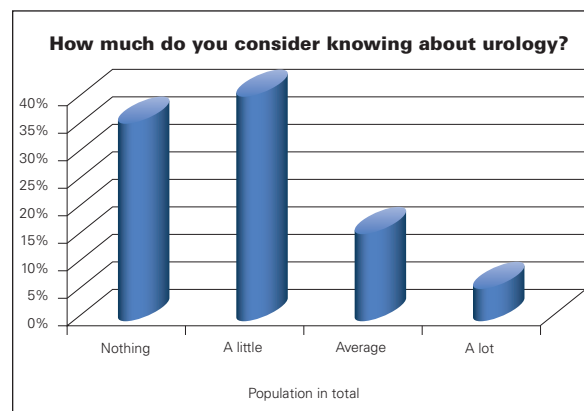
The study included 150 respondents: 75 living in Sherbrooke, a French-speaking city in Quebec, Canada, and 75 living in Burlington, an English-speaking city in Vermont, U.S. Data were collected through a written questionnaire; the questionnaire contained 3 questions related to personal information and 5 questions related to urology (see Appendix). A stand was set at a local public area and the first 75 people to complete the questionnaire became part of the study. Participants completed the questionnaire under the supervision of a member of the research team.

The responses were recorded and the groups were compared for statistical analysis. Differences between the groups were assessed with the Student t-Test for continuous variables and with the Chi-square or Fisher's exact test (when frequencies were less than 5) for categorical variables. A *p* value less than 0.05 was considered statistically significant.

Table 1. Demographics for respondents

	Sherbrooke	Burlington	Total	<i>p</i> value
Age, yrs Mean (SD)	50 (20)	47 (21)	49 (20)	0.357
Gender, % (no.)				
Male	45% (34)	49% (37)	47% (71)	0.624
Female	55% (41)	51% (38)	53% (79)	
Education level, % (no.)				
High school or less	51% (38)	57% (43)	54% (81)	0.413

SD = standard deviation

**Fig. 1.** Chart illustrating knowledge of urology.

Results

The mean age of respondents was 49 (13 to 87). Over half of the respondents (53%, $n = 79$) were women and 54% (81) had a high school education or less (Table 1). Of the 150 participants, 35% (53) said they knew nothing about urology, 40% (60) knew little about urology and only 25% (37) said they had an average knowledge or better about urology (Fig. 1; Table 2). Only 37% (55) of the respondents knew that urology involves surgery.

Also, when asked to name 3 organs within the scope of urology, 39% (58) of the participants were unable to name

at least 1 organ. The most popular organs mentioned were bladder (44%), kidney (34%) and urethra (17%) (Table 3). Miscellaneous answers for this question included brain, heart and spinal cord (Table 4). Furthermore, when asked to name 3 diseases within the realm of urology, 59% (89) of the respondents were unable to name at least 1 disease. The most popular diseases were prostate cancer (17%), urinary tract infection (14%), bladder cancer (7%) and urinary incontinence (7%). Miscellaneous answers included diabetes, Alzheimer's disease and skull fracture.

Overall, the Sherbrooke and Burlington groups were

Table 2. Urology knowledge in Sherbrooke and Burlington

Question, % (no.)	Sherbrooke	Burlington	Total	<i>p</i> value
How much do you consider knowing about urology?				
Nothing	41% (31)	29% (22)	35% (53)	0.394
A little	39% (29)	41% (31)	40% (60)	
Average	16% (12)	24% (18)	20% (30)	
A lot	4% (3)	5% (4)	5% (7)	
Does urology involve surgery?				
Yes	40% (30)	33% (25)	37% (55)	0.232
No	19% (14)	31% (23)	25% (37)	
Don't know	41% (31)	36% (27)	39% (58)	
Is urology a discipline that treats men, women or both?				
Men	7% (5)	5% (4)	6% (9)	0.920
Women	3% (2)	1% (1)	2% (3)	
Both	81% (61)	81% (61)	81% (122)	
Don't know	9% (7)	12% (9)	11% (16)	
Write the name of 3 organs concerned by urology.				
0 answers	43% (32)	35% (26)	39% (58)	0.550
1 answer	13% (10)	15% (11)	14% (21)	
2 answers	20% (15)	29% (22)	25% (37)	
3 answers	24% (18)	21% (16)	23% (34)	
Write the name of 3 diseases concerned by urology.				
0 answers	61% (46)	57% (43)	59% (89)	0.280
1 answer	13% (10)	24% (18)	19% (28)	
2 answers	16% (12)	15% (11)	15% (23)	
3 answers	9% (7)	4% (3)	7% (10)	

Table 3. The most popular organs and diseases mentioned by respondents

	Total
Most popular organs mentioned, % (no.)	
Bladder	44 (66)
Kidney	34 (51)
Urethra	17 (26)
Most popular diseases mentioned, % (no.)	
Prostate cancer	17 (25)
Urinary tract infection	14 (21)
Bladder cancer	7 (10)
Urinary incontinence	7 (10)

demographically comparable (Table 1) and no statistically significant difference was found between the 2 groups for any of the questions.

Discussion

The results demonstrate poor urology knowledge among the French- and English-speaking populations. The main observations are that as much as 75% (113) of the respondents said they knew little or nothing about urology and that 63% (95) of the participants did not even know that urology involves surgery. In addition, knowledge about organs and diseases within the scope of urology was very weak.

The fact that no differences were found between the 2 cultures suggests that the lack of urology knowledge goes beyond language or cultural boundaries. Differences between the 2 cities could have been expected due to the different languages and educational backgrounds.

The results of this study are valuable. One of the goals of this survey was to inform urologists about the lack of urology knowledge among the general population. Urologists, like all medical professionals, should educate patients about their disease and the diagnostic and treatment options available to them. With the results of this study, urologists may want to emphasize education with their patients. As urologists, we have to consider the need to conduct an informational campaign to increase the awareness of urology and urology services among the general population. Information about urology on the Internet, through different urological associations or advertisements in the mass media are options to be explored. In a public health-care system, like the one in Canada, the purpose of these campaigns would be education and prevention. In a privately funded system, like the one in the U.S., this education and visibility become even more important.

The results of this concur with a report recently published in the U.S.² This American study revealed insufficient general urological knowledge with regard to the primary

Table 4. Other organs and diseases mentioned by respondents

	Total
Organs, no.	
Brain	6
Bowel	5
Heart	5
Uterus	5
Vagina	5
Liver	3
Stomach	3
Lungs	2
Spleen	2
Spinal cord	1
Diseases, no.	
Diabetes	5
Alzheimer's disease	2
Vaginitis	2
Parkinson's disease	1
Skull fracture	1

care setting. Questionnaires were completed by 150 attendings, residents, fellows and medical students; results revealed that knowledge about various conditions including hematuria, recognition of an abnormality in prostate-specific antigen and overactive bladder was low for all groups. This lack of urological knowledge extends beyond the general public, but includes the medical community as well.

The limitations of the study include the small sample size and the selection bias. The size of the population (150) was chosen to give a good representation of both populations, but may not be sufficient to provide significant power for statistical analysis. Also, the location, date and time of the surveys were selected by the research team. For practical purposes, the surveys occurred on 2 different weekdays, in the daytime, and in 2 shopping centres. Even if random selection was applied, selection bias may be expected.

Conclusion

This study reveals the lack of knowledge about urology in the general population. As urologists, we have to consider the need to conduct an informational campaign to increase the public's awareness of urology and of the services urologists provide. In being more informed about the specialty, patients may be inclined to consult earlier for urological problems. For this reason, better information may have a positive effect on the prevention and treatment of urological diseases.

From the Centre Hospitalier Universitaire de Sherbrooke (CHUS), Université de Sherbrooke, Sherbrooke, QC

This paper has been peer-reviewed.

Competing interests: None declared.

References

1. The Royal College of Physicians and Surgeons of Canada. Objectives of training in urology. Available at <http://rcpsc.medical.org/information/index?specialty=360&submit=Select> (Accessed August 10, 2009).
2. Mishail A, Shahsavari M, Kim J, et al. Deficits in urological knowledge among medical students and primary care providers: Potential for impact on urological care. *J Urol* 2008; 180:2140-7.

Correspondence: Dr. Louis-Olivier Gagnon, Centre Hospitalier Universitaire de Sherbrooke (CHUS), Université de Sherbrooke, 3001, 12^e avenue Nord, Sherbrooke, QC J1H 5N4; louis.olivier.gagnon@gmail.com

Appendix. Urology Questionnaire

How much do you consider knowing about the discipline of Urology? (Circle the number)

- 1 Nothing
- 2 A little
- 3 Average
- 4 A lot

Does Urology involve surgery? (Circle the number)

- 1 Yes
- 2 No
- 3 Don't know

Is Urology a discipline that treats men, women or both? (Circle the number)

- 1 Men
- 2 Women
- 3 Both
- 4 Don't know

Write the name of 3 organs concerned by Urology.
(Write 0, 1, 2 or 3 answers according to your knowledge.)

Write the name of 3 diseases concerned by Urology.
(Write 0, 1, 2 or 3 answers according to your knowledge.)