Men are often asymptomatic in the early stages of prostate cancer (Kozlowski & Grayhack, 2002). Routine or requested prostate-specific antigen (PSA) blood tests and/or digital rectal examination (DRE) may reveal an abnormality and the need for further investigation. Since the 1980s, the transrectal ultrasound prostate biopsy (TRUS-Bx) has been the most common urologic procedure to diagnose prostate cancer. The TRUS-Bx is performed by placing an ultrasound probe in the rectum. Sound waves emitted by the probe transmit graphics that help guide biopsy needles through the rectal wall to the prostate gland. Tiny pieces of tissue, typically between 6 and 12 samples, are removed from the prostate via the needles. Histologic analyses of the samples are then completed. Based on the results, a prostate cancer diagnosis and its severity can be made (Wareing, 2004).

**Literature Review**

Although TRUS-Bx is a mainstay of prostate cancer diagnosis (Klein & Zippe, 2000), many questions and controversies have been associated with the specifics of its use (Macchia, 2004). Particular technical aspects including imaging capabilities and the number, location, and analyses of biopsy core specimens have been studied extensively. Analysis of these collective findings have contributed to the overall efficacy of the procedure. Despite such advancements, patient pain and the virtues of local anesthetics in TRUS-Bx are widely debated and transrectal ultrasound prostate biopsy (TRUS-Bx) is the predominant method to diagnose prostate cancer, and varying levels of patient pain have been associated with the procedure. The purpose of this ethnographic research study was to describe TRUS-Bx pain from the patients’ perspective. Results from this study indicated that TRUS-Bx pain was strongly influenced by psychosocial factors, as well as physical aspects of the procedure.

**Introduction**

The transrectal ultrasound prostate biopsy (TRUS-Bx) is the predominant method to diagnose prostate cancer, and varying levels of patient pain have been associated with the procedure.

**Objective**

The purpose of this study was to describe the experiences of 30 men who underwent TRUS-Bx without anesthesia.

**Method**

An ethnographic approach was used. The investigator conducted in-depth, semi-structured, audiotaped interviews with 30 men eliciting the patients’ perspectives of their TRUS-Bx experiences. The interview transcripts were managed using Nvivo 1.2. Data were initially analyzed into two broad descriptive categories: (a) leading up to TRUS-Bx and (b) the TRUS-Bx procedure.

**Results**

Four patterns were developed from the data analysis: (a) anxious uncertainty, (b) anal penetration, (c) needling pain, and (d) painless expectation. Results from this study indicated that TRUS-Bx pain was strongly influenced by psychosocial factors as well as the physical aspects of the procedure.

**Conclusions**

TRUS-Bx is a significant event for many men. Many psychosocial factors influence TRUS-Bx pain perception, including the anticipated physical discomfort, the cultural inappropriateness of the procedure itself, as well as the issue of individual mortality. It is important for urology nurses to be aware that events leading up to diagnosis of prostate cancer can contribute to the anxiety of men arriving for treatment. Accurate information, preparation, and education of the patient prior to TRUS-Bx is fundamental to the practice of the urology health care provider.
The combination of blocks dramatically decreased periprostatic lidocaine nerve 2001). But in another study, no impact on TRUS-Bx tolerance (Desgrandchamps et al., 1999). Conversely, a study of 50 men indicated that many men experienced TRUS-Bx pain that is not necessarily avoided through the administration of local anesthetics.

Negligible research attention has been paid to psychosocial influences of TRUS-Bx pain. Perhaps this is because psychosocial components of pain have often been expressed as philosophical positions rather than through empirical data. However, contemporary clinical practice acknowledges pain as a subjective experience and more than a single sensation caused by a specific stimulus (McCaffery & Pasero 1999; Merskey, 1996). Psychosocial factors including cultural influences (Helman, 1990); patient beliefs and attributions about pain, patient expectancies for a given procedure, emotional/stress responses to pain (Williams, 1999); anxiety (Neff & Stinson Kidd, 1993); and gender (Bendelow, 2000) have all strongly influenced pain perception and behavior. Williams and Bendelow (1998), among others, assert that through broader understandings, inclusive of the feelings and emotions that accompany pain, the management of pain can be freed from the exclusive biomedical jurisdiction.

**Purpose**

The purpose of this study was to describe the experiences of 30 men who underwent TRUS-Bx without anesthetic. Contextual, culturally sensitive understandings were developed through participant-informed answers to the overall research question: How do participants interpret and express their experiences of TRUS-Bx?

**Methodology**

An ethnographic approach was used for this research study. Ethnography has a long history and tradition in public health and has been “particularly useful for explicating the interactions between people and their physical environment as well as the ways in which cultural beliefs and practices and social relations impact on health outcomes” (Gifford, 1998, p. 504). The cultural focus means the researcher engages with “the process of linking, bridging, negotiating, or translating between the biomedical health care system and the patient’s health cultural orientation” (De Santis, 1994, p. 712). Therefore, ethnography potentially grounds other kinds of public health research in the everyday realities of the people concerned (Gifford, 1998) and provides a method of discovery; particularly useful when dealing with something new, different, or unknown (Punch, 1998).

**Procedure**

Twelve participants were recruited through prostate cancer support groups (PCSGs) and 18 participants, who had not attended PCSGs, were recruited through advertisements in regional and city newspapers. Institutional ethics approval was granted and research participants completed a written informed consent that included information about confidentiality, the interviewees’ access to the transcription, and right to withdraw at any time. Study participants self-identified as heterosexual, had undergone TRUS-Bx without anesthetic in Australia between 1994 and 2001, and were subsequently diagnosed with prostate cancer. Socio-demographic data are described in Table 1.
Data Collection
The principal investigator, a registered nurse, conducted in-depth semi-structured audio-taped interviews with the 30 men. The interviews were completed at participants’ homes, workplaces, or at the researcher’s office and averaged 1 hour in duration. The interviews usually began by asking participants to describe the events leading up to TRUS-Bx. This enabled participants to tell their stories, with questions about feelings, thoughts, and context introduced as appropriate to the flow of the interview. Specific interview questions were developed; however, the conversation determined how the information was obtained (De Laine, 1997). Reinharz (1992) labels this “interviewee-guided investigation” as it encourages participants’ experiences and audiibility of multiple voices in a person’s speech to be central to the interview (p. 21). In this way, a specialized form of conversation in which one person asks the questions and the other gives the answers was avoided (Oakley, 1981). The interviews were transcribed verbatim. Participant observations and field notes were made during the interviews and provided adjunct data to the interview transcripts. Participants were provided with transcripts from their interviews and invited to comment, give corrective feedback, and answer additional questions (Acker, Barry, & Esseveld, 1983). Twenty-five of the 30 participants collaborated, to varying degrees, in the co-production of their final transcript.

Data Analysis
Each transcript was checked for accuracy and field notes and participant observations from the interview were added. The interview transcripts were subsequently reviewed, highlighting key phrases, noting ideas, and interpretations in the margins. The transcripts were managed using NVivo 1.2. Data were initially analyzed into two broad descriptive categories: leading up to TRUS-Bx and the TRUS-Bx procedure. As data analysis continued, the data were organized and re-organized several times. Four patterns were developed from the data analysis: (a) anxious uncertainty, (b) anal penetration, (c) needling pain, and (d) painless expectations. Participants’ quotes were interwoven with the findings (Morse & Field, 1995). See Table 2 for summarization of findings.

Table 1.
Socio-Demographic and Medical Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at TRUS-Bx</td>
<td>Mean, standard deviation, range</td>
<td>58.7, 7.00, 46-80 years</td>
</tr>
<tr>
<td>Partner Status</td>
<td>Current female partner n (%)</td>
<td>30 (100%)</td>
</tr>
<tr>
<td>Employment</td>
<td>Full or part-time paid employment n (%)</td>
<td>15 (50%)</td>
</tr>
<tr>
<td></td>
<td>Retired n (%)</td>
<td>15 (50%)</td>
</tr>
<tr>
<td>Months Since TRUS-Bx at Interview</td>
<td>Mean, standard deviation, range</td>
<td>22.7, 18.43, 2-72 months</td>
</tr>
</tbody>
</table>

Table 2.
Summary of Study Findings

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Leading up to TRUS-Bx</td>
<td></td>
</tr>
<tr>
<td>1. Anxious uncertainty</td>
<td>30 of 30 (100%)</td>
</tr>
<tr>
<td>B. TRUS-Bx procedure</td>
<td></td>
</tr>
<tr>
<td>2. Anal penetration</td>
<td>30 of 30 (100%)</td>
</tr>
<tr>
<td>3. Needling pain</td>
<td>27 of 30 (90%)</td>
</tr>
<tr>
<td>4. Painless expectation</td>
<td>20 of 30 (66%)</td>
</tr>
</tbody>
</table>

* 27 of 30 participants recalled TRUS-Bx pain/discomfort, but only 1 of 30 reported it to the clinician.

RESEARCH AND DISCUSSION

Leading Up to TRUS-Bx
Anxious uncertainty. Preliminary evidence of prostate cancer was identified through the PSA and/or DRE. These screening tests were often perceived as precautionary, and participants did not necessarily anticipate or consider the implications of a prostate cancer diagnosis. All 30 (100%) participants commented on feelings of anxious uncertainty. Max was initially treated for prostatitis following a raised PSA. When the PSA level did not reduce after a course of antibiotics, a TRUS-Bx was recommended as the best way to exclude prostate cancer. Max recalled that he felt well, but as the scheduled date for the TRUS-Bx approached he became increasingly anxious about what lay ahead:

“I probably cried every day. I’d drive to work and I got really upset – especially when I was by myself, thinking of the consequences of all this...it was such a crippling gap. The outcome of such a process was going to be very critical. I was really upset...the process itself, just knowing what he was going to do and that I was going to be conscious during this whole process.”

T.C. went to the doctor to get an analgesic prescription for his arthritic knee; however, he ended up having a DRE that indicated his prostate gland was enlarged. Although the subsequent PSA test was normal, a TRUS-Bx was scheduled based on the DRE
related to the site of the penetration. Jamie explained that when the ultrasound probe was inserted. Jamie explained that when the ultrasound probe was inserted.

The participants’ tension was just a little bit uncomfortable” and “just relax and I’m thinking, oh, [the clinician] saying to me now how far, that was the worry...he’s [the clinician] saying to me now just relax and I’m thinking, oh, that black bloody thing’s going up my backside, which is really hard.”

Participants reported mild discomfort rather than pain when the ultrasound probe was inserted. Max recalled: “The fact that someone was invading my body, I hated it. I was very embarrassed. I just lost all that sort of control.”

Adam suggested that “bloke’s don’t go for that” and confirmed “this was the first time that anything like this had happened.” Kevin “didn’t enjoy that sort of stuff,” and Jim assured me he had “no chance of...ever going queer.” Bob explained that “it’s different on this end...degrading...a dignity sort of thing.” The anus, as the most private and perhaps vulnerable part of the male body, was penetrated and this was clearly at odds with dominant cultural expectations of heterosexual men.

Needling pain. Participants recalled varying levels of pain when the biopsy needles were inserted and prostate specimens retrieved. Clark described it as a “bit uncomfortable, but not painful” and Roy suggested that “there was no pain” while Mike “felt an indescribable strong pain” and James “got a tremendous pain down in the groin.” Kevin explained that pain was relative, and compared to other painful experiences, he had “had much worse” pain than the TRUS-Bx. For T.C., “the worst part is that you could feel it flickering around deep inside you – probing” as each biopsy was about to be taken. The participants’ diverse pain and anxiety levels demonstrated the limitations of predicting a uniform patient experience of TRUS-Bx.

Participants recalled increasing levels of pain and anxiety as the TRUS-Bx continued. The anticipation of each needle biopsy was pre-empted by the sound of a spring-loaded mechanism, and the pain and anxiety increased as each core specimen was taken: “After that first shot, it absolutely stung. It was an intolerable wait because I was waiting for this next little trigger action and the pain. It was that feeling of waiting for the guillotine blade, when is it going to drop?” (Adam)

“Every time that gun fired to take a specimen from inside you, your whole body is tensing, knowing that in so many seconds you’ve got another one to come.” (Randwick)

“The pain seemed to get worse. Like, the first one, two, three, down the one side, I reckoned I could handle this. When they got to about five or six on the other side, I thought, no...and I’m starting to moan a bit.” (Steve)

“The first four were a piece of cake, but the last four were like getting a great kick up the bum.” (Mark)

Painless expectations. Twenty of 30 (66%) participants recalled being assured by clinicians that they would be able to tolerate the TRUS-Bx without analgesia and/or anesthetic. However, underpredictions of pain left participants vulnerable to unpleasant surprise when TRUS-Bx was more noxious than anticipated. Some participants indicated that there was a disparity in what they were told about the procedure versus what they actually experienced:

“I was told there would be some discomfort. Well, in my case, it was a great deal more than discomfort. I’m sure that when they did get the two positive plugs that I nearly levitated off the table.” (T.C.)

“He said it will be a little painful, not uncomfortable. My experience was quite painful – sharp pains into my groin.” (Adam)

“What they told me about the biopsy...It will be the same as a bee sting, but it was nothing, nothing compared with that...It’s much, much, much worse.” (James)

During the research interviews, 27 of 30 participants recalled TRUS-Bx pain and/or discomfort but only one participant reported it to the clinician who administered the TRUS-Bx. T.C. “did not [tell the doctor about my pain]...because you look at doctors...as authoritarian people...that I was brought up to respect.” Adam lay there, “letting them get on with this,” not disclosing his pain for fear of “holding the procedure up.” Wayne
Participants responded to their own expectations and/or clinicians’ assertions that discomfort rather than pain accompanied TRUS-Bx. Results from this study were presented at four PCSGs to approximately 150 men, most of whom had undergone TRUS-Bx. Group discussions and informal feedback followed, and many men strongly supported the analysis and findings. Although generalization was neither the aim nor subsequent claim of this study, the positive responses, comments, and encouragement assured the researcher that many men’s experiences of TRUS-Bx were described accurately.

Conclusion

Although pain is widely acknowledged as a subjective experience, physiology is often used to predict pain levels, and biomedicine is relied on to minimize or eradicate noxious stimuli. The lack of patients’ self-report of subjective pain experiences in this study, insinuates that there is no pain to prevent. However, this is a simplistic, perhaps naïve approach to the assessment and subsequent management of pain. The findings from this study strongly support previous assertions by Crundwell et al. (1999), Naughton et al. (2000), and Zisman et al. (1999, 2001) that pain is experienced by many men who undergo TRUS-Bx without anesthetic.

The basis of TRUS-Bx pain is beyond the explanatory powers of physiology and this is supported by conflicting reports about the usefulness of local anesthetics. Many psychosocial factors influence TRUS-Bx pain perception including the anticipated physical morbidity and cultural inappropriateness of the procedure itself, as well as the overarch- ing issue of mortality. Naughton et al. (2000) have previously attributed increased patient recall of pain at 2 and 4 weeks post TRUS-Bx to residual tissue damage. However, findings from this study indicated that the memory of pain can continue for many years, and most likely relates to the life-changing diagnosis of prostate cancer that ultimately accompanied the TRUS-Bx results.

Despite participant pain and discomfort, as evidenced by this study, many TRUS-Bxs continue to be administered in Australia without anesthesia. Medicare, the national government health funding authority, refunds the cost of TRUS-Bx anesthetic to the provider (Australian Department of Health and Ageing, 2002). Therefore, cost should not inhibit the use of anesthetics in TRUS-Bx. However, the administration of a local or general anesthetic is at the discretion of clinicians and is based on clinical assessment of the patient. A full patient assessment may be difficult especially when the clinician performing the TRUS-Bx may not be the treating physician. Once the procedure is commenced, some clinicians may be reluctant to stop, give an anesthetic, and restart the procedure. Additionally, evidence-based practice often reveals enormous gaps between research, theory, and clinical practice. Many clinicians may still grapple with the subjective nature of men’s pain. This is confounded by stoicism and the reluctance of men to inform clinicians about their pain and discomfort during TRUS-Bx, which may influence the continuation of administering TRUS-Bx without anesthesia.

A complex interaction needs to occur in which health care professionals are willing to listen and men are willing to speak about their TRUS-Bx pain and anxiety. Although it is not the responsibility of men to prove they are in pain, they will need to speak up so clinicians can be made aware and therefore respond appropriately.

Clearly, TRUS-Bx is a significant event for many men. It is particularly important for urology nurses to be aware that the events leading up to a diagnosis of prostate cancer can contribute to the anxiety of men arriving for treatment. Accurate information, preparation, and education of the patient prior to TRUS-Bx are fundamental to the practice of the urology health care provider.

Recommendations For Future Research

This study described the experiences of one group of men in Australia who had TRUS-Bx without a local or general anesthetic. Given that little research has been conducted regarding men’s experiences of TRUS-Bx, there are numerous possibilities for future investigation. Investigating men’s experiences of TRUS-Bx in other countries would certainly add to the body of knowledge. One germane question for the consideration of clinicians and researchers is “How might nonpharmacological interventions influence men’s experiences of TRUS-Bx?” After all, as evidenced by the results of this study, men’s experiences of TRUS-Bx are influenced by many factors besides physiological pain.

References


