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Prostate cancer screening: knowledge, experiences and attitudes of men aged 40–79 years

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Abstract

Aim The purpose of this study was to explore the knowledge, experiences and attitudes of men aged 40–79 years regarding screening for prostate cancer.

Methods This study was a cross-sectional telephone survey of men aged 40–79 years whose names were randomly selected from the Auckland telephone directory. The study was undertaken in the summers of 2000/2001 and 2001/2002.

Results The response rate was 77% (120/156). Of the men surveyed, 81% (91/113) stated that it was necessary to test for prostate cancer in men without concerns or symptoms. The majority were not aware of complications of treatment.

Conclusions Misconceptions surround prostate cancer screening. We recommend that doctors inform their patients that prostate cancer screening is controversial, and that the effectiveness of treatment for screen-detected prostate cancer is unknown. Individual patients would then be an improved position to decide about participation in screening.

Prostate cancer is the most common cause of cancer-related death in men (3.8%) behind lung cancer (6.1%) and bowel cancer (4%).[1] In terms of new cancers it is the most commonly diagnosed, with 2439 cases reported in 1998. In the same year 1247 new cases of large-bowel cancer and 967 cases of lung cancer were reported. The number of deaths from prostate cancer was 502. This was in the absence of agreement about treatment for clinically localised prostate cancer. A USA study of urologists and radiation oncologists found that urologists would choose radical prostatectomy as their treatment option. Meanwhile, 72% of the oncologists considered surgery and external beam radiotherapy to be equivalent treatments.[2]

Some observational studies show benefit from diagnosing prostate cancer early. However, this does not, in itself, justify screening.[3] Randomized controlled trials are required to assess screening because diagnostic tests in low prevalence settings yield large numbers of false-positive results, each of which requires invasive investigation.[4] The harms from surgical treatment are well documented. In one study 8.4% of men experienced incontinence and 41.9% erectile dysfunction after radical prostatectomy for clinically localised prostate cancer.[5] Moreover, although one published trial claims benefit from screening for prostate cancer,[6] no published randomized controlled trials have yet found a mortality benefit for screening. In the absence of sufficient evidence to screen, the Cancer Society of New Zealand's recommendation of not screening for prostate cancer should stand.[7] A New Zealand editorial noted that different USA institutions had different recommendations for screening for prostate cancer.[8] It further commented that two thirds of the men undergoing an ultrasound and biopsy of the prostate will not have the disease and many will die with their prostate cancer, not

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of it. The purpose of this study was to explore the knowledge, experiences and attitudes of men aged 40–79 years regarding screening for prostate cancer.

Methods

Participants were randomly selected from the Auckland 2000 telephone directory and phoned in the summer of 2000/2001 or 2001/2002. The caller asked if any men present were aged between 40 and 79. If more than one were present, the person whose birthday was first in the calendar year was chosen for the interview. He had the study explained to him and, on giving verbal consent, was administered a structured interview. It comprised 38 questions on knowledge, experiences and attitudes concerning issues around prostate cancer. The questions were taken from other studies and generated by the authors to answer relevant research questions. This study had received ethical approval from the Auckland Ethics Committee. Results were analysed using descriptive statistics and chi-square tests, performed on SPSS v11.

Results

The response rate was 77% (120/156). Where the denominator does not add up to 120 in the following results, this is due to missing responses.

Table 1 shows the demographic characteristics of the group.

Table 1. Demographics of study participants (n = 120)

Age mean (SD)	57 (12) years
Ethnicity	
NZ European	104 (89%)
Maori	6 (5%)
Pacific	3 (3%)
Other	4 (3%)
Hold community services card	34 (29%)
Educational history	
Left school before School Certificate	27 (23%)
Secondary school qualification	38 (32%)
Tertiary qualification	52 (44%)
Annual gross income	
<$28 000	30 (27%)
$28 000 to $49 999	38 (34%)
$50 000+	45 (40%)
Perceived health status	
Excellent	29 (24%)
Very good	46 (38%)
Good	32 (27%)
Fair	11 (9%)
Poor	2 (2%)
Ever had or been told have prostate cancer	8 (7%)
Health care	
Median number of visits to a GP in previous 12 months	2 visits, range 0–12
Number of prostate cancer screening tests undergone	57 men had tests from 1 to 12 times over the past 5 years
Have health insurance	52 (43%)

Table 2 shows their knowledge of prostate cancer. Table 3 shows experiences and Table 4 documents attitudes.

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Table 2. Knowledge of prostate cancer and screening among study participants

Areas of knowledge	n (%)
Knowledge of prostate cancer	
No knowledge	29 (24)
Little knowledge	66 (55)
Moderate or high knowledge	25 (21)
Symptoms producing prostate problems*	
Dribbling or thin stream	21 (32)
Having to go again	8 (12)
Frequent urination	24 (37)
Blood in urine	7 (11)
Getting up at night	4 (6)
Stopping and starting	1 (2)
Possible cause of these problems*	
Prostate cancer	27 (19)
Benign prostatic hypertrophy	33 (24)
Kidney disease	2 (1)
Ageing	11 (8)
Other	24 (17)
Identified no cause	43 (31)
Treatments known about*	
Surgery	49 (30)
Radiation	46 (28)
Drugs	20 (12)
Don't know	47 (29)
Complications of treatment*	
Incontinence	1 (0)
Impotence	23 (16)
Other complications	20 (16)
Don't know	81 (65)
Cancer Society advice about prostate cancer screening	
Recommends screening	60 (52)
Does not recommend screening	2 (2)
Don't know	54 (47)

*percentage of responses

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Table 3. Experiences regarding prostate cancer and screening among study participants

All participants:	**n (%)**
Have you ever been offered a test for prostate cancer?	
No	50 (45)
Yes	60 (55)
Of those offered test:	
Has the doctor encouraged or discouraged you from having the test?	
Encouraged	45 (75)
Neither encouraged nor discouraged me	15 (25)
Has your doctor ever given you anything to read about the test?	
No	51(85)
Yes	9 (15)
Duration of time doctor talked about the pros and cons of the test	
Not at all	26 (44)
<5 minutes	26 (44)
5–15 minutes	6 (10)
>15 minutes	1 (2)
Has the doctor told you enough about the pros and cons of the test?	8 (14)
No	51 (86)
Yes	
Which tests do you usually have?	
PSA alone	16 (29)
DRE alone	16 (29)
PSA and DRE	24 (43)
Who usually tests you for prostate cancer?	
GP	53 (98)
Specialist	1 (2)
Why did you agree to be tested for prostate cancer?	
Had symptoms of prostate cancer	16 (30)
Wife or friend recommended it	2 (4)
Media publicity	11 (21)
Male friend or colleague recommended it	8 (16)
Doctor suggested it as had cancer symptoms	1 (2)
Doctor suggested it as part of a regular health check	15 (28)
Where did you learn about treatment?*	
GP	37 (25)
Specialist	10 (7)
Other medical provider	1 (0)
Friends and relatives	40 (27)
Media sources	56 (38)

DRE = digital rectal examination; PSA = prostate specific antigen test; *responses rather than respondents

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Table 4. Attitudes to prostate cancer and screening among study participants

	n (%)
Do you think routine health examinations in well people are important?	
Unimportant	7 (6)
Important	103 (94)
How concerned are you about getting prostate cancer?	
Unconcerned	40 (33)
Concerned	72 (60)
Don't know	8 (7)
How necessary is it to test for prostate cancer in people without concerns or symptoms?	
Unnecessary	9 (8)
Necessary	91 (81)
Don't know	13 (12)
How concerned are you about getting prostate cancer?	
Unconcerned	40 (33)
Concerned	72 (60)
Missing and other	8 (7)

Ownership of health insurance was associated with having both a prostate specific antigen (PSA) test and a digital rectal examination (DRE), $p = 0.020$. Ownership of health insurance was more likely to be associated with concern about getting prostate cancer ($p < 0.0001$) and with having ever been offered a test for prostate cancer ($p < 0.0001$). A history of tertiary education was associated with having ever been offered a test for prostate cancer ($p < 0.001$). Marginally non-significant was an association between an annual gross income of $50 000 or more and concern about getting prostate cancer ($p = 0.059$ one-sided).

Discussion

Of the men interviewed, 94% (103/110) said that having routine health examinations was important and 81% (91/113) stated that screening asymptomatic men for prostate cancer was necessary. Fifty two per cent (60/116) of respondents indicated that the Cancer Society recommends routine screening; only 2% knew that it does not recommend screening for prostate cancer. Fifty five per cent (60/110) had been offered a test for prostate cancer. Seventy five per cent of those offered the test (45/60) reported that their doctor encouraged them to have a prostate-cancer screening test despite the fact that the Cancer Society does not recommend this. This suggests a need to inform doctors regarding screening practice. All but one of the men who reported an offer of prostate cancer screening accepted it. Forty four per cent of them (26/59) recalled no discussion with their doctor about the advantages and disadvantages of having the test. This is a matter of concern given the high proportion of men who believe that screening for prostate cancer is worthwhile, and the high morbidity from surgery. However, most were satisfied with the information they received about the benefits and harms of screening. Ownership of health insurance increased the likelihood of having a DRE and PSA test. Having a digital examination probably represents more thorough practice (although not recommended for screening, it is recommended when looking for clinically presenting prostate cancer) suggesting that the inverse care law applies to those with health insurance; they were

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more concerned about getting prostate cancer and more likely to be offered a screening test for this disease.[9]

The strength of this study was that it involved a random selection of men in the Auckland telephone directory. However, this source favours the 97% of households with telephones in the Auckland urban area[10] and may therefore have missed some men with the lowest incomes. Our sample comprised mainly New Zealand European men (89% compared with 67% in the Auckland urban area and 80% in all of New Zealand).[10] Forty four per cent (52/117) of the participants had a tertiary qualification; the expected percentage in the Auckland urban area for men aged at least 15 is 36%. The response rate of 77% may not be a true reflection of the actual response rate. The interviewer had a concern that, in order to terminate the call, the person answering the telephone might have used the excuse that no one in the defined age group was at home. Reports of past screening behaviour and, in particular, what the doctor did indicate only what participants could recall rather than necessarily what took place.

In telephone interviews with men in Western Australia[11] and New Mexico,[12] 56% and 48% respectively said that they had been tested for prostate cancer. These statistics are similar to the 55% (60/110) offered a test in this study. Another study, conducted in New South Wales, Australia, found that 44% had ever been screened for prostate cancer.[13] Ninety per cent of the New Mexico men stated that prostate cancer screening was important compared with 81% (91/113) in our study.

In the Western Australian study, almost two in every five of the men who reported testing for prostate cancer said they received minimal pre-test counselling or written information.[11] In a USA study of men aged 45 to 70 years with no history of prostate cancer and presenting to a university-based family medicine clinic most could not identify the principal advantages and disadvantages of PSA screening.[14]

An Australian survey found that 68% of general practitioners considered a combination of DRE and PSA effective for prostate cancer screening.[15] A New Zealand survey found that 40% of general practitioners believed that all men aged 50 years or over should be screened using DRE, PSA or both.[16] However, regardless of their beliefs in these tests, over 80% of these doctors screened at least some of these patients with these tests. A study in the USA likewise found that most family physicians screened for prostate cancer using a PSA test in men older than 50 years.[2] Another study of primary care physicians in Missouri found that the majority believed that PSA testing for prostate cancer was a useful procedure.[17] These findings suggest that misconceptions about prostate cancer screening exist, and that they are an issue in a number of countries. There are implications for both doctors and patients.

Three in every five men (72/120) in our study reported concern about getting prostate cancer. When diagnosed with prostate cancer a high proportion of men are asymptomatic.[18] Other men might not be sure whether they have symptoms because some are not well defined. It is understandable, therefore, that patients and doctors should feel a need to screen for the disease. However, our findings indicate that many men and their doctors are unaware of the current evidence on screening for prostate cancer. Men with positive tests are likely to be exposed to potentially harmful and costly diagnostic and therapeutic interventions without knowing whether or not treatment for screen-detected prostate cancer is effective. It is difficult for groups such as the Cancer Society to get their message across to the public unless scientific

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evidence informs the media publicity surrounding prostate cancer in high-profile men. In our study, media sources accounted for 38% (56/148) of the responses describing where participants learnt about treatment. We would suggest a campaign to alert the public to the fact that it is unknown whether treatment for screen-detected prostate cancer is effective and that individuals should discuss this issue with their doctor. Our findings suggest that doctors need appropriate information to deal with such questions. It should include the complications of diagnostic procedures and treatment.

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