

# Knowledge and attitudes of men about prostate cancer

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**P**rostate cancer remains the most commonly diagnosed non-cutaneous cancer and the second most common cause of cancer mortality in Australian men.<sup>1</sup> Incidence rates increase dramatically over the age of 65 years, with mortality rates increasing more rapidly over the age of 70.

When discussing prostate cancer with at-risk patients, general practitioners often find themselves having to balance the demands and expectations of individuals — who are often influenced by personal experience of having a family member or friend with the disease<sup>2</sup> — with screening guidelines that are predominantly non-interventionist.<sup>3</sup> We aimed to ascertain the current level of understanding about prostate cancer, the treatment options available and their potential side effects among an age group of men who are likely to need such information in the near future.

## METHODS

The study was undertaken between January and August 2006 in five general practices: three in metropolitan Perth and two in regional areas of Western Australia. The target population was a convenience sample of men aged 40–80 years, with or without prostate cancer, presenting to their GP for routine consultations. A total of 516 men were invited to participate. Only patients who provided written informed consent were included in the survey.

The questionnaire (based on that used by Brett<sup>4</sup>) was administered verbally by the GP during the consultation. It comprised 17 multiple-choice questions designed to ascertain patients' prior experience with prostate cancer (personal, family or close friends), prior investigations for prostate cancer, and knowledge of prostate function, prostate cancer symptoms and treatment options. Several questions assessed attitudes to treatment side effects and decision making. Patients were provided with various options to choose from and, in some questions, could nominate more than one option. Age, occupation, race and education level were also recorded.

The study received approval from the University of Notre Dame Australia Human Research Ethics Committee.

## ABSTRACT

**Objective:** To ascertain the current level of understanding among older men about prostate cancer, including treatment options and their potential side effects.

**Design and setting:** Questionnaires administered by general practitioners in five general practices in the Perth metropolitan and regional areas of Western Australia.

**Participants:** Convenience sample of 503 men aged 40–80 years, with or without prostate cancer, presenting for routine consultations between January and August 2006.

**Main outcome measure:** Knowledge and attitudes of men about prostate cancer, and predictors of knowledge.

**Results:** Eighty per cent of men did not know the function of the prostate, and 48% failed to identify prostate cancer as the most common internal cancer in men. Thirty-five per cent had no knowledge of the treatments for prostate cancer and 53% had no knowledge of the side effects of treatments. Asked how they would arrive at a decision about treatment, 70% said they would ask the GP or specialist for information on all their options and then decide themselves.

**Conclusion:** There is a deficit in knowledge about prostate cancer among men in the at-risk age group, encompassing areas that could delay diagnosis and treatment. Overall, the men preferred some GP or specialist involvement in treatment decision making.

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## Data analysis

Results are presented as frequencies and odds ratios, with 95% confidence intervals. Odds ratios were calculated using the survey-logistic procedure in SAS, version 9.1 (SAS Institute, Cary, NC, USA), stratified by general practice to account for cluster sampling. All associations were adjusted for potential confounding effects of age. A *P* value <0.05 was considered statistically significant.

## RESULTS

The study cohort comprised 503 men (participation rate, 97%), with a median age of 62 years (interquartile range, 18 years). Ninety-seven per cent (95% CI, 95%–98%) identified themselves as Caucasian. Fifty-three per cent (95% CI, 49%–58%) had received an education to high school level, and 40% (95% CI, 36%–44%) had a higher qualification. Just over half the cohort had some previous exposure to prostate cancer; 30% (95% CI, 26%–34%) had a friend with the disease and 6% (95% CI, 4%–8%) had the disease themselves. Of the 82 men (16%; 95% CI, 13%–20%) with a family history of prostate cancer, 61% (95% CI, 50%–72%) said their father had the disease,

6% (95% CI, 2%–14%) said their grandfather had it, and 18% (95% CI, 11%–28%) and 15% (95% CI, 7%–24%) said their brother or uncle, respectively, had prostate cancer.

Three quarters (95% CI, 71%–79%) of the cohort had undergone one or more previous prostate-related examinations. The most common tests undertaken were prostate-specific antigen (PSA) (59%; 95% CI, 54%–63%) or digital rectal examination (56%; 95% CI, 51%–60%). Only 5% had undergone transrectal ultrasound (95% CI, 4%–7%) and/or biopsy (95% CI, 4%–8%).

## Patients' knowledge of prostate cancer and available treatments

Twenty per cent (95% CI, 16%–24%) of respondents knew the function of the prostate. Prostate cancer was correctly identified as the most common internal cancer in men by 52% (95% CI, 47%–57%). A majority of men believed that prostate cancer was very or somewhat likely to cause difficulty with urination (94%; 95% CI, 92%–96%), impotence (89%; 95% CI, 86%–92%), chronic groin pain (73%; 95% CI, 67%–77%) or rapid death (58%; 95% CI, 53%–62%).

When asked to identify treatments for prostate cancer, 35% (95% CI, 31%–40%)

**Adjusted odds ratios (95% CIs) for predictors of knowledge about prostate cancer**

	Aware of treatment options for prostate cancer	Aware of side effects of treatment
Exposure to prostate cancer (personal, family or friend history) v no exposure*	2.20 <sup>†</sup> (1.47–3.29)	1.70 <sup>‡</sup> (1.18–2.46)
Any prostate exam v no exam*	2.10 <sup>‡</sup> (1.31–3.47)	1.76 <sup>§</sup> (1.09–2.84)
High school or higher education v some high school*	2.07 <sup>†</sup> (1.37–3.14)	2.15 <sup>†</sup> (1.47–3.16)
Age (years) <sup>¶</sup>		
40–49 v 70–80	0.82 (0.47–1.44)	1.28 (0.73–2.25)
50–59 v 70–80	2.23 <sup>‡</sup> (1.35–3.69)	2.07 <sup>‡</sup> (1.28–3.34)
60–69 v 70–80	2.22 <sup>‡</sup> (1.35–3.64)	1.85 <sup>§</sup> (1.16–2.98)

\* Adjusted for age and general practice. †  $P < 0.001$ . ‡  $P < 0.01$ . §  $P < 0.05$ . ¶ Adjusted for general practice only. Overall age effect was significant: for "Aware of treatment", Wald  $\chi^2_3 = 20.99$ ,  $P < 0.001$ ; for "Aware of side effects", Wald  $\chi^2_3 = 10.94$ ,  $P < 0.05$ .

said they had no idea, 54% (95% CI, 49%–58%) identified surgical removal of the prostate, 26% (95% CI, 22%–30%) identified radiation therapy, 24% (95% CI, 21%–28%) identified drug/hormone treatments and 4% (95% CI, 2%–5%) identified orchidectomy. Fifty-three per cent of men (95% CI, 48%–57%) said they had no idea about the side effects of treatments. Nearly a third (29%; 95% CI, 25%–33%) identified impotence as a possible side effect, with smaller proportions identifying incontinence (19%; 95% CI, 16%–23%), poor urine flow (17%; 95% CI, 14%–21%) and drug effects (8%; 95% CI, 6%–11%).

### Patients' attitudes to treatment and side effects

Sixty eight per cent (95% CI, 64%–72%) of respondents rated themselves as potent. Only 10% (95% CI, 8%–13%) stated they would refuse treatment for prostate cancer if impotence were a possibility, whereas 16% (95% CI, 13%–19%) said they would refuse treatment if incontinence were a possibility.

When asked about treatment for a slow-growing cancer, 67% (95% CI, 64%–72%) of respondents said they would accept watchful waiting (expectant treatment) with doctor follow-up. However, some of these patients would also request more active treatment, as 51% (95% CI, 47%–56%) responded positively to this option. There was no obvious age-related difference in the latter group. Asked how they would arrive at a decision about treatment, 70% (95% CI, 66%–74%) said they would ask the GP or specialist for all their options and then decide, 12% (95% CI, 9%–15%) said they would try to find out as much as possible

independently, and 27% (95% CI, 23%–31%) reported they would leave it to their GP and/or specialist to decide. Within the 40–49-year age group, 17% (95% CI, 9%–27%) reported wanting to make independent decisions about treatment options, compared with 4% (95% CI, 2%–9%) in the  $\geq 70$ -years age group.

### Factors affecting knowledge and attitudes

Respondents were more likely to correctly identify prostate cancer as being the most common internal cancer in men if they had any previous exposure to the disease (odds ratio [OR], 1.49; 95% CI, 1.03–2.16) or if they had undergone at least one previous examination for it (OR, 2.09; 95% CI, 1.26–3.46). Age, education, prior exposure to prostate cancer (family member, friend or self having the disease) or having had a previous examination had no impact on knowledge of prostate function. However, these factors were associated with an increased awareness of prostate cancer treatment options and side effects (Box). Men aged 50–69 years were more aware of treatments and their side effects than men aged  $\geq 70$  years.

Acceptance of incontinence or impotence as a side effect of treatment for prostate cancer was not associated with having any previous exposure to or previous examination for the disease, level of education, age or current potency.

### DISCUSSION

Approximately half of the men completing our survey had previous exposure to pros-

tate cancer, either through a relative or friend or, less commonly, by having the disease themselves. Knowledge concerning prostate cancer was generally poor, but previous exposure increased knowledge of treatment options and side effects.

There was a high and erroneous expectation among the study population that prostate cancer would be somewhat or very likely to cause impotence. The expectation of pain and problems with urination confirms a lack of knowledge that could lead to fear of how this cancer might progress. Generally, men were accepting of the potential side effects of treatment. Half the cohort did not know that impotence and incontinence were side effects of treatment; however, when specifically asked if they would refuse treatment given that these were possibilities, only a minority said they would. Interestingly, acceptance of these side effects was not related to age, potency or previous exposure to prostate cancer.

The prevalence of prostate examinations in our study was 20% higher than previously reported for any prostate cancer test in Australia and New Zealand.<sup>5–8</sup> However, two of these prior studies<sup>6,8</sup> did not clarify if "any test" included transrectal ultrasound and biopsy, as was the case in our study. PSA tests were more common in our study (59%) compared with a reported prevalence of 43% in WA.<sup>8</sup> While this may be seen as a pitfall of dealing with a clinical cohort rather than a population-based cohort, it is useful in that it provides a natural cohort to assess if previous exposure to tests for prostate cancer has any impact on knowledge of and attitudes to the disease.

Unlike indices of knowledge, having previous exposure to prostate cancer or having had a previous examination for it had no effect on patients' attitudes to treatment side effects. This is not unusual, as previous research has shown that there is no difference in the attitudes of men considering a hypothetical diagnosis of prostate cancer and those already diagnosed with the disease.<sup>9</sup>

Younger men are more likely to want to be involved in treatment decision making.<sup>10,11</sup> Our study showed that men in the 40–49-years age group, though no more knowledgeable than older men (aged  $\geq 70$  years) about treatment options and side effects, were more likely to wish to make independent decisions about treatment options. Overall, the cohort preferred some GP or specialist involvement in treatment decision making.

Patients are generally receptive to information and assimilate information correctly. A brief patient decision aid on PSA testing for prostate cancer has been shown to increase knowledge of benefits and risks associated with undertaking tests.<sup>12</sup> Patients, though aware of their own lack of knowledge and despite believing that their specialist or GP would be the preferred source of information on prostate cancer,<sup>13</sup> are often reticent about asking for more information.<sup>14</sup> It is often up to the doctor (usually the GP) to proffer this information in a suitable manner.<sup>15-17</sup> Better knowledge has been shown to facilitate patient participation in decision making.<sup>11</sup>

This study confirms significant deficits in knowledge about prostate cancer and the available treatment options. Despite the availability of good factual information for patients,<sup>18</sup> GPs still play a central role in the provision of information to at-risk ageing men about the high-technology tests and treatment options that many will inevitably face.

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## COMPETING INTERESTS

None identified.

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