CrossMark

Health-Related Quality of Life in Advanced Prostate Cancer and Its Treatments: Biochemical Failure and Metastatic Disease Populations

Oliver Sartor,[1] Emuella Flood,[2] Kathleen Beusterien,[2] Josephine Park,[3] Iain Webb,[3] David MacLean,[3] Bruce J.O. Wong,[4] H. Mark Lin[3]

Abstract

The impact of advanced prostate cancer and its treatments on patients was identified through interviews with 25 patients and 6 clinicians, with an emphasis on concerns not captured by available quality of life measures. Although patients confirmed many of the concepts captured by available measures, some measurement gaps were identified. Results are useful for selecting measures to capture treatment benefit.

Introduction: This study aimed to examine the impact of advanced prostate cancer and its treatments on patients' perceptions of their health and to better understand concerns not captured by currently available health-related quality of life (HRQL) instruments. **Patients and Methods:** Open ended one-on-one interviews were conducted with patients with prostate cancer who had biochemical failure or metastatic cancer to understand the impacts of disease and treatments on patients' perceptions of their lives. Interviews with 25 patients (7 biochemical failure and 18 metastatic) and 6 clinicians were conducted. Patient responses were analyzed to assess whether information saturation (ie, the point at which no new information is collected) was attained and compared with currently available HRQL instruments. The data informed the development of a comprehensive conceptual model illustrating the impacts of advanced disease and treatments. Clinical expert interviews also informed the conceptual model. **Results:** Patients with prostate cancer reported many of the key symptoms already captured by current measures, such as bone pain, urinary functioning, bowel functioning, and fatigue. However, a number of impacts reported as bothersome by patients were identified that are not fully captured by existing HRQL measures. Specific examples include genital atrophy, muscle atrophy, stamina, body image, and emotional well-being. **Conclusion:** The conceptual model identified herein describes the impacts of prostate cancer and its treatments from the patient's perspective. The model can be useful in identifying key concepts important to patients that should be measured in trials to capture treatment benefits. The model also can help inform the selection of patient-reported outcomes to assess these benefits.

Introduction

Prostate cancer is the second most lethal tumor among American men[1] and the third leading cause of cancer mortality among European men.[2] Prostate cancer primarily develops in men aged 50 and older. Prevalence varies substantially globally, with prostate cancer being more common in Europe and the United States and less common in South and East Asia.[3] Ethnographic disparities also exist; in the United States, African American men are 1.7 times more likely to receive a diagnosis and 2.4 times more likely to die from the disease than white men, for reasons that are not fully understood.[4,5]

Prostate-specific antigen (PSA) levels are routinely assessed, and rising PSA levels are taken as an indication of recurrence or spread of disease. Because detectable metastatic disease is not yet present, patients with rising PSA are described as having "biochemical failure" rather than metastatic disease. Almost by definition, patients with biochemical failure are asymptomatic, although they may experience symptoms from prior or current treatments. Bone pain in patients with prostate cancer indicates bone metastases

[1]Departments of Medicine and Urology, Tulane Medical School, New Orleans, LA
[2]Oxford Outcomes Inc, an ICON plc company, Bethesda, MD
[3]Millennium Pharmaceuticals Inc, The Takeda Oncology Company, Cambridge, MA
[4]Bruce Wong & Associates Inc

Address for correspondence: Emuella Flood, BA, 7315 Wisconsin Ave Ste 250W, Bethesda, MD 20814
E-mail contact: emuella.flood@oxfordoutcomes.com, emuella.flood@iconplc.com

and is one of the most common signs of metastatic disease progression or recurrence.[6] Consequently, the primary health-related quality of life (HRQL) impacts of metastatic prostate cancer are often attributed to bone metastases and resulting skeletal complications.[7]

Commonly used measures of symptoms and HRQL in metastatic prostate cancer research are generic cancer HRQL instruments, including the European Organisation for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire C30 (QLQ-C30) and the Functional Assessment of Cancer Therapy—General (FACT-G), which are often combined with the prostate cancer—specific module for the instrument, such as the EORTC QLQ-PR25 and the Functional Assessment of Cancer Therapy—Prostate (FACT-P), respectively. Other commonly used measures include pain measures, such as the McGill Pain Questionnaire and the Brief Pain Inventory, as well as generic HRQL measures, such as the Short Form 36-Item tool (SF-36) and the EuroQol Group's EQ-5D. These measures were developed without input from patients with advanced prostate cancer, and they were developed before the publication by the US Food and Drug Administration (FDA) of regulatory guidance[8] on patient-reported outcomes (PROs). The FDA guidance emphasizes patient involvement in the instrument development process; this is a key component of ensuring content validity (ie, that the measure content is clear, relevant, and comprehensive at assessing the target concept). With this, the present authors hypothesize that key symptoms or impacts that are both relevant and bothersome to patients with advanced prostate cancer may be missing from the available measures.

The purpose of the present research was to conduct open-ended interviews with patients with prostate cancer and thus to allow spontaneous discussion on key impacts of the disease and treatments. A specific objective was to identify and evaluate potential concepts that may be lacking from current disease-specific measures in prostate cancer. Findings from this study were used to develop a conceptual model depicting the impacts of prostate cancer disease and its treatments in those with both biochemical failure and metastatic disease.

Patients and Methods

One-on-one, open-ended interviews were conducted with patients with prostate cancer with metastatic disease or biochemical failure. The approach was consistent with the FDA's guidelines for the development of PRO measures, which emphasize the importance of obtaining patient input using open-ended interviews.[8] Direct input from patients using an open-ended approach allows researchers the opportunity (1) to identify disease and treatment impacts in the patients' own words and (2) to ensure that PRO measures are comprehensive and interpretable from the patient perspective. A commercial institutional review board (Independent IRB, Plantation, FL) approved the study protocol, and all participants provided written informed consent before participation.

Metastatic patients were recruited through Tulane Medical Center and online patient support groups and forums. Given the lower relative prevalence of biochemical failure and difficulties in recruiting this group, patients with biochemical failure were recruited through a market research recruitment firm. Participants met the following study eligibility criteria: (1) aged ≥ 18 years; (2) having written and oral fluency in English; (3) willing and able to provide written informed consent; and (4) either (a) having self-reported, physician-diagnosed metastatic prostate cancer and experience with treatment other than active surveillance/watchful waiting OR (b) having self-reported, physician-diagnosed rising PSA levels after initial treatment (with radical prostatectomy, radiation therapy, hormonal therapy, cryotherapy, or brachytherapy), currently treated with hormone therapy for rising PSA, and not currently treated with chemotherapy. Research staff trained in qualitative interviewing conducted the interviews via telephone. An interview guide was followed to investigate patients' descriptions of symptoms, problems in daily life, and experiences with treatments. As feasible, the patients were asked to rate how bothersome each impact was on a scale ranging from 0, reflecting not at all bothersome, to 10, reflecting extremely bothersome. At the end of the interview, the participants were asked demographic and clinical questions. Each interview session lasted approximately 1 hour and was audio-recorded and transcribed.

The data were analyzed using a thematic analysis methodology.[9] This analysis consisted of an initial reading and re-reading of the transcript data to identify and code themes and categories that centered on particular phrases, incidents, and types of behavior. A codebook was developed, and the data were coded using the text-analysis software tool MAXQDA 2007. In qualitative research, sample size is determined based on "information saturation." The FDA[8] defines saturation as "the point when no new relevant or important information emerges and collecting additional data will not likely add to the understanding of how patients perceive the concept of interest." Specifically, saturation is achieved when no new concepts are identified, or no new codes are applied to subsequent interview transcripts. Saturation was confirmed for each target population through a saturation grid, which is used to compare and tally concepts elicited during each interview. Based on the patient data, a conceptual model was developed illustrating the patients' perceptions regarding the impact of both advanced prostate cancer and associated therapies. The model was evaluated and confirmed by a convenience sample of 6 clinical experts in the field of prostate cancer: 4 from the United States, 1 from Canada, and 1 from the European Union.

Results

A total of 7 patients with biochemical failure and 18 patients with metastatic disease from the United States and the European Union participated in this study. Patients with metastatic disease were recruited from 13 different states; patients with biochemical failure were recruited from 3 US states and from the United Kingdom (Table 1). The majority of patients were currently receiving hormone treatment (78% of patients with metastatic disease; 100% of patients with biochemical failure). On a response scale with 7 categories ranging from "very poor" to "excellent," most patients with metastatic disease rated their current health as "good" to "excellent," whereas no patients with biochemical failure rated their health as better than "good."

Among the 7 patients with biochemical failure, several reported experiencing symptoms related to the cancer itself without