

Prostate Cancer Survivorship and Psychosexual Care: A Systematic Review for a Continuously Evolving Field

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Abstract

Background: Prostate cancer is the most common cancer in men. With advances in surgery, more and more patients are undergoing radical prostatectomy and one important side effect of surgery is erectile dysfunction. We assess men's post-operative psychosexual needs in two cancer centres in England; co-design and implement a psychosexual pathway in one centre and compare patient experiences and outcomes between the bespoke and usual care pathways.

Method: A systematic review was conducted of prostate cancer survivorship and psychosexual care, to support the development of a psychosexual pathway. Population: men post-surgery with prostate cancer post robotic surgery. Intervention: psychosexual care interventions for men post robotic surgery for prostate cancer.

Outcome measurements: impact of pathway on psychosexual care to be assessed using IIEF, secondary outcomes health related quality of life and acute and chronic co-morbidities to be assessed.

Results: The systematic review elicited over 1200 papers, 27 of which conformed to the search criteria. The psychosexual concerns after prostate cancer surgery were identified from the systematic review by patients as an unmet need. Additionally, very few papers addressed interventions to manage psychosexual concerns for men post robotic prostate cancer surgery.

Conclusion: This systematic review demonstrated a large unmet need for psychosexual care in men with prostate cancer post-surgery. Poor health related quality of life was also strongly associated with psychosexual concerns and also co-morbidities, within the systematic review.

Keywords: Prostate cancer survivorship; Psychosexual care; Patients; Surgery

Introduction

Prostate cancer is a large and important clinical challenge. Over 40,000 men are diagnosed with prostate cancer each year in the UK; this is over 100 per day (Prostate Cancer UK, [1]). By 2030, prostate cancer is estimated to be the most common cancer overall (Prostate Cancer UK, [1]).

Survivorship is defined by Macmillan Cancer Support [2], as 'someone who has completed initial cancer management with no evidence of apparent disease'. According to the National Cancer Institute in the USA, cancer survivorship encompasses the "physical, psychosocial, and economic issues of cancer from diagnosis until the end of life." [3]. The National Coalition of Cancer Survivors defines being a survivor as 'from diagnosis of cancer onwards' [3]. This has been extended to include 'the experience of living with, through and beyond a diagnosis.'

Meeting the needs of men potentially cured of prostate cancer including psychosexual and chronic medical comorbidities, is important to the patients and their carers [4]. If those needs are not addressed, the consequences and subsequent interventions may place a significant burden on the healthcare system [5]. Addressing psychosexual concerns are central to survivorship care, as with the right medical treatment options survivors may be able to gain their pre-treatment sexual performance [6].

Psychosexual concerns comprise psychological, emotional and physical factors. Therefore a bio-psycho-social approach to understanding psychosexual concerns is helpful [7]. This entails not only understanding the biology behind psychosexual concerns, but psychosocial reasons as to why psychosexual concerns occurred [7].

Questions regarding the medical impact of cancer treatment on patients have been recurrent themes in the cancer survivorship literature [3]. Side effects of treatment are a significant problem [3]. These unmet needs are a significant burden on the NHS [8]. The difficulties experienced by patients are re-enforced by a report from the Prostate Cancer UK Charity. Of the 10,000 prostate cancer patients

who were studied, 80% had side effects of therapy including erectile dysfunction and unaddressed medical co-morbidities [9]. Survivors themselves indicated these needs had not been adequately assessed [10]. These areas in particular require further investigation. This study will therefore add to the body of evidence, in particular, psychosexual support for men who have been potentially cured of cancer.

Methods

Search strategy

As a result of the above findings, a systematic review relating to literature on survivorship programmes for men with prostate cancer and psychosexual concerns was conducted. The search strategy aimed to identify all references related to prostate cancer survivorship programme components AND survivorship AND psychosexual concerns. The selection criteria specified papers must be related to primary research only. All secondary research apart from published systematic reviews or meta-analyses, were excluded. Search terms used were as follows: (Prostate cancer OR prostate neoplasms) AND (survivorship OR survivor*) OR (psychosexual impairment or sexual dysfunction or erectile dysfunction) AND (comorbidity or quality of life) (Figure 1). The following databases were screened from 1984 to March 2014: CINAHL and MEDLINE (NHS Evidence), Cochrane, AMed, BNI, EMBASE, Health Business Elite, HMIC, PschINFO. In addition, searches using Medical Subject Headings (MeSH) and keywords were conducted using Cochrane databases. Primary research only was included in the systematic review. Two UK-based experts in survivorship care were consulted to identify any additional studies.

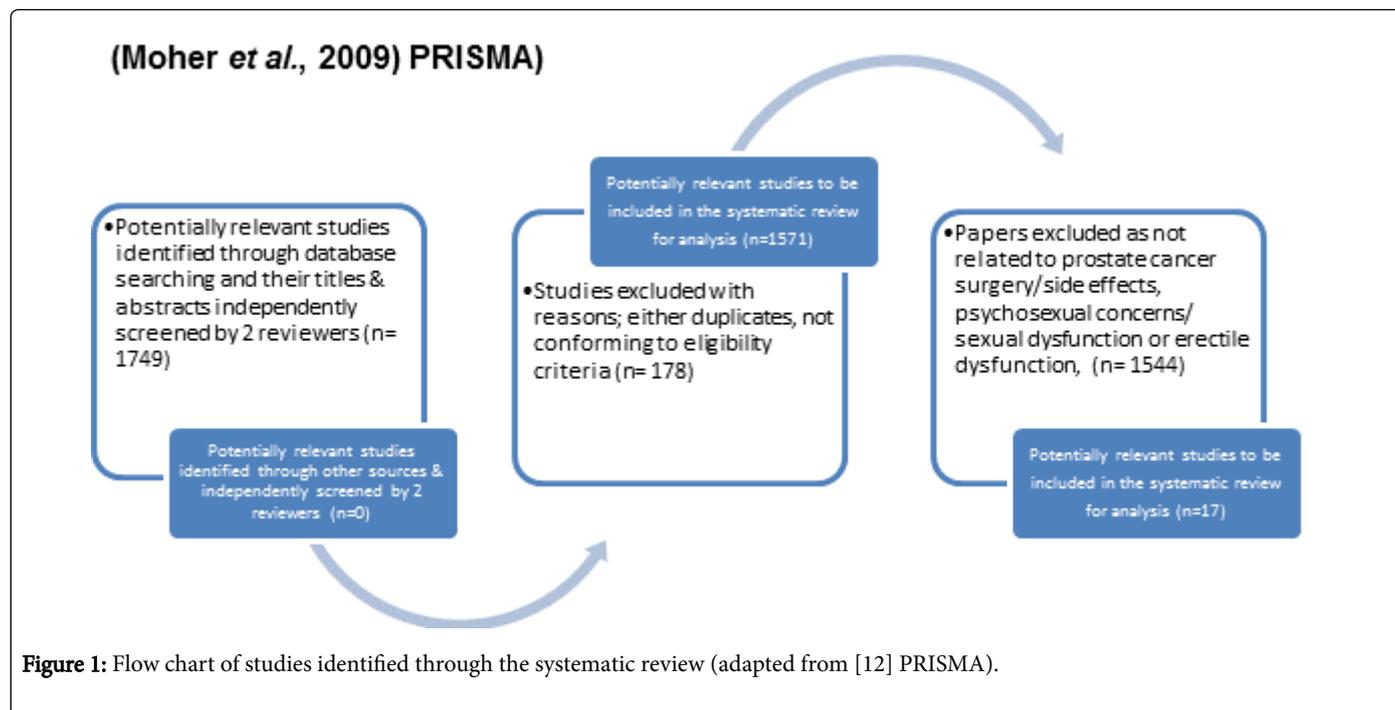
Eligibility

Studies were eligible for inclusion if they reported primary research focusing on prostate cancer, survivorship and psychosexual concerns. Papers were included if published after 1984 and had to be in English. Studies that did not conform to this were excluded. Secondary research was excluded apart from systematic reviews or meta-analyses, as secondary research was deemed by the research panel (filtering the studies found), not to add to the selection criteria.

Abstracts were independently screened for eligibility by two reviewers and disagreements resolved through discussion or third party opinion. Agreement level was calculated using Cohen's Kappa to test the intercoder reliability of this screening process [11]. Cohen's Kappa allows comparison of inter-rater reliability between papers using relative observed agreement. This also takes account of the comparison occurring by chance. The first reviewer agreed all 17 papers to be included, the second, agreed on 17. Kappa's Cohen was calculated at 1.0 within a 95% confidence interval [11]. Via third party discussion, this difference was resolved and all 17 papers included.

The PRISMA flow diagram

Prostate cancer survivorship was the focus of research in all studies. This is a very sizable group, not just in the UK but through the world. This systematic review highlighted the following key components of Survivorship Care with erectile dysfunction, acute and chronic medical co-morbidity and side effects of therapy as the greatest concerns (Figure 1).



Statement of main findings

Prostate cancer survivorship was the focus of research in all studies. This is a very sizable group, not just in the UK but through the world. This systematic review highlighted the following key components of Survivorship Care with erectile dysfunction, acute and chronic medical

co-morbidity and side effects of therapy as the greatest concerns. Figure 1 demonstrates the results of review [12].

Data extraction and quality assessment of studies

Data extraction was piloted by the researcher and amended in consultation with the research team (author and two academic

supervisors). Data collected included authors, year and country of publication, study aims, setting, intervention aims, number of participants, study design, intervention components and delivery methods, comparison groups and outcome measures, notes and follow-up questions for the authors. Studies were quality assessed using Mays et al. [13] for the action research and qualitative studies.

Systematic review findings

The searches identified 132 papers (Figure 1). However, only 17 mapped to the search terms and eligibility criteria. The current systematic reviews were examined to gain further knowledge about the subject. Ninety one papers were excluded due to not conforming to eligibility criteria or adding to the evidence on survivorship and psychosexual concerns. Most of these exclusions were related to active therapy for prostate cancer or were secondary research. There were no duplicates. Of the 17 papers left, relevant abstracts were identified and the full papers obtained (all of which were in English), to quality assure against criteria. There was considerable heterogeneity of design among the included studies therefore a narrative synthesis of the evidence was undertaken. Studies were conducted either in the USA [13], UK [1], Norway [1], Canada [1], and Italy [1].

UK studies: Out of 17 papers, there was only 1 UK studies, perhaps highlighting lack of psychosexual care in the UK [14]. This paper highlights the lack in psychosexual care of this cohort in the survivorship phase.

A questionnaire (EORTC) was given to a sample of cancer survivors treated in Oxford who had pelvic radiotherapy up to 11 years previously for prostate cancer [14]. Moderate to severe psychosexual impairment was common with 53% of men's ability to have a sexual relationship affected [15].

Symptom severity was significantly associated with poorer overall quality of life and higher levels of depression. This study concluded it is imperative attention is paid to this subject, by secondary care; however, they did not specify any method for doing so.

Study designs varied, and were either cohort or qualitative. There were no randomised controlled trials. Studies were conducted by a range of members from the multidisciplinary team including specialist nurses, doctors and in addition, researchers. Total number of participants in the papers found: 18370 patients.

Categorisation of papers

The papers within this systematic review can be categorised as follows:

Unmet needs and psychosexual concerns: Patients with psychosexual concerns will never have tried medications or devices to improve their erections [16]. This is more common after brachytherapy or radiotherapy than after radical prostatectomy. This indicates a need for further research and management within this cohort [17].

Psychosexual impairment and adjuvant therapy: Adjuvant hormone therapy was associated with worse outcomes across multiple quality-of-life domains among patients receiving brachytherapy or radiotherapy. Patients in the brachytherapy group reported having persistent psychosexual impairment [18]. Adverse effects of prostatectomy on sexual function were noted, despite nerve sparing. These changes influenced satisfaction with treatment outcomes among patients [18]. This may indicate an older population of patient, who

have further disease spread and so require more therapy. In contrast, whilst the treatment gives good oncological outcomes, there are significant psychosexual concerns, as demonstrated.

Psychosexual concerns and time since procedure: Time since prostatectomy had a negative effect on psychosexual impairment. Elderly men at follow up experienced worse psychosexual impairment. Higher stage prostate cancer also negatively psychosexual impairment. Older age at follow up and higher pathological stage was associated with worse quality of life outcomes after radical treatment. These both re-iterate the above points.

Quality of life: For male patients, quality of life resulting from psychosexual impairment is the primary area of concern [19]. Patients involved very often have discomfort with sexual side effects of their cancer treatment, including decreased sexual desire and satisfaction. It was also recognised patients and their spouses may have differing perceptions regarding QOL and the impact of sexual functioning on survivorship [19]. This emphasises the need for further research towards psychosexual concerns.

Kimura et al. [20] examined psychosexual impairment and found post-operatively this is neglected. They also found patients with psychosexual impairment, despite having operative intervention were more likely to be old and had a higher clinical T stage with none non-nerve-sparing radical prostatectomy conducted, with extra capsular extension may not necessarily enquire into medical therapy post operatively [20]. This again found psychosexual impairment affected quality of life. [21] Psychosexual impairment significantly affects all three treatment groups. These results may guide decision making for treatment selection and clinical management of patients with health-related quality-of-life impairments after treatment for localised prostate cancer.

Fifty percent of the study group had used PDE5 inhibitors after treatment start [22]. This cohort again reported a high level of psychosexual impairment post treatment. Another study demonstrated severe perceived consequences of treatment were associated with poorer emotional well-being, especially in those with greater life stress. Interventions that target distortions in illness perceptions may enhance emotional adjustment among the most distressed PC survivors [23].

Few men regretted having RP at 1 year after treatment, even though some QoL functions and domains were significantly affected. Ongoing assessment of the effect of surgical treatment on sexual function, sexuality and masculinity certainly deserves further exploration with this group of cancer survivors [24].

Conducted a counselling intervention demonstrating improvement in psychosexual concerns and increased utilization of medical therapy. However, modifications are needed in future randomised trials to reduce the rate of premature termination and to improve long-term maintenance of gains [25].

Quality assessment of studies

Qualitative studies were assessed using (13). All studies (n=17) described withdrawal and dropout rates. They also presented clear and appropriate methods and outcomes. Blinding was not applicable in any study, as there were no randomised clinical trials. The flow of participants was represented in a 'consort style' diagram in 17 studies. Allocation concealments of participants were not appropriate. Greater than 80% of participants did provide follow-up data of interest. No studies had sample size calculated statistically. An adequate summary

of results for each study outcome was provided in all studies. Sampling was explicitly defined, as was the method of recruitment and intervention.

For the qualitative studies, they further contributed to understanding of the topic. Appropriate methods were chosen with a literature review present. These studies also contribute to development of knowledge of this subject. The sample was appropriate, with a clear description of data collection which was appropriately managed. Validity criteria were present. The analysis of each was clearly described with adequate discussion. Findings were confirmed in the study, excerpts were transcribed. There was appropriate discussion including an alternative explanation and results of each study are applicable to this area of research.

Methods for follow up

Global quality of life was measured by [26], using short form 12, as a snapshot in time. Traegar et al, on the other hand used the UCLA on the other hand, used the UCLA expanded prostate cancer index. Whilst Davison [24] used the EORTC C30 questionnaire to determine quality of life. Clark and Talbot [27] looked at sexual confidence, sexual self-esteem and masculine self-esteem as part of their questionnaires. Canada et al [28] used four sessions of counselling as part of their follow-up.

Strengths and limitations

The search criteria of this review included prostate cancer, survivorship and psychosexual impairment. Interventions of two specific research designs were assessed (from a wide range of sources including experts). This approach was robust as our prior approach was too broad. This was focus on psychosexual concerns in prostate cancer survivors. Studies were assessed for both methodological quality and strength of psychosexual care. The review is limited by the different methodological studies. It was a relatively heterogeneous population, indicating the conclusions published are valid. In addition, as only published studies were included, some relevant on-going studies may have been excluded. This again will impact on our overall conclusions.

Findings in relation to other survivorship and psychosexual studies

Cleary and Hegarty [29] examined at sexual self-concept, sexual relationships, and sexual functioning in women. They highlight sexual relationships focus on communication and intimacy, with emphasis on desire, arousal and excitement. Whilst this study was conducted in the opposite gender, it still teaches us about psychosexual concerns. Yet, in clinical practice, this is not done. Factors positively associated improvement in psychosexual concerns includes age, preoperative sexual and overall physical function and extent of treatment [30]. After treatment prompt psychosexual rehabilitation has been shown to have good effect [31].

Psychosexual concerns impact greatly on this cohort with decreased sexual function as the cause of disease-specific distress in this population [32]. There are significant psychological implications within this group due to the nature of the treatment involved [33]. Even though patients may return to a baseline level of sexual function, they continue to report psychosexual concerns [34]. It is recommended that men undergoing this seek appropriate advice and treatment [35]. There is evidence to show that psychosexual care can aid recovery.

Psychosexual concerns are represented as a bio-psychosocial model, requiring the input from the MDT team [36]. Social support and relationship functioning are important with regards to this.

Current systematic reviews relating to psychosexual care

Psychosexual care: Current systematic reviews on psychosexual concerns cover a range of topics. The most important findings are as follows.

Some tend to focus on aetiology of psychosexual concerns post treatment [37]. Whereas others tend to review psychosocial interventions that can be used to improve communication within this cohort [35]. Other reviews look at quality of life across several cancer types. Specifically for prostate cancer, it was found that patients did have psychosexual concerns post treatment that was unaddressed [38]. Others (Chung) review literature on rehabilitation, concluding there are no consensus guidelines regarding this. Goldfarb et al, examined sexual health in cancer survivors, and found early intervention (was required post therapy, with fertility preservation in the young. Latini et al went one step further. They identified psychosexual interventions in studies as a primary goal had better results.

Furthermore, they identified that this needed to be personalised and tailored.

Statement of main findings

Prostate cancer survivorship was the focus of research in all studies. This is a very sizable group, not just in the UK but through the world. This systematic review highlighted the following key components of Survivorship Care with erectile dysfunction, acute and chronic medical co-morbidity and side effects of therapy as the greatest concerns. Psychosexual care was an unmet need in the majority of studies found in the literature review. The number of patients with unmet need is a sizable group according to the literature, not just in the UK but globally.

Conclusion

One of the greatest concerns of patients potentially cured of prostate cancer, is psychosexual care. Whilst there are many tools to assess and treat psychosexual concerns, they are not often utilised due to patients not requesting what they need, and a lack of awareness on the healthcare provider part. Furthermore, guidance is needed, with regards to psychosexual care in the prostate cancer survivorship cohort.

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