

Screening men for prostate cancer in general practice: experiences of men receiving an equivocal PSA (prostate specific antigen) test result

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Although there are often clear benefits from health screening strategies there is also evidence that some individuals experience emotional difficulties when participating, these reactions are often as a result of inconclusive or equivocal results from the screening tests. Most of the research literature explores this from a female perspective – there is less evidence of how men experience the uncertainties of screening. This article presents findings from a qualitative research study exploring the experiences of men who received equivocal results when participating in prostate specific antigen (PSA) testing. The men were drawn from a larger clinical trial to identify men with early signs of prostate cancer. In-depth interviews were conducted with seven men from one general practice in the North of England who had received an equivocal result from PSA testing and subsequent prostate biopsy. Phenomenological analysis revealed five inter-related themes in the men's experiences. The theme *pre-conceptions* centred around men's beliefs about the links between early diagnosis and was linked to their perceptions about *responsibility* towards their own health. However, men also reported feelings of *uncertainty* when receiving results that did not definitely indicate they did or did not have prostate cancer. This uncertainty generated reactions of *stoicism* towards the equivocal result and subsequent participation in further investigations. However, men also reported that participation in PSA screening did make them feel '*looked after*'. These findings are closely comparable with the literature on women's reactions to screening test uncertainty. This is possibly heightened by the lack of clear evidence about the accuracy of PSA testing to detect prostate cancer. These men participated in order to find out if they had prostate cancer or not and seemed unprepared for the possibility of an equivocal result.

Key words: health screening; men's health; prostatic disease

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Introduction

This article presents the findings of a 2003 qualitative study into the experiences of men who received an equivocal prostate specific antigen (PSA) test result following PSA screening and subsequent

prostatic biopsy. PSA screening was offered to identify men with early prostate cancer during a separate clinical trial that aimed to compare outcomes of different treatments for prostate cancer. This article explores the experiences of a small group of these men who received an equivocal PSA result following screening. In other words, they received neither a result that detected the presence of prostate cancer nor complete reassurance that they did not have the disease.

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Background

Prostate cancer is the most common cancer (in number of new cases) in men in Europe, North America and some parts of Africa (Parkin *et al.*, 2001). In the year 2000 there were an estimated 513 000 new cases of prostate cancer world-wide. Studies suggest that most men older than 85 years have histological evidence of prostate cancer at post-mortem (Sakr *et al.*, 1993). Slawin *et al.* (1995) suggests that if prostate cancers are detected whilst confined to the prostate gland they are more likely to be eradicated by treatment.

However, some authors argue that there is also a lack of clear data linking early detection with a favourable outcome (Lu-Yao *et al.*, 2002).

The growing incidence of prostate cancer has been recognized as one of the key areas for action by the UK Department of Health. In response to this, the 'Making progress on prostate cancer' (2004) sets out the UK's prostate cancer strategy by outlining the central elements of future prostate cancer management. Within this strategy, alongside the goals of improving treatment and care for men with prostate cancer, is the aim to improve early detection. This aspect focuses upon the value of PSA testing and the importance of providing information for men to make informed choices, a particularly important aspect given the controversy that often surrounds screening for prostate cancer.

The debate about prostate cancer screening can broadly be summarized as having a number of supporting and detracting arguments (Catalona, 2004; Woolf, 2001). In support, given that prostate cancer is so prevalent and is incurable in its advanced form, early detection can reduce suffering and enable earlier, effective treatment. Screening is particularly important given the lack of symptoms associated with early prostate disease. However, disadvantages are that there is no conclusive proof that early diagnosis provides any benefit, there are potential risks associated with treatment (Brawley, 1997) and, as this article describes, the potential for emotional distress when the results are equivocal.

This article is drawn from the Protec T project, a clinical research study which commenced in 2001 that utilized PSA screening to identify the men at risk of prostate cancer. Those with a PSA over 3 µg/L were offered biopsy. Men with confirmed cancer confined to the prostate were then randomized to receive either surgery, radiotherapy or

watchful waiting. Men were recruited to this trial via their general practitioner (GP). At this point they discussed the accuracy of the test, and the procedure, advantages and disadvantages of biopsy and treatment with a nurse from the research team. The nurses were trained in counselling, PSA screening and prostate cancer. Counselling lasted for around 45 min and the men had a 48 hour cooling off period prior to signing a consent form. The PSA blood test is normally used in the management of prostate cancer to assess the effect on treatment to reduce prostate tumours. Although the PSA is elevated in prostate cancer the PSA test itself does not give a diagnosis. Cancerous changes in the prostate are detected by biopsy only, however, a raised PSA result may indicate presence of the disease. A test taken by a GP usually uses a cut off point of 4 µg/L whereas tests taken during the Protec T trial used 3 µg/L as a cut off. The PSA result is deemed to be equivocal in men with a raised PSA concentration and no detectable prostate cancer from biopsy.

Men's experience of health screening

There is a dearth of evidence into how men view their participation in health screening: this seems based upon the fact that the vast majority of health screening applies to women. There is some evidence that men would support the provision of screening tests for diseases such as prostate cancer, for example, Chapple *et al.* (2002) surveyed the views of men who already had the illness and found the majority were supportive of screening. However, given these men were already ill it could be assumed that they were likely to be strong advocates of screening. In a study exploring responses to PSA testing Cormier *et al.* (2002) described how some men receiving a normal PSA result suffered some negative emotional effects from screening. Unfortunately, beyond this study, there is a lack of empirical literature that explores how 'healthy' men would react to such a screening programme. Furthermore, there is also evidence that many men are unclear about prostate cancer and the debate around PSA screening (Frankel *et al.*, 2003; Pinnock *et al.*, 1998).

However, although men's beliefs and feelings about screening are scarce, there is plentiful evidence of how women react to health screening programmes. Women have had routine cervical

and breast screening for many years and a broad range of information exists on their views on attending screening. There is no doubt that many women view cervical screening, for example, as positive – feeling relieved when in receipt of a normal result (Marteau, 1989).

However, there is also evidence that for those women who receive abnormal or equivocal results from screening, the experience is not always positive and that some women become anxious when taking part in screening. Steggle *et al.* (1998), in their review of 10 studies, suggested that anxiety was a possible consequence of women attending breast cancer screening and Reelick *et al.* (1984) found that an abnormal smear result can lead to tension and depression, something that was particularly profound in women who worried about the result before it is known. Many women who receive a positive smear result feel confused by what their doctors tell them and find it difficult to understand the meaning of the abnormality and what the treatment entails (Kavanagh and Broom, 1997). Anxiety was highest for those referred for further investigation with women exhibiting problems of social adjustment and negative feelings about self (Bell *et al.*, 1995). Furthermore, some authors have argued that cervical screening can also have other psychological impacts upon women's health. For example, Howson (1999; 2001) and Bush (2000) both point out the social pressure upon women to conform to screening programmes (see Box 1).

It is the lack of a male perspective within the literature on health screening that influenced this research study, particularly the way in which a small number of men, not receiving the reassuring or even diagnostic result they expected, reflect upon their participation in screening.

Box 1

- There is little evidence of how men experience participation in screening. Most of the literature explores the thoughts and feelings of women.
- Although health screening brings numerous benefits, there is also evidence that a small number of women suffer emotional distress that is either related to waiting for results or when receiving equivocal or uncertain results.
- There is also research evidence to suggest some women feel socially pressured into participation in health screening.

Aim of the study

This study aims to describe the experiences of men living through an equivocal PSA result following PSA screening and discuss how this understanding adds to the debate about the health screening agenda.

Methodology

Given the paucity of literature and the aim to provide an in-depth account of men's experiences on this topic, adopting a phenomenological approach seemed appropriate. This unfolding, discovering methodology is suited to describing new phenomena with previously undefined concepts. Phenomenology enables the uncovering of truths about reality grounded in peoples' lived experiences. This methodology is also suited to gaining a rich in-depth understanding of a complex human experience by understanding the meaning of experiences of a small set of individuals from their own perspectives (Depoy and Gitlin, 1998). Consequently, the findings are not intended to be generalizable beyond this particular group of men. However, the findings may be of interest to the wider audience of other primary health care professionals and policy makers who may become involved in the PSA screening in the future. This study therefore, employed in-depth semi-structured interviews as a technique to explore participants' descriptions of their 'lived experience' of receiving an equivocal PSA screening result.

Data collection

Twelve men within one general practice received an equivocal result within the Protec T study. The men were recruited to the original Protec T study by their GP. These men were contacted by letter and invited to attend for interview during 2003. An information sheet about the study was included along with a returnable contact slip. Seven men agreed to take part. Permission to undertake the study was obtained from the participants' GP, the lead investigator in the Protec T trial and the Local Research Ethics Committee. Interviews were therefore conducted around 12 months after their initial counselling and entry to the Protec T study.

Data analysis

Data analysis in phenomenology involves *intuiting*, *analysing* and *describing* (Parse *et al.*, 1985). The researcher comes to know the phenomenon, explores and identifies its distinguishing characteristics, elaborates on the essence of the phenomenon and puts this into words. Although Husserl emphasizes the intuitive approach, some authors suggest a structured interpretation and guidance for the analysis of phenomenological data (Hallet, 1995). To this effect data analysis was guided by the approach outlined by Colaizzi (1978) who describes seven procedural steps as follows:

- 1) All the informants' narratives are listened to and read to obtain a feeling for their ideas in order to understand them.
- 2) The researcher extracts words and sentences, referred to as *significant statements*, relating to the phenomenon under study.
- 3) Meanings are formulated for each significant statement.
- 4) The formulated meanings are organized into clusters of themes.
- 5) The researcher integrates all resulting ideas into an *exhaustive description* of the phenomenon under study.
- 6) The exhaustive description is reduced to a *statement of the fundamental structure* of the phenomenon.
- 7) The researcher returns to the participants to elicit their views on the findings and to validate them.

Box 2

Five themes emerged from the experience of men in receipt of an equivocal PSA result:

- 1) *Pre-conceptions*: their beliefs about prostate cancer before screening.
- 2) *Responsibility*: their sense of obligation to their own health, to the future health of men generally and to their family.
- 3) *Uncertainty*: the feelings of uncertainty and concern when receiving an equivocal result.
- 4) *Stoicism*: living with the uncertainty and putting up with further investigations and anxiety.
- 5) *Reassurance*: despite uncertainty and anxiety men also felt that their health was being 'looked after'.

Findings

Seven men aged between 50 and 69 years who had been screened as part of the Protec T study were interviewed. All had received equivocal PSA results and were participating in ongoing monitoring of PSA blood tests or biopsies or both. They had all received detailed information and counselling prior to their initial PSA test. The data were analysed using Colaizzi's (1978) seven stage reductive process. Significant statements were extracted from the transcripts and given formulated meanings, for example:

<i>Significant statement</i>	<i>Formulated meaning</i>
<i>I've had no problem at all and it put my mind at rest.</i>	Having the tests gave him reassurance that he did not have prostate cancer.

Formulated meanings were subsequently amalgamated into five theme clusters that were named: *pre-conceptions*, *responsibility*, *uncertainty*, *stoicism* and *reassurance* (see Box 2). Links between these themes emerged as the data analysis progressed. Table 1 provides an example of this process for the theme: reassurance.

Pre-conceptions: 'The earlier the better'

The men's beliefs about prostate cancer had been influenced mostly by their past experiences of friends or family having cancer, and by the media. The men's awareness of prostate cancer had been raised by recent reports about prostate cancer and

Table 1 Example of the *Reassurance* theme cluster together with its formulated meanings

Theme: *Reassurance*: The men felt reassured that they were being looked after and were receiving the best possible care.

- 1) He would rather know whether he had prostate cancer than not know. (p. 11)
- 2) Having the tests gave him reassurance that he did not have prostate cancer. (p. 11)
- 3) If he was found to have prostate cancer through screening, he would feel confident that it was curable. (p. 4)
- 4) Having the tests made him feel more positive about life. (p. 1)
- 5) He felt he was being looked after. (p. 6)

PSA screening on the television and in newspapers, for example:

They've had a big campaign in the press ... making people more aware
(Interviewee 3)

And,

There were a lot in (*the*) paper about it, this test for men
(Interviewee 2)

Two men remarked that the press coverage had made them more aware of the extent of prostate cancer, and how it was a major cause of death in men:

Prostate cancer's the biggest man's killer in cancer in England
(Interviewee 1)

And,

You read in (*the*) paper about all those people that, you know, die with cancer of (*the*) prostate
(Interviewee 2)

All the men believed that early detection prevents prostate cancer from becoming incurable, for example:

Early detection is the only real chance that you've got, I think ... If you leave it too late I don't think you've any chance.
(Interviewee 5)

And,

If the prostate cancer did exist, it would be so minute ... really microscopic, that it would be contained to the prostate gland and therefore the treatment would be far more beneficial. It is very treatable, yes, very curable, yes.
(Interviewee 7)

When asked about their views towards PSA screening at the start of the trial all the participants felt that all men would benefit from PSA testing:

It's one of best things that's could come out for, for as regards men.
(Interviewee 2)

However, one man qualified his belief linking his support to the importance of the tests being done

properly and accurately. He also links his participation in screening to that of his wife:

It is a good thing. Any type of testing, and my wife used to go for breast cancer screening and, and I think it's wonderful as long as they're on top of the job.
(Interviewee 1)

Responsibility: 'It's for my benefit'

During their descriptions the men demonstrated feelings of responsibility both to themselves and to others to avoid illness and unnecessary suffering. They felt they had an obligation to take up the offer to be tested. As they believed that PSA screening was beneficial, most of the men felt it was to their advantage to be screened. Comments included:

You've got to go for a PSA test, which is beneficial for everybody. You, your family, everybody. It's beneficial for the doctors to find out, understand more about it. That's got to be beneficial hasn't it?
(Interviewee 7)

And:

For my well-being to have it checked
(Interviewee 4)

Several men thought that if they declined, they risked not detecting prostate cancer until it was too late, then regretting their decision and blaming themselves, for example:

I've had this chance now to be tested. Better take it, because otherwise if I don't and something does happen, will I regret it for the rest of my days?
(Interviewee 5)

Two men believed those who declined were irresponsible, indicating they believed that men had an obligation to take advantage of screening:

If they choose not to take it then, they're foolish in my opinion
(Interviewee 4)

Indeed, one man extended this to argue that PSA screening should be made compulsory:

There's no way anybody should turn it down, I don't think. I mean, if it were possible, I should make it compulsory.
(Interviewee 2)

Feelings of responsibility also extended to beyond screening. Once tested, the men felt obliged to continue to attend for follow-up:

If you have to you'll do what's right; you'll take the treatment and you'll try as hard as you can to win it, beat it.

(Interviewee 5)

There was also some evidence that the views of significant others reinforced their responsibility to continue to be monitored:

It was her (*his wife*) who prompted me to go for the second biopsy. She says 'you get off.' I want to know what's happening (*laughs*). She's concerned isn't she? (*laughs*).

(Interviewee 7)

Uncertainty: 'The waiting and not quite sure'

The third major theme identified the uncertainty men felt whilst waiting for the initial results, and subsequently, following their equivocal PSA result. Two men claimed the waiting was worse than receiving a positive result:

It's not being told you've got cancer, it's the constant (*emphasises*) wait, and this went on from June to January

(Interviewee 1)

When the results did come some men did not feel they were well informed. One man's daughter became frustrated with the lengthy wait and the lack of information:

She got angry because it took so long and it was so sketchy ...

(Interviewee 1)

On receiving an equivocal result several men described the doctor's reply to the question of whether or not they had cancer:

I can't say you haven't he says, and I can't say you have.

(Interviewee 6)

There was mistrust and uncertainty about the hospital's next move given the equivocal PSA result. One man seemed concerned as to the implications of continuing in the screening process, remarking:

I'm still thinking aye, aye, what's (*the*) hospital's next trick

(Interviewee 6)

In addition, although receiving an equivocal test and being told that this result did not mean they had cancer some men were nevertheless convinced they had cancer:

Everybody fears (*the*) worst don't they?

(Interviewee 2)

Some men felt uncertain about the future and were not reassured by their subsequent negative biopsy results, for example:

It's always in the back of your mind, thinking about it.

(Interviewee 7)

These men seemed unable to gain reassurance from the screening process, even after their biopsies were clear. The stress for some men caused feelings of continued concern and anxiety, as if the screening had opened up the possibility of their vulnerability to disease. Others sought information from books and sent away for natural remedies. One restarted smoking, drank alcohol to excess, and was unable to have sex, causing tension within his marriage. Another felt unable to start a new relationship or make plans because of fears about his future:

You can't get on with your life ... I don't know where I am ... you don't know how you're fixed ...

(Interviewee 1)

However, despite these experiences of uncertainty most men maintained their original beliefs towards PSA screening- believing that it would save lives. All the men had experienced negative aspects of the screening process and follow-up, but also still believed that the uncertainty would be worth it in the long run. For example:

Before it does save their lives they're going to go through agony, all this waiting and waiting and uncertainty...

(Interviewee 1)

Stoicism: 'You've just got to keep going'

Many men described the inevitability of coping with having to return for further tests, and with accepting their results, whatever the result:

It's just a case of saying well if I have, I have and if I haven't, I haven't. I'll have the tests

and go through all the procedures and see what the situation is at the end of it. If they come out the same as they did last time, or if better then good, or if worse and I have to go back for more tests, then I'll go for them ...

(Interviewee 3)

This was particularly true for the men when discussing their experiences of further tests, particularly prostate biopsy:

Very uncomfortable ... the last three of that were tremendously painful ... I jumped when the snip went. You have a blood discharge both in urine and back passage, well this went on ... over a period of about two weeks. I had a lot of discomfort then ... passing water ...

(Interviewee 6)

Throughout their experiences the men showed bravery and stoicism: some men may not have revealed their true feelings or sense of suffering to their families or medical staff, for example:

I try to cover it up ... I like to keep personal things personal as much as I possibly can.

(Interviewee 6)

Another man initially refused further tests and eventually had his second biopsies under a general anaesthetic as he felt he could not endure it otherwise. Feelings of stoicism continued, seemingly driven by the need to pursue a definitive diagnosis:

He's not messing about. He's going to get to the bottom of it (*describing when a doctor took some biopsies which were very painful*). He wasn't, like, gentle.

(Interviewee 5)

Reassurance: 'Being looked after'

Contrasting, to a certain extent, with other themes was a feeling amongst many of the men that their health was being looked after. Many men said they would rather know whether they had prostate cancer or not, than remain uncertain:

I jumped at the chance. Find out one way or the other. Have I got it or haven't I got it?

(Interviewee 3)

There was a general feeling amongst the men that they were being cared for. One man talked about

feeling privileged at being under medical supervision and another felt he was receiving superior care:

If you're on this study (*the Protec T study*) you'll get the best attention, the best knowledge ... you'll be the first to receive them (*drugs*) for being on this study ... it does mean that you're being looked after.

(Interviewee 5)

However, notions of being 'looked after' seemed to be closely linked to the way some men responded to the results of further tests. Having a negative biopsy result gave one man reassurance that they did not have prostate cancer:

I'm glad I had that. At least I know I'm alright.

(Interviewee 2)

However, most of the men were not so reassured by a negative biopsy result and continued to feel uncertain. One man regretted being tested altogether. When discussing his feelings about his decision to participate in the PSA testing he remarks:

Knowing what I know now, I wouldn't have gone.

(Interviewee 1)

Discussion

The themes generated within this study are not independent, they relate to each other and therefore are discussed as part of the whole experience. The study suggests that men's experiences are strongly influenced by their health beliefs about cancer, obligations towards their own health and the importance of participating in medical investigations and screening tests. One of the driving forces behind the men's decisions to participate in PSA testing seemed to be their beliefs about the nature and severity of prostate cancer – beliefs which appear to be incongruent with the actual data on this malignancy.

Indeed, actual mortality from prostate cancer in the general population is low (Bonneux, 2003; Frankel *et al.*, 2003). The risk of a 50-year-old man with a 25-year life expectancy having microscopic prostate cancer is 42%, having clinically evident prostate cancer is 9.5% and dying from prostate cancer is 2.9% (Neal *et al.*, 2000). Nevertheless, Pinnock *et al.* (1998) found that prostate cancer was a concern to even low risk men.

Weller *et al.* (1998) found that 85.1% of men believed that they were likely to suffer from prostate cancer, and 74% believed the disease could be cured if caught early. Janz and Becker (1984) highlight perceived susceptibility as an important contributor to preventive health behaviours, although Gigerenzer and Edwards (2003) remark how there is often little understanding of the statistics of risk by both patients and health professionals and that more consideration be placed upon how risks are conveyed in clinical situations. The men in this study were aware of prostate cancer from current media reports, possibly raising their perceived susceptibility, leading to their search for reassurance.

Frankel *et al.* (2003) argue that PSA screening will identify some men with prostate cancer who will not benefit from treatment, pointing out that 900 men will face the risks of further investigation and treatment to delay one death, in addition, they argue, this will also create anxiety amongst those men being screened – something reflected in the data presented in this study. Frankel *et al.* (2003) go on to discuss the need for more accurate PSA testing before screening is offered – arguing that at present tests cannot predict high risk individuals well enough. In this study men seemed to believe in the real risk they faced, indeed this was a prime motivator for participating. Men attended to obtain reassurance that they did not have prostate cancer and to avoid appearing irresponsible.

This was because they all believed that early prostate cancer can be cured and that if left it would develop into an untreatable and fatal form. This issue is perhaps reflective of research by Pinnock *et al.* (1998), Mercer *et al.* (1997) and Wilt *et al.* (2001) who all found that men's knowledge of prostate cancer and screening controversies was low and O'Dell *et al.* (2003) found men lacked knowledge about prostate cancer and early detection. Only one man in this study had utilized the internet to gather information about prostate cancer, which he found useful. Indeed research by Hellowell *et al.* (2000) suggests that urology patients should be directed to helpful websites in order to educate themselves about their condition. This might have addressed some of the lack of knowledge amongst the men in this study.

The men's belief that the PSA test is able to detect prostate cancer is questionable. Chapple *et al.* (2002) agree that men do not appear to recognize

the weakness of the PSA test. The sensitivity and specificity of this test are inadequate (Boccon-Gibod, 2001), it is still not clear what level of PSA to consider abnormal and current biopsy techniques are sub-optimal.

In their debate on whether or not to screen, Neal *et al.* (2000) point out that some small, life-threatening tumours are often missed by screening, whereas other small tumours that may not progress are detected and treated unnecessarily. When the more destructive cancers can be differentiated from those that present little risk, screening and offering testing and treatment will be more beneficial. The men in this study believed that the removal or destruction of any prostate cancer was the only way to prevent it from spreading and so was worth the cost.

Thornton and Dixon-Woods (2002) comment on the irresistible logic of finding cancer early and wanting to avoid regret about not being tested. This mirrors the beliefs of the men in this study and their desire not to be thought of as irresponsible by not attending. Thornton and Dixon-Woods suggest that people's beliefs should be explored to address individual and public concern. Screening would raise the disease profile and may drive the research needed to find an effective way to test and treat. However, raising the profile may increase men's perceived vulnerability to prostate cancer (Cantor *et al.*, 2002), and may increase the demand for screening before the research evidence is available.

Men's reactions to their results varied. This study found obtaining an equivocal PSA result following screening can cause a stoical reaction in men. An equivocal result can reassure or produce profound uncertainty. Frankel *et al.* (2003) suggest that men should be warned about the consequences of PSA screening, for example, using extensive interviews with trained counsellors, to gain informed consent. This position is supported by Grimes and Schulz (2002) who argue that screening can both promote and impair health and that this consideration be clearly reflected in counselling.

Some authors propose that at the moment the negative effect of PSA screening and treatment may outweigh the benefits (Brawley, 1997). In their study of men from at-risk families, Cormier *et al.* (2002) found that screening with normal PSA results caused a deterioration in health-related quality of life in some subjects.

In this study, once tested, many men felt uncertain. All the men had access to advice and information

from the research nurses, although did not always utilize this. Feelings of stoicism may have driven them to hide feelings from loved ones, clinical staff and possibly from themselves, during the wait for results and subsequent follow-up. Pinnock *et al.* (1998) suggest that stoicism and not talking about health issues are potential barriers to health action, whereas this study suggests that stoicism allows continuing compliance and is a potential barrier to questioning care. It may have also been involved in men not seeking more information from the specialist nurses, an aspect that other authors have found helpful in prostatic disease (Fitch *et al.*, 1999; O'Rourke and Gemino, 1998). There is a paucity of literature on male stoicism in health and illness, however studies have revealed that stoicism is associated with healthy adjustment to cancer (Sollner *et al.*, 1999) and has enabled ageing women to experience positive experiences as they lived through poverty and poor health (Shenk, 1998). Several authors suggest stoicism leads to under-reporting of pain in cancer patients and is a barrier to effective pain control (Juarez *et al.*, 1998; Yong *et al.*, 2001). Stoicism is an important concept in the way people experience difficult circumstances regarding their health. It may have enabled the men to cope but made them less likely to receive the support and reassurance they needed.

One man remarked that women practice more health behaviours than men, also observed by Tohnai and Hata (1994). In the UK women have had more opportunity to participate in screening than men and their reactions to equivocal screening results have been studied more widely. Approximately 4.5 million cervical smears are taken each year in the National Health Service (NHS) (Mould, 1998) and more than 85% of eligible women attend (Padbury, 1997).

Bush (2000) and Howson (2001) suggest that cervical screening involves the surveillance of women's bodies, and the coercion of women to behave in a prescribed way. By generating a social obligation for women to attend, the implication is that participating in cervical screening is responsible behaviour, whereas not attending is irresponsible. The men in this study also experienced persuasion to attend for screening and monitoring, and judged other men 'foolish' and 'stupid' for not being responsible in accepting screening. In addition, some men remarked that their wives encouraged their participation, an aspect of the

men's behaviour that could warrant further inquiry, given the evidence that family members can often be involved in the care related decisions of men with cancer of the prostate (O'Rourke and Gemino, 1998). Encouraging men to discuss their emotions with significant others could be a useful strategy here, indeed Crawford *et al.* (1997) argue that support in addition to that provided by health care professionals is vital in prostate cancer decision making. However, this would be affected by the beliefs that those significant others hold about health, cancer and screening.

For example, most women believe that the purpose of the cervical smear is to detect cancer (McKie, 1993). For some women a positive smear result can cause severe distress (Wilkinson *et al.*, 1990; Bell *et al.*, 1995) and the costs of taking part in cervical screening are greater than the benefits. Wilkinson *et al.* (1990) found that many women were unable to understand the meaning of pre-cancer.

Kavanagh and Broom (1997) found that women were confused and afraid about their positive results, finding it difficult to obtain information and reassurance. Similarly this study found that some men were afraid to question their results. They believed prostate cancer was either absent or present and were not prepared for an equivocal result – as interviewee 3 remarked that his reason for participating was to find out: *Have I got it or haven't I got it?*

The psychological consequences of an abnormal smear result have been documented and include anxiety about cancer, sexual problems, changes in body image, loss of femininity, fears about reproductive function loss and apprehension about investigations and treatment (Campion *et al.*, 1988; Marteau, 1989). Similar fears were found in some men in this study. Baileff (2000) concluded that negative attitudes towards screening by women who had received positive smear results can be changed by offering support and improving women's understanding of the process of investigation and diagnosis of cancer.

Comparing studies suggests there are strong similarities in the ways that men experience equivocal PSA results with the way in which women experience equivocal breast and cervical screening results. The men in this study experienced feelings of responsibility, stoicism, reassurance and uncertainty and these feelings were influenced by their

deep-rooted beliefs. Many of their beliefs appeared to be based around misconceptions.

Conclusion

At the outset most of the men were encouraged to be screened by significant others and by their feelings of responsibility to themselves and others. All believed they would benefit from attending for PSA screening, although the extent to which they appreciated their individual risk of prostate cancer and the potential negative aspects they faced by being screened is unclear. They all experienced some degree of anxiety, pain, embarrassment and uncertainty, however some were reassured by the experience and most still felt they had made the right decision to be tested. They used stoicism as a coping mechanism – however, this may have masked their need for support.

Exploring men's health beliefs and challenging misconceptions will help health care professionals to facilitate informed consent prior to PSA testing. Enabling men to enter into a dialogue about their experiences and feelings may help to ease men's experiences of an equivocal PSA result following screening. It may also allow health care professionals to target effective support.

The importance of recognising the psychological effects of screening, for example anxiety and uncertainty, continues to be a significant factor in the debate around health screening in general and PSA screening specifically.

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