



Prostate cancer and the impact on couples: a qualitative metasynthesis

Nicole Collaço¹ · Carol Rivas² · Lauren Matheson¹ · Johana Nayoan² · Richard Wagland² · Obrey Alexis¹ · Anna Gavin³ · Adam Glaser⁴ · Eila Watson¹

Received: 1 September 2017 / Accepted: 25 February 2018 / Published online: 6 March 2018
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Abstract

Purpose To review and interpret existing qualitative literature on the experiences of couples affected by prostate cancer (PCa). **Methods** A metasynthesis was carried out which included a systematic search of seven databases between 2000 and 2016. A modified version of Noblit and Hare's meta-ethnographic approach was used to synthesise qualitative study findings and inform overarching interpretations.

Results Thirty-seven studies focusing on the experiences of men with PCa and their partner dyad were included producing seven interconnected constructs. The construct *accepting change vs seeking continuity* reflects the range of ways individuals within the dyad and couples adjust to the diagnosis. *Cultivating connection vs disengaging* illustrates how couples seek to manage the impact of PCa and its treatment on their relationship, which may lead to a *threatened identity*, including sexual insecurities. *Shielding me, you and us* reflects the ways in which couples strive to protect themselves as individuals and/or each other from the impact of PCa. *Being a partner and its challenges* highlights the responsibilities partners assume and the impact of their supporting role. Yet, partners sometimes report *feeling unsupported and side-lined* both by the man they are caring for and by healthcare professionals. Couples often recognise *the value of facing PCa together*.

Conclusions PCa affects both members of the dyad as individuals, as well as the couple's relationship. How best to support couples and how to overcome difficulties in expressing their concerns to one another requires further consideration. Healthcare professionals should endeavour to employ a couple-focused approach where appropriate.

Keywords Prostate cancer · Qualitative metasynthesis · Partner experience · Couples · Dyad · Oncology

Background

Prostate cancer (PCa) is the second most common cancer worldwide in men, with more than 1.11 million men estimated

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s00520-018-4134-0>) contains supplementary material, which is available to authorized users.

✉ Nicole Collaço
nicole.collaco-2016@brookes.ac.uk

¹ Faculty of Health and Life Sciences, Oxford Brookes University, Jack Straws Lane, Oxford OX3 0FL, UK

² Faculty of Health Sciences, University of Southampton, S017 1BJ, Southampton, UK

³ School of Medicine, Dentistry and Biomedical Sciences, Centre for Public Health, Queen's University, Belfast BT12 6BA, UK

⁴ Leeds Institute of Cancer and Pathology, Faculty of Medicine and Health, University of Leeds, Worsley Building, Leeds LS2 9NL, UK

to have been diagnosed in 2012 [1]. Mortality rates have been decreasing in developed countries as a result of increased use of PSA testing and the improved, broad range of treatments available [2, 3]. Consequently, an increasing cohort of men are living with and beyond their cancer diagnosis, posing a challenge to health and social services in providing the most effective support to meet their needs [4].

Both the diagnosis of prostate cancer, and the side effects of treatment, which can include urinary incontinence, erectile dysfunction and fatigue may impact on the quality of life and dynamics of the relationship for both the man with PCa and his partner [5–7]. It is frequently reported that the primary source of support for men with PCa is their intimate partner [8, 9].

Studies suggest that there is a reciprocal influence on how members in a relational dyad (e.g. husband and wife or partner) adjust to cancer, i.e. the person with cancer's diagnosis and treatment side effects may impact on the emotional and physical wellbeing of the partner, and in turn, partners' support may influence the adjustment of the person with cancer [7, 10–12].

It is important to understand how couples live with a diagnosis of PCa and manage the effects during various phases of this process, in order to further understand the relational processes and the support that couples need.

There is a large qualitative literature exploring experiences of PCa. Synthesising the findings from qualitative studies in order to enhance understanding of a topic area has been shown to be a useful and accepted methodology in healthcare research [13–15]. We have therefore conducted a comprehensive metasynthesis of qualitative studies to address the post-diagnosis PCa experience [16]. We made an a priori decision to undertake a sub-synthesis, presented here, on the post-diagnosis impact of PCa on couples. To the best of our knowledge, no previous systematic qualitative review has addressed this topic. Schumm et al. [17] have previously conducted an evidence synthesis which focussed on the barriers and facilitators that influenced the patients' and their partners' treatment decision making for PCa, and two additional reviews have focussed specifically on sexual adaptation following diagnosis and treatment [18, 19]. The aims of our synthesis are broader, and we seek to build upon collective knowledge of the impact of PCa on couples including the relational impact and managing treatment side effects, in order to identify relevant clinical implications and future research priorities.

Methods

Full methods of the overarching metasynthesis are detailed elsewhere [20]. Herein, we report on methods applicable to the couples' sub-synthesis. The term 'overarching metasynthesis' pertains to the synthesis of studies with themes relevant to heterosexual men from non-minority groups who have partners, as the most typical profile of men with PCa.

Searches

The search for the overarching metasynthesis encompassed the inclusion criteria for this sub-synthesis for efficiency (Box 1), with papers subsequently allocated to the different analyses [16]. A search was conducted of seven electronic medical, sociological, and psychological databases: MEDLINE, CINAHL, PsycINFO, Web of Science, SSCI, AHCI, ProQuest IBSS. This also included backward and forward citation tracking of all included papers. Articles included in the main metasynthesis were dated 2000–2015 to reflect the most current healthcare experiences in PCa. A further search for the year 2016 was carried out for the sub-synthesis by NC. Terms for PCa and keywords and synonyms for the couple's experience such as *partner*, *spouse* and *dyadic experience* were adapted according to the database. This was combined

Box 1 Inclusion and exclusion criteria

Primary inclusion criterion

- Qualitative studies in which at least 50% of analytical themes consider and include an example of the PCa illness or management experience for adult men (aged 16 and over) with PCa and/or their partners or caregivers

Secondary inclusion criteria

- Published in English language due to interpreting meanings across languages
- Published articles post-1999
- Empirical qualitative studies (stand alone, secondary, or discrete components of mixed method studies) employing qualitative methods for both data collection and analysis
- With original data extracts
- Peer reviewed published articles or reports

Exclusion criteria

- Men not diagnosed with PCa prior to participation in the research
- Data on diagnosis experiences (explored in detail by others [17])
- Book chapters, dissertations, grey literature
- Papers that focus upon dietary and lifestyle interventions
- Experiences prior to or at the time of diagnosis, including decision-making, although consideration of the impact of such decisions included.

Additional inclusion criteria for the couples sub-synthesis:

- Studies focusing on the dyad, i.e. man with PCa and partner. Partners are defined as someone in an intimate relationship with the man with PCa and may be of any gender or sexual preference. This also includes the term 'spouse', or 'wife/husband'.
- Studies considering partner-only interviews, however with a focus on the impact of PCa on the relationship.

Additional exclusion criteria for the couples sub-synthesis

- Studies in which the experience of the man with PCa is the focus. These are included in the overarching metasynthesis (Rivas et al. *In prep*).

with an adapted version of the search strategy for published qualitative studies provided by Saini and Shlonsky [21].

Screening

Initial screening of identified titles was undertaken by the lead reviewer of the main metasynthesis (CR), leaving 711 papers requiring independent assessment of abstracts by CR and LM, and full texts where relevant to determine eligibility. The papers that met the inclusion criteria for the sub-synthesis on the experience of couples were confirmed by NC. Disagreement of the papers to be included was resolved through discussion with authors CR/EW/RW/LM. One additional article, published in 2015, was found in 2016 [22] (see Online Resource 1).

Two papers included participants with mixed cancers, however, relevance to PCa only was referenced [23, 24]. Three mixed methods studies were also included, taking into consideration qualitative data only [25–27].

Data extraction and management

A data extraction form was used to record publication details, study design, as well as demographic and treatment

information. Full replication of key types of data was also extracted in accordance with Noblit and Hare's [28] meta-ethnographic approach:

1. Participants' (man with PCa and partner) verbatim quotes about their actual experiences (*first order constructs*).
2. The original authors' interpretations of the study data, representing their conceptualisation and understandings of men with PCa and partners' experience (*second order constructs*).

These were used during analysis to develop:

3. The views and interpretations of the researchers from all synthesised studies (*third order constructs*)

Extraction of the study data was carried out by NC. Reviewers LM, CR and JN double extracted 30 out of the 37 studies included in the sub-analysis to improve rigour. Any differences in data extraction were discussed and resolved between NC, CR and LM.

Quality assessment

Included studies were appraised for quality using an existing scoring system, adapted by CR [16, 29, 30]. This took into account credibility, methodological congruence, analytical precision, transferability and heuristic relevance or applicability. Categorisations of studies were 'good' (score: 18–24), 'fair' (score: 12–17) or 'poor' (score: 1–11). Papers which scored as 'poor' were still included [31], as even if the methods are weak or poorly reported, the content and utility of findings can still be rich and thus pertinent to the sub-synthesis' aims [13] (see Online Resource 2). However, a sensitivity analysis was undertaken, whereby poor quality studies were removed to check the impact of the quality of the study on the constructs formed [13, 32].

Data analysis

The data synthesis drew on a modified version of Noblit and Hare's meta-ethnographic approach [21, 28, 33, 34]. Accordingly, becoming familiar with the context and detail of the studies was the first stage and establishing considerations of the common concepts and relationships was the second. First and second order constructs were identified by NC, CR and LM, and then, the third order constructs was developed by NC from researcher interpretation and recorded on an Excel spreadsheet. 'Construct' is standard terminology in meta-ethnography, as the synthesis process comprises of author's and participants constructions which is then *assembled together as whole* [28]. In order to be explicit about the first and second order constructs, a grid was created in which the

constructs were separated. This aided in the development of the third order constructs [35].

Studies were translated into one another based on similar or recurring concepts [36]. This process involved distinguishing whether concepts correlated ('reciprocal synthesis'), contradicted or adopted competing ideological perspectives ('refutational synthesis'), or identified divergent components of the topic under study that integrated similarities and differences between concepts (a line of argument synthesis) [21, 37].

Sub-constructs of the first and second order constructs were developed, for example, constructs relating to the relationship were subdivided into 'communication', 'reassurance', 'renegotiation' and so forth. This helped to inform the third order constructs and directed the line of argument explorations and development of a new understanding through synthesising and interpreting the first and second order constructs. NC developed preliminary overarching third order constructs and discussion with CR, LM, EW, RW and OA aided the refinement and finalisation of the third order constructs (see Online Resource 3 to view development of one such third order construct).

Results

Thirty-seven studies met our inclusion criteria [8, 22–27, 38–67]. Studies were identified as good ($n = 15$), fair ($n = 20$) or poor quality ($n = 2$) (see Online Resource 2). The poor quality studies lacked methodological congruence, dependability and confirmability [58, 61]. However, the sensitivity analysis showed that removal of the poor quality studies did not make a difference to the constructs developed and therefore they were still included. Twenty-eight were interview studies, five studies employed focus groups, three used a combination of both, and one study used observation in addition to semi-structured interviews. The majority of studies were conducted in Canada ($n = 12$) and America ($n = 12$), the others in Australia ($n = 6$), continental Europe ($n = 4$) and the UK ($n = 3$). Two papers were part of a larger mixed methods study [23, 24]. Five papers drew on the results of a longitudinal qualitative study of men with PCa and their spouses [48–52]. Two studies were each represented by two papers [42, 43, 59, 60]. The 37 included studies were heterogeneous with regard to treatment type and age. Only six studies recruited same sex couples [23, 25, 39, 54, 66, 68], of which the sample sizes were small. A commonly reported limitation was the lack of ethnic diversity in participants recruited.

The process of synthesising the data through first, second and third order constructs of the included studies is presented in Table 4 (see Online Resource 4). Seven key third order constructs emerged from the papers on couples' experiences of PCa. The majority of the studies aims included in this metasynthesis explored issues relating to relational intimacy

after PCa treatment, thus the impact to the sexual relationship. This, therefore, had an impact on the constructs developed. Processes of relational adjustment and non-adjustment were also identified in participants' experiences and authors' interpretations of their stories. The third order constructs developed from the studies are described below with exemplar extracts provided.

Accepting change vs seeking continuity

This core construct highlights how couples learned to deal with change and is also reflected in the subsequent constructs.

Reaching acceptance was a pivotal process for some couples, particularly in relation to altered sexual activity, with couples actively grieving the loss of sexual activity [25, 59, 60, 67]. Partner acceptance of loss of sexual activity sometimes aided the man with PCa in normalising and integrating this impact of PCa [8, 40, 50, 53, 54, 62, 66]. Furthermore, for both men and their partners, linking changes in sexual activity to the ageing process, menopause, other medical conditions and the length of time they have been together helped with acceptance [23, 25, 26, 39, 41–44, 50, 53, 57, 59, 60, 67]: 'I mean when you get older anyways, the sex, the sex aspect of marriage is deteriorating actually. I think it's different from when you're younger' (Patient) [59]. This concept of acceptance was also reinforced in three studies which reported that couples who developed realistic expectations were better able to accept feelings about their current and future sexual relationships [45, 59, 66].

Couples who were unable to accept loss of sexual activity often exhibited poorer adjustment [45]; '... I feel like I've lost the rest of my sexual life because of (man's) operation. It has been very hard to accept. [...] It seems a large part of our life is missing. It's been very hard for both of us to accept.' (Partner) [65]. Two studies highlighted that younger men may struggle to accept PCa [53, 67]. Older men (≥ 75 years) appeared to be more accepting of illness, which was also highlighted in another study in which acceptance of changes to sexual experiences was attributed to advancing age [39].

Studies which focused on the impact of PCa in ethnically diverse couples highlighted the importance of culture and value systems in supporting one another and in reaching acceptance of their situation. Faith in a higher spiritual power strengthened in time of illness and was a coping mechanism for female spouses [40, 43, 44]: '[...] cause spirituality take care of stress; spirituality take care of pain, ok; you put all your worries and care in Jesus and that's the therapy you need; if you got Jesus on your side, the health and life insurance, you don't need it' (Partner) [43]. This was also reported in one study outside of ethnic specific studies, in which faith became more significant in the period of men's illness [61].

Strategies used by couples to *seek continuity* included humour, carrying on as normal by not focusing on cancer, being

positive and putting things into perspective. Accepting support from family and friends also facilitated burden management for partners of men with PCa [8, 21, 25, 26, 38, 39, 41, 43, 44, 46, 48–53, 55, 57–62, 64–66].

Information and support were important in enabling couples to seek continuity in their situation. Couples reported receiving varying levels of support/information from healthcare professionals [51, 55, 62–64], and studies highlighted that couples were not always receiving the right type of information or information delivered in the right way. Participants valued a model of care that was tailored to their needs, including couple-focused support and provision of sexual and self-care information [8, 22, 26, 27, 38–40, 42, 43, 46, 54, 55, 57, 58, 63, 64, 67]. Some studies [8, 54] reported that couples felt discussions with clinicians about sexual functioning were not well conducted, perhaps reflecting the difficulties healthcare professionals and couples encounter in finding a mutually acceptable lexicon for discussing sex and intimacy. Other concerns included limited opportunities offered to talk about sexual needs and not being given enough information about the possible impact and use of sexual aids [8, 38, 42, 54]: 'I think you have to have a doctor or a nurse or somebody who's in a senior position who is quite sympathetic and knows how to be able to sit down and talk to a couple, [...] it's no good like the couple going in and seeing the consultant or the doctor or the nurse and they're just flippant with them, they don't explain things (Partner)' [54].

Cultivating connection vs disengaging

PCa treatment can often cause erectile dysfunction and may affect the psychosexual aspect of the relationship. For couples who adjusted well to their situation, integration of change was established through a renegotiation or redefining of a new sexual paradigm between both members of the dyad in which non-coital practices were positioned as sexual connection [8, 23, 24, 39–41, 45, 46, 48–50, 52–54, 57–60, 65–67]. For example, mutual genital touching, massage, kissing, hugging, and oral sex highlighted how connection was cultivated. One participant described this as 'engaging in outercourse not intercourse' (Patient) [24]. Embracing relational intimacy (emotional closeness) became the foundation for well-adjusted relationships and was considered more satisfying as both members in the dyad engaged in focusing on other parts of the relationship than sex [40, 45, 50, 59, 60]. Other attributes that were associated with positive adjustment were both members of the dyad being interested in engaging in sex [26, 27, 45, 54, 59, 66] and being open to experimenting with the use of erectile aids as an approach to engaging in sexual activity [23–25, 41, 45, 48, 50, 51, 59, 60, 65–67].

Another way that connection was cultivated among couples was through the use of open communication to express their feelings and needs [8, 24, 38, 39, 45, 49–51, 57, 59, 60,

65, 66]: ‘I emphasize open and honest communications, [...] I really think you have to express your true feelings so that the other person in your life really understands what you’re going through’ (Patient) [39]. Communication was highlighted as an important action in positive adjustment, and for some couples, this connection could be achieved through non-verbal communication [38, 39]. Couples often used reassurance as a form of emotional support and to reaffirm their love for one another and their future together, and that they would be able to deal with challenges as they arose [51, 60–62, 66].

However, loss of the sexual relationship sometimes led to distancing and disengagement between members of the couple [22, 25, 38, 39, 57, 59, 60] and may also reflect those unable to accept this change in their relationship. Lack of sexual desire was also reported by men on hormone treatment and post-surgery [39, 59, 60]. Unbalanced initiation of sex caused withdrawal in the relationship [25, 59, 60], as an example of those that were disengaging: ‘I started to avoid touching her, because she would think I would be interested when I’m really not. And then [she] would get all hot and bothered, and I’m not [...]’ (Patient) [60]. Couples frequently reported lack of spontaneity in sexual activity following treatment, which for some couples resulted in feelings of unhappiness and frustration [25, 39, 58]. Studies suggested that couples who struggled and were sexually dissatisfied had negative expectations about sexual activity which therefore hindered successful sexual outcomes [23, 45, 60].

Threatened identity

The construct threatened identity refers to ways in which identities of either or both individuals in the dyads were threatened due to PCa and/or its impact. Role changes as a consequence of the side effects of treatment for PCa were one such factor, as wives/partners carry out activities the husband/partner would have normally done [8, 49, 52, 53, 58]: ‘My wife tries to do too much. It’s physically exhausting for her and very, very difficult. But at the same time, I don’t know how to change it [...]’ (Patient) [8]. Furthermore, partners could feel *threatened*, through fear of losing their husband/partner which also caused disengagement with the man with PCa [8, 43, 44, 61–63, 65]: ‘I was crying all the time at first and he was trying to get his head round focusing on living and he used to say it’s like walking on eggshells round here, you know, look at you with your miserable face...and once we realised well actually the crux of this is that he’s focusing on living, and I’m focusing on him dying and the future and it’s just not the same [...] that was quite painful for quite a long time’ (Partner) [63].

For some, sexual impairment posed a significant *threat* to their masculine identities and therefore on the relationship [8, 23, 25–27, 38, 39, 42, 44, 48, 50, 52, 59, 60, 64, 65, 67], as some members of the couple felt insecure about the possibility of their husband/partner leaving them and uncertainty about

the trajectory of their relationship [57, 60, 66, 67]. Petry et al. [57] stated that ‘One woman expressed great uncertainty about how her husband’s impotence would affect their relationship in the future, not knowing if she would still love him in a year’(page 511). Threatened identity was also reflected in some partners who described a decrease in self-esteem due to loss of sexual affection from their husband [8, 27, 58, 60, 62]: ‘I don’t feel the same about myself. Before, if you wear something sexy, it would turn him on. Well obviously, I can’t turn him on anymore, so you feel different about yourself’ (Partner) [60]. Sexual insecurities were also related to diminished satisfaction or distress associated with the use of sexual aids [24, 25, 39, 42, 48, 50, 51, 65, 66]. This was due to the loss of normality in the process of using sexual aids [50, 62], and mechanisation of sexual activity as sexual pleasure was replaced with managing the technical aspects of the sexual aid [39]: ‘[...] It’s not the same sort of satisfaction. It relieves the pressure, but it’s not that sort of sense of fulfilment, and bonding’ (Patient) [50]. Negative perceptions of using biotechnology/medication were also a barrier to use [25, 26, 38, 42, 43, 50] and, for some women, led to frustration over men’s attempts at the use of failing biotechnology [50].

Shielding me, you and us

This construct represents how couples attempt to shield each other, their selves and others when faced with challenges related to the PCa. Couples often hid their feelings from each other, for example, as a coping mechanism or as a way to seek continuity. This could also be to shield the other and avoid causing more distress to one another [8, 22, 38, 42–44, 48, 49, 55, 62]. Authors of two studies suggested that women suppressed their feelings so as not to interfere with men’s coping efforts [38, 49]. In contrast, some women viewed their husbands’ concealment of feelings as antagonistic to their own coping ability [49]: ‘... I knew he was protecting me and that upset me even worse—that he was feeling much sicker than he would let me know.... He didn’t want to worry me but instead of protecting me, it made me feel like I was dying inside, it just broke my heart’ (Partner) [49]. Couple’s absence of communication toward each other often created discord and also made mutual support difficult [22, 24, 25, 38, 39, 42, 43, 50, 58–60].

Shielding was also used in relationships when women were challenged in their ability to maintain and express physical intimacy, due to their desire to protect men with PCa feeling inadequate about an inability to meet their sexual needs [39, 44, 48, 50, 59]. On the other hand, men with PCa feared getting their partner aroused and not meeting their expectation to sexually perform, therefore failing to try and sometimes leading to tension and withdrawal within the relationship [8, 25, 50, 53, 58–60, 66]: ‘I think she’s afraid of making me feel incompetent. And I’m afraid of getting her aroused and not

being able to complete things. And this tension builds up. I'm afraid to try too much and maybe she's afraid to suggest it too much for fear of disappointment on both our sides...' (Patient) [50].

Studies often alluded to the conflict between seeking and avoiding information either due to some partners' need for more information compared to the man with PCa or by partners censoring themselves in consultations to avoid causing anxiety to the person with PCa, thus highlighting how partners protect their husbands. For some partners, information was avoided to reduce fear and feelings of uncertainty and anxiety, thus protecting themselves: 'The least you know the better' [47]. This was connected to their attempt, discussed above, to seek continuity in their lives [38, 47, 58, 63, 64]. Partners had to be careful in finding ways to support men without impinging on men's need for autonomy [48–51, 56, 58, 62].

The shield also appeared to be used to protect people outside of the relational dyad. Censorship of talking about health concerns between family members/friends was sometimes due to differences in readiness to tell, perceptions on other peoples' feelings around cancer or so as not to distress others [51, 61]: 'People really don't want to hear about the illness and especially not the children' (Patient) [61].

Being a partner and its challenges

Partners appeared to play a fundamental role in supporting their husband/partner to integrate the changes posed by PCa and in facilitating his recovery: 'Well, I mean I think she's instrumental in my recovery and the rapidity in which that activity has been restored' (Patient) [66]. Some of the responsibilities partners assumed included providing information about PCa for the men they are caring for and family members [38, 41, 49, 56–58, 66], being the communication conduit between men and healthcare professionals [8, 25, 63], and providing practical support [8, 22, 49, 53, 55, 58, 61, 64]. In addition, they helped men work out their care routines [8, 41, 44, 52, 57] and juggled with the emotional caretaking of their husbands/partners as well as managing their own feelings [25, 44, 48, 51, 57, 58, 62, 64, 66]: 'I was extremely afraid of hurting 'man's name', and I was afraid of hurting myself as well. I was so focused on him that, in a way, I forgot myself. In retrospect, I have cried very little (tearful)' (Partner) [62]. *Challenges* occurred where partners/wives experienced difficulties in balancing the demands of caring work/family roles and providing emotional support [22, 25, 26, 38, 44, 51, 53, 62, 63, 65, 66]: 'It is hard to be the one who has to listen and reassure all the time. It is a difficult situation for me as well' (Partner) [62]. As a result, conflict and tension could arise in couples [22, 44, 52, 57, 64]: 'We haven't been arguing for 30 years, suddenly we do...' (Partner) [22]. Partners' caregiving also resulted in the development of physical ailments or feelings of being overstrained [38, 44, 62–65]. Sometimes this

was because partners disregarded their own needs as less important [22, 39, 48, 50, 61, 62, 66].

Feeling unsupported and side-lined

Some partners felt unsupported in healthcare settings and felt they were relegated to the side-line in consultations, with their contribution not acknowledged and their needs not addressed [22, 54, 57, 62–64]: 'In the hospital, the patient is the focus; it feels a bit hard when I do so much' (Partner) [62]. Partners also often felt isolated and unsupported at times when men emotionally and physically withdrew, possibly highlighting a barrier to being able to seek continuity in their lives. However, some partners understood that their partner needed to retreat in order to adjust to their situation [38, 46, 48, 49, 52, 60, 64–66]. Some men restricted their partner's disclosure of PCa [8, 30, 43, 62], which was difficult for some as they would have found benefit in talking to others to gain support, and sometimes encouraged men to speak with others in order to ease the situation for themselves [8, 38, 57, 61–64]: 'My husband didn't want me to talk to anyone else...So it was difficult when I couldn't share it. I realize he was having to process this himself, but it was difficult for me because I really needed to talk about it with somebody.' (Partner) [52]. As one author suggested 'imposed loneliness' occurred when a family/social network pretended that illness did not exist and therefore was not discussed, which could also happen if men did not want to discuss their situation with their partner [22, 61, 65]. Some women chose 'self-inflicted loneliness' as a strategy to avoid questioning from others about their husband/partners' health [61].

The value in facing PCa together

In contrast to the constructs *feeling unsupported and side-lined* and *shielding me, you and us*, the literature often reported couples referring to the 'WE' disease and facing PCa as a team because the impact of the illness and its management affects both members of the dyad (20,40,41,43,46–49,53,54,56,58,59): 'I think you have to have the feeling that you're going through it together. [...], you have to do it as a team. And that's been a wonderful thing for us' (Patient) [51]. PCa presented a situation whereby the value in accepting change was reflected by couples who were able to spend more time together and, for some couples, strengthened relationships within the family and with their partner [8, 23, 25, 40, 41, 44, 46, 48–51, 53, 60, 62, 65, 66, 68]. Other ways *the value in facing PCa together* was highlighted was through couples embarking on new ventures together, valuing each day and having a new perspective on their relationship and as individuals [8, 40, 41, 48, 49, 51–53, 62, 65]: '...we're closer than ever emotionally. It's very good for you in some ways as you learn to forget a lot of the crap in life. You don't

put up with it. It just gives you a different insight into yourself and into your partner' (Partner) [65].

Discussion

This metasynthesis highlights how PCa impacts on both individuals in the dyad and their shared life, psycho-emotionally, physically, socially and practically [69], and suggests what is unique to the experience of couples.

From a dyadic perspective, high relationship functioning during or after treatment may be dependent on how well couples integrate cancer and side effects of treatment into their lives, as shown in other studies [70, 71]. This accords with our metasynthesis and is reflected in the constructs developed that highlighted the tension in couples' use of different strategies to accept change vs seeking continuity, which converged with other constructs that reported adjustment strategies associated with the impact on the relationship. It seemed that being unable to accept changes posed by PCa and its impact or being unable to find continuity led to a form of disengagement or withdrawal and therefore difficulties in adjusting as a couple. Withdrawal and avoiding communication seemed to be a theme common to some constructs, for example, in relation to the impact to masculine identities as a result of sexual dysfunction (see constructs cultivating connection vs disengaging and threatened identity). Here, as in the main metasynthesis (Rivas et al., *in prep*), as well as metasyntheses on younger, unpartnered and gay men [72] and BME men [35], loss of sexual activity was found to impact men's sense of manhood and sometimes led to feelings of inadequacy and avoidance behaviours [8, 23, 25, 38, 39, 42, 44, 48, 50, 52, 59, 60, 64, 65]. In relation to the construct shielding me, you and us, challenges in navigating physical intimacy sometimes led to couples withdrawing from each other or avoiding communication. In the wider cancer literature, withdrawing or avoiding communication is revealed to be dysfunctional and related to lower relationship functioning [10, 73–75].

Conversely, couples that adjusted well to the impact of PCa renegotiated sexual experiences, reached a level of acceptance about their situation and were able to openly communicate with each other; strategies of which are highlighted in the core construct accepting change vs seeking continuity, and in the construct cultivating connection vs disengaging. Previous studies have also suggested that mutual communication is associated with successful adjustment [10, 76–78]. In couples affected by breast cancer, helpful communication was characterised by high partner empathy and low withdrawal, which were related to positive psychological adjustment [79–81]. Therefore, it could be advantageous if healthcare professionals advised about or signposted to support services that included interventions to help couples in communicating honestly with each other.

Benoot et al.'s qualitative metasynthesis [18] with focus on the sexual adaptation process during cancer, developed three key constructs to highlight the pathways of sexual adjustment which included grief, restructuring and rehabilitation. The pathways of restructuring and rehabilitation in which the person with cancer and partner adjust through means of redefining their sexual experience and employing specific attitudes/behaviours and practical ways to adjust are similar to the constructs in our sub-synthesis termed as cultivating connection vs disengaging and accepting change vs seeking continuity, thus adding to the validity and credibility of our sub-synthesis. Since Benoot et al.'s metasynthesis focused on the links between the studies' theoretical approaches and the interpretation of the sexual adaptation process, there was a prominent focus on gendered aspects of the sexual adjustment process.

Across the studies, there was evidence of gaps in clinical support, specifically in relation to the impact on the sexual relationship. Numerous studies reported the need for an approach tailored to the needs of the couple, including interventions to maximise sexual functioning and communication about their grief and sexual losses [8, 24, 25, 46, 53, 54, 58, 66].

Six intervention studies have sought to address relational and sexual intimacy following PCa treatment [77, 82–86]. Specifically, four of these studies focusing on sexuality and erectile dysfunction (ED) treatments [82–85] reported that whilst men with PCa reported an increase in sustained ED treatment use and benefit, there were no significant outcomes for partners. In comparison, two relational focused intervention studies that addressed concerns regarding relationship factors such as intimacy and communication found that men with PCa reported fewer benefits than partners [77, 86]. Whilst these studies suggest that men with PCa and their partners may benefit from different types of interventions, it can be argued that couple's lack of engagement in support that embraces both the physical and relational aspects may hinder their adjustment in sexual recovery, as incorporation of both aspects may be needed to truly work as a team and move forward as a couple. The significance of developing empathy in order for couples to work as a team and adjust positively has predominantly been highlighted in the breast cancer literature but is also highly relevant to PCa [79]. Empathy development coexists with active listening and open communication which has been further emphasised as a way to provide effective support for couples' post PCa treatment in other areas of this discussion.

The construct *being a partner and its challenges* emphasises the key role partners assume to support the man with PCa. Previous work has shown that psychological distress is experienced differently between male and female caregivers [87]. The literature suggests that partners have difficulty with coping, yet there appears to be little offered by healthcare in the way of support for this [63, 88]. Studies have highlighted the need for partners to be involved in the consultation process

and for healthcare professionals to be more inclusive of their needs, in addition to those of the person with cancer [53, 62]. Partners suggested that support groups for women supporting men with PCa [62] and a systematic assessment of partner's support needs [53, 61, 63, 65] would be welcomed. Therefore, it is important to highlight support options during consultations as a way to acknowledge and address the needs of partners [89].

Whilst partner specific support is important, an increased awareness of cancer as a 'dyadic affair' may highlight the importance of dyadic coping in maintaining and possibly improving relationship functioning in couples managing cancer, particularly with regard to the sexual impact [90]. This is reflected in the construct *the value in facing PCa together* and also its antithesis construct *feeling unsupported and side-lined*. The way in which both members of the couple cope may be dependent on one another's adjustment [38, 91–95]. In the context of PCa, couples often spoke of facing cancer as a team—a 'WE-disease (20,40,41,43,46–49,53,54,56,58,59), which is a concept also commonly reported with breast and lung cancers [51, 78, 96–98].

Tailoring support to the needs of the couple, including psycho-educational/psycho-sexual interventions in addition to practical and self-management support, could have potential benefits for both members of the dyad and adheres to 'patient-centred care'. This may also address policy recommendations outlined by the NHS Outcomes Framework [99] regarding the importance of *enhancing quality of life for carers* and *ensuring people feel supported to manage their own condition* in line with National Institute for Clinical Excellence guidelines for the diagnosis and treatment of PCa [100].

Limitations and strengths

The sub-synthesis has many strengths including clear, specific inclusion criteria and rigorous methods when screening for articles. This is in addition to double extraction of data and quality assessment of the studies to be included.

The studies included were heterogeneous with regard to type of treatment men had completed, and age ranges, thus strengthening the validity of the data. However, in many cases, the time since treatment and cancer grade/stage was not reported, though likely to impact on experiences and needs.

This sub-synthesis was limited by the studies included. Firstly, the majority of couples recruited had been married for over 20 years, and so, our findings may not reflect the experiences and needs of couples in a relationship for a shorter time. As topics discussed in the studies are highly sensitive, there may be a selection bias as couples more open to sharing their experiences may be more likely to have participated. Well-adjusted couples may also be more likely to participate,

so the views of couples struggling to adjust may not be fully captured. Many of the studies were carried out in the USA, Canada, Australia and Europe, with only three in the UK. Experiences of healthcare may differ within and across countries and therefore impact on the relevance and transferability of its findings, and thus clinical implications.

Clinical implications and conclusion

The couples' experiences of PCa impact on different aspects of their lives, functionally, emotionally, psychologically and in terms of their relationship. Since there are many challenges for couples coping with PCa, it is important that healthcare services provide support or interventions which include and address the impact on couples. Service providers should recognise that individual members of the couple may have different needs, but that it is important to employ a couple-focused approach when highlighting support services that may be useful for them to work and move forward together. The importance of communication in adjustment is well researched; therefore, effective communication training programmes and how these can be implemented into the clinical pathway need further consideration. In addition, more studies exploring experiences, needs and access to services are needed in couples from a range of ethno-cultural backgrounds, and same sex couples, with the aim of addressing gaps in knowledge. The experience and impact of PCa when well integrated through the couples' own resources and with support from healthcare professionals and others can result in an accommodation to their new situation.

Funding This study was funded by Oxford Brookes University which is a sub-study to the Life After Prostate Cancer Diagnosis (LAPCD) study. The LAPCD study was funded by the Movember Foundation, in partnership with Prostate Cancer UK, as part of the Prostate Cancer Outcomes programme, grant number BO26/MO.

Compliance with ethical standards

Conflicts of interest The authors declare that they have no conflict of interest.

References

1. Ferlay J, Steliarova-Foucher E, Lortet-Tieulent J, Rosso S, Coebergh JWW, Comber H, Forman D, Bray F (2013) Cancer incidence and mortality patterns in Europe: estimates for 40 countries in 2012. *Eur J Cancer* 49:1374–1403
2. Ferlay J, Shin H-R, Bray F, Forman D, Mathers C, Parkin DM (2010) Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Cancer* 127:2893–2917
3. Center MM, Jemal A, Lortet-Tieulent J, Ward E, Ferlay J, Brawley O, Bray F (2012) International variation in prostate cancer incidence and mortality rates. *Eur Urol* 61:1079–1092

4. Cancer Research UK (2015) Achieving world class outcome: a strategy for England 2015–2020
5. Crowe H, Costello AJ (2003) Prostate cancer: perspectives on quality of life and impact of treatment on patients and their partners. *Urol Nurs* 23:279
6. Kershaw TS, Mood DW, Newth G, Ronis DL, Sanda MG, Vaishampayan U, Northouse LL (2008) Longitudinal analysis of a model to predict quality of life in prostate cancer patients and their spouses. *Ann Behav Med* 36:117–128
7. Northouse LL, Mood DW, Montie JE, Sandler HM, Forman JD, Hussain M, Pienta KJ, Smith DC, Sanda MG, Kershaw T (2007) Living with prostate cancer: patients' and spouses' psychosocial status and quality of life. *J Clin Oncol* 25:4171–4177
8. Harden SA, Northouse L, Mood D, Smith D, Pienta K, Hussain M, Baranowski K (2002) Couples' experiences with prostate cancer: focus group research. *Oncol Nurs Forum* 29:701–709
9. Arrington MI (2005) She's right behind me all the way: an analysis of prostate cancer narratives and changes in family relationships. *J Fam Commun* 5:141–162
10. Li Q, Loke AY (2014) A literature review on the mutual impact of the spousal caregiver-cancer patients dyads: "communication", "reciprocal influence", and "caregiver-patient congruence". *Eur J Oncol Nurs* 18:58–65
11. Kim Y, van Ryn M, Jensen RE, Griffin JM, Potosky A, Rowland J (2015) Effects of gender and depressive symptoms on quality of life among colorectal and lung cancer patients and their family caregivers. *Psychooncology* 24:95–105
12. Kim Y, Kashy DA, Wellisch DK, Spillers RL, Kaw CK, Smith TG (2008) Quality of life of couples dealing with cancer: dyadic and individual adjustment among breast and prostate cancer survivors and their spousal caregivers. *Ann Behav Med* 35:230–238
13. Dixon-Woods M, Sutton A, Shaw R, Miller T, Smith J, Young B, Bonas S, Booth A, Jones D (2007) Appraising qualitative research for inclusion in systematic reviews: a quantitative and qualitative comparison of three methods. *J Health Serv Res Policy* 12:42–47
14. Dixon-Woods M, Fitzpatrick R (2001) Qualitative research in systematic reviews. Has established a place for itself. *BMJ* 323:765–766
15. Wanat M, Boulton M, Watson E (2016) Patients' experience with cancer recurrence: a meta-ethnography. *Psychooncology* 25:242–252
16. Rivas C, Matheson L, Nayoan J, Glaser A, Gavin A, Wright P, Watson E, Wagland R A Metasynthesis on the prostate cancer experience for men with prostate cancer and their partners and carers. prep
17. Schumm K, Skea Z, McKee L, N'Dow J (2010) 'They're doing surgery on two people': a meta-ethnography of the influences on couples' treatment decision making for prostate cancer. *Health Expect* 13:335–349
18. Benoot C, Saelaert M, Hannes K, Bilsen J (2016) The sexual adjustment process of cancer patients and their partners: a qualitative evidence synthesis. *Arch Sex Behav*:1–25
19. Tucker SR, Speer SA, Peters S (2016) Development of an explanatory model of sexual intimacy following treatment for localised prostate cancer: a systematic review and meta-synthesis of qualitative evidence. *Soc Sci Med* 163:80–88
20. Rivas C, Matheson L, Wagland R, Corner J, Wright P, Gavin A (2015) Exploring the quality of life and wellbeing of men with prostate cancer and their partners or carers, and related care needs and gaps in service: protocol for qualitative meta-synthesis. *PROSPERO Int Prospect Regist Syst Rev* 24:618–634. <https://doi.org/10.1111/ecc.12286>
21. Saini M, Shlonsky A (2012) Systematic synthesis of qualitative research. Oxford University Press
22. Dieperink KB, Mark K, Mikkelsen TB (2015) Marital rehabilitation after prostate cancer—a matter of intimacy. *Int J Urol Nurs* 10: 21–29
23. Gilbert E, Ussher JM, Perz J, Gilbert E, Ussher JM, Perz J (2013) Embodying sexual subjectivity after cancer: a qualitative study of people with cancer and intimate partners. *Psychol Health* 28:603–619
24. Ussher J, Perzz J, Gilbert E, Wong W, Hobbs K (2013) Renegotiating sex and intimacy after cancer. *Cancer Nurs* 36: 454–462
25. Wittmann D, Carolan M, Given B, Skolarus TA, Heather C, An L, Palapattu G, Clark P, Montie JE (2015) What couples say about their recovery of sexual intimacy after prostatectomy: toward the development of a conceptual model of couples' sexual recovery after surgery for prostate cancer. *Sex Med* 12:494–504
26. Wittmann D, Northouse L, Crossley H, Miller D, Dunn R, Nidetz J, Montie J, Moyad M, Lavin K, Montie JE (2015) A pilot study of potential pre-operative barriers to couples' sexual recovery after radical prostatectomy for prostate cancer. *J Sex Marital Ther* 41: 155–168
27. O'Shaughnessy P, Ireland C, Pelentsov L, Thomas L, Esterman A (2013) Impaired sexual function and prostate cancer: a mixed method investigation into the experiences of men and their partners. *J Clin Nurs* 22:3492–3502
28. Noblit W, Hare D (1988) Meta-ethnography: synthesizing qualitative studies
29. Hannes K (2011) Critical Appraisal of Qualitative Research
30. Cesario S, Morin K, Santa-Donato A et al (2002) Evaluating the level of evidence of qualitative research. *J Obstet Gynecol Neonatal Nurs* 31:708–714
31. Paterson BL (2007) Coming out as ill: understanding self-disclosure in chronic illness from a meta-synthesis of qualitative research. In: rev. res. *Evid Nurs Pract* pp 73–83
32. Thomas J, Harden A (2008) Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Med Res Methodol* 8. <https://doi.org/10.1186/1471-2288-8-45>
33. Feder GS, Hutson M, Ramsay J, Taket AR (2006) Women exposed to intimate partner violence. *Arch Intern Med* 166:22–37
34. Britten N, Campbell R, Pope C, Donovan J, Morgan M, Pill R (2002) Using meta ethnography to synthesise qualitative research: a worked example. *J Health Serv Res Policy* 7:209–215
35. Rivas C, Matheson L, Nayoan J, Glaser A, Gavin A, Wright P, Wagland R, Watson E (2016) Ethnicity and the prostate cancer experience: a qualitative metasynthesis. *Psychooncology* 25: 1147–1156. <https://doi.org/10.1002/pon.4222>
36. Atkins S, Lewin S, Smith H, Engel M, Fretheim A, Volmink J (2008) Conducting a meta-ethnography of qualitative literature: lessons learnt. *BMC Med Res Methodol* 8:21
37. Campbell R, Pound P, Pope C, Britten N, Pill R, Morgan M, Donovan J (2003) Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. *Soc Sci Med* 56:671–684
38. Wooten AC, Abbott JM, Osborne D, Austin DW, Klein B, Costello AJ, Murphy DG (2014) The impact of prostate cancer on partners: a qualitative exploration. *Psychooncology* 23:1252–1258
39. Hartman M-E, Irvine J, Currie KL, Ritvo P, Trachtenberg L, Louis A, Trachtenberg J, Jamnicky L, Matthew AG (2014) Exploring gay couples' experience with sexual dysfunction after radical prostatectomy: a qualitative study. *J Sex Marital Ther* 40:233–253
40. Ka'opua LS, Gotay C, Boehm P (2007) Spiritually based resources in adaptation to long-term prostate cancer survival: perspectives of elderly wives. *Health Soc Work* 32:29–39
41. Ka'opua LSI, Gotay CC, Hannum M, Bunghanoy G (2005) Adaptation to long-term prostate cancer survival: the perspective

- of elderly Asian/Pacific Islander wives. *Health Soc Work* 30:145–154
42. Rivers B, August E, Gwede C, Hart A Jr, Donovan K, Pow-Sang J, Quinn G (2011) Psychosocial issues related to sexual functioning among African-American prostate cancer survivors and their spouses. *Psychooncology* 20:106–110
 43. Rivers BM, August EM, Quinn GP, Gwede CK, Pow-Sang JM, Lee Green B, Jacobsen PB (2012) Understanding the psychosocial issues of African American couples surviving prostate cancer. *J Cancer Educ* 27:546–558
 44. Williams KC, Hicks EM, Chang N, Connor SE, Maliski SL (2014) Purposeful normalization when caring for husbands recovering from prostate cancer. *Qual Health Res* 24:306–316
 45. Beck AM, Robinson JW, Carlson LE (2013) Sexual values as the key to maintaining satisfying sex after prostate cancer treatment: the physical pleasure-relational intimacy model of sexual motivation. *Arch Sex Behav* 42:1637–1647
 46. Butler L, Downe-Wamboldt B, Marsh S, Bell D, Jarvi K (2000) Behind the scenes: partners' perceptions of quality of life post radical prostatectomy. *Urol Nurs* 20:254–258
 47. Feltwell AK, Rees CE (2004) The information-seeking behaviours of partners of men with prostate cancer: a qualitative pilot study. *Patient Educ Couns* 54:179–185
 48. Fergus KD (2011) The rupture and repair of the couple's communal body with prostate cancer. *Fam Syst Health* 29:95–113
 49. Fergus KD, Gray RE, Fitch MI, Labrecque M, Phillips C (2002) Active consideration: conceptualizing patient-provided support for spouse caregivers in the context of prostate cancer. *Qual Health Res* 12:492–514
 50. Gray R, Fitch M, Phillips C, Labrecque M, Fergus K, Klotz L (2002) Prostate cancer and erectile dysfunction: men's experiences. *Int J Mens Health* 1:15–29
 51. Gray RE, Fitch M, Phillips C, Labrecque M, Fergus K (2000) Managing the impact of illness: the experiences of men with prostate cancer and their spouses. *J Health Psychol* 5:531–548
 52. Phillips C, Gray RE, Fitch MI, Labrecque M, Fergus K, Klotz L (2000) Early postsurgery experience of prostate cancer patients and spouses. *Cancer Pract* 8:165–171
 53. Harden NLL, Mood DW (2006) Qualitative analysis of couples' experience with prostate cancer by age cohort. *Cancer Nurs* 29:367–377
 54. Kelly D, Forbat L, Marshall-Lucette S, White I (2015) Co-constructing sexual recovery after prostate cancer: a qualitative study with couples. *Transl Androl Urol* 4:131–138
 55. O'Callaghan C, Dryden T, Hyatt A et al (2014) "What is this as thing?": men's and partners' reactions to treatment decision making for prostate cancer when active surveillance is the recommended treatment options. *Psychooncology* 23:1391–1398
 56. Oliffe J, Mróz LW, Bortorff JL, Braybrook DE, Ward A, Goldenberg LS (2015) Heterosexual couples and prostate cancer support groups: a gender relations analysis. *Support Care Cancer* 23:1127–1133
 57. Petry H, Berry DL, Spichiger E, Kesselring A, Gasser TC, Sulser T, Kiss A (2004) Responses and experiences after radical prostatectomy: Perceptions of married couples in Switzerland. *Int J Nurs Stud* 41:507–513
 58. Sanders S, Pedro LW, Bantum EO, Galbraith ME (2006) Couples surviving prostate cancer: long-term intimacy needs and concerns following treatment. *Clin J Oncol Nurs* 10:503–508
 59. Walker LM, Robinson JW (2011) A description of heterosexual couples' sexual adjustment to androgen deprivation therapy for prostate cancer. *Psychooncology* 20:880–888
 60. Walker LM, Robinson JW (2012) Sexual adjustment to androgen deprivation therapy: struggles and strategies. *Qual Health Res* 22:452–465
 61. Bruun P, Pedersen BD, Osther PJ, Wagner L (2011) The lonely female partner: a central aspect of prostate cancer. *Urol Nurs* 31:294–299
 62. Ervik B, Nordøy T, Asplund K (2013) In the middle and on the sideline: the experience of spouses of men with prostate cancer. *Cancer Nurs* 36:E7–E14
 63. Sinfield P, Baker R, Ali S, Richardson A (2012) The needs of carers of men with prostate cancer and barriers and enablers to meeting them: a qualitative study in England. *Eur J Cancer Care (Engl)* 21:527–534
 64. Evertsen JM, Wolkenstein AS (2010) Female partners of patients after surgical prostate cancer treatment: interactions with physicians and support needs. *BMC Fam Pract* 11:19
 65. Street AF, Couper JW, Love AW, Bloch S, Kissane DW, Street BC (2010) Psychosocial adaptation in female partners of men with prostate cancer. *Eur J Cancer Care (Engl)* 19:234–242
 66. Wittmann D, Carolan M, Given B, Skolarus TA, An L, Palapattu G, Montie JE (2014) Exploring the role of the partner in couples' sexual recovery after surgery for prostate cancer. *Support Care Cancer* 22:2509–2515
 67. Boehmer U, Babayan RK (2004) Facing erectile dysfunction due to prostate cancer treatment: perspectives of men and their partners. *Cancer Investig* 22:840–848
 68. Ussher JM, Perz J, Gilbert E, Wong WKT, Mason C, Hobbs K, Kirsten L (2013) Talking about sex after cancer: a discourse analytic study of health care professional accounts of sexual communication with patients. *Psychol Health* 28:1370–1390
 69. Hagedoorn M, Sanderman R, Bolks HN, Tuinstra J, Coyne JC (2008) Distress in couples coping with cancer: a meta-analysis and critical review of role and gender effects. *Psychol Bull* 134:1–30
 70. Berg CA, Upchurch R (2007) A developmental-contextual model of couples coping with chronic illness across the adult life span. *Psychol Bull* 133:920–954
 71. Manne S, Badr H (2008) Intimacy and relationship processes in couples' psychosocial adaptation to cancer. *Cancer* 112:2541–2555
 72. Matheson L, Rivas C, Nayoan J, Wagland R, Glaser A, Gavin A, Wright P (2017) A qualitative metasynthesis exploring the impact of prostate cancer and its management on younger, unpartnered, gay or bisexual men. *Eur J Cancer* 26. <https://doi.org/10.1111/ecc.12676>
 73. Manne S, Badr H, Zaidner T, Nelson C, Kissane D (2010) Cancer-related communication, relationship intimacy, and psychological distress among couples coping with localized prostate cancer. *J Cancer Surviv* 4:74–85
 74. Song L, Northouse LL, Zhang L, Braun TM, Cimprich B, Ronis DL, Mood DW (2012) Study of dyadic communication in couples managing prostate cancer: a longitudinal perspective. *Psychooncology* 21:72–81
 75. Paradis M, Consoli SM, Pelicier N, Lucas V, Andrieu J-M, Jian R (2009) Psychosocial distress and communication about cancer in ill partners and their spouses. *Encéphale* 35:146–151
 76. Badr H, Taylor CLC (2009) Sexual dysfunction and spousal communication in couples coping with prostate cancer. *Psychooncology* 18:735–746
 77. Manne SL, Kissane DW, Nelson CJ, Mulhall JP, Winkel G, Zaidner T (2011) Intimacy-enhancing psychological intervention for men diagnosed with prostate cancer and their partners: a pilot study. *J Sex Med* 8:1197–1209
 78. Fergus KD, Gray RE (2009) Relationship vulnerabilities during breast cancer: patient and partner perspectives. *Psychooncology* 18:1311–1322
 79. Carlson LE, Ottenbreit N, Pierre MS, Bultz BD (2001) Partner understanding of the breast and prostate cancer experience. *Cancer Nurs* 24:231–239

80. Manne SL, Ostroff JS, Norton TR, Fox K, Goldstein L, Grana G (2006) Cancer-related relationship communication in couples coping with early stage breast cancer. *Psychooncology* 15:234–247
81. Manne SL, Norton TR, Ostroff JS, Winkel G, Fox K, Grana G (2007) Protective buffering and psychological distress among couples coping with breast cancer: the moderating role of relationship satisfaction. *J Fam Psychol* 21:380–388
82. Walker LM, Hampton AJ, Wassersug RJ, Thomas BC, Robinson JW (2013) Androgen deprivation therapy and maintenance of intimacy: a randomized controlled pilot study of an educational intervention for patients and their partners. *Contemp Clin Trials* 34:227–231
83. Chambers SK, Occhipinti S, Schover L, Nielsen L, Zajdlewicz L, Clutton S, Halford K, Gardiner RA, Dunn J (2015) A randomised controlled trial of a couples-based sexuality intervention for men with localised prostate cancer and their female partners. *Psychooncology* 24:748–756
84. Canada AL, Neese LE, Sui D, Schover LR (2005) Pilot intervention to enhance sexual rehabilitation for couples after treatment for localized prostate carcinoma. *Cancer* 104:2689–2700
85. Schover LR, Canada AL, Yuan Y, Sui D, Neese L, Jenkins R, Rhodes MM (2012) A randomized trial of internet-based versus traditional sexual counseling for couples after localized prostate cancer treatment. *Cancer* 118:500–509
86. Northouse LL, Mood DW, Schafenacker A, Montie JE, Sandler HM, Forman JD, Hussain M, Pienta KJ, Smith DC, Kershaw T (2007) Randomized clinical trial of a family intervention for prostate cancer patients and their spouses. *Cancer* 110:2809–2818
87. Kim Y, Kashy DA, Wellisch DK, Spillers RL, Kaw CK, Smith TG (2008) Quality of life of couples dealing with cancer: dyadic and individual adjustment among breast and prostate cancer survivors and their spousal caregivers. *Ann Behav Med* 35:230–238
88. Adams E, Boulton M, Rose PW, Lund S, Richardson A, Wilson S, Watson EK (2012) A qualitative study exploring the experience of the partners of cancer survivors and their views on the role of primary care. *Support Care Cancer* 20:2785–2794
89. Given B, Given C, Sherwood P (2012) Family and caregiver needs over the course of the cancer trajectory. *J Support Oncol* 10:57–64
90. Traa MJ, De Vries J, Bodenmann G, Den Ouden BL (2015) Dyadic coping and relationship functioning in couples coping with cancer: a systematic review. *Br J Health Psychol* 20:85–114
91. Pitceathly C, Maguire P (2003) The psychological impact of cancer on patients' partners and other key relatives. a review *Eur J Cancer* 39:1517–1524
92. Kurtz M, Kurtz J, Given C, Given B (1995) Relationship of caregiver reactions and depression to cancer patients' symptoms, functional states and depression—a longitudinal view. *Soc, Scie Med* 40:837–846
93. Morse SR, Fife B (1998) Coping with a partner's cancer: adjustment at four stages of the illness trajectory. *Oncol Nurs Forum* 25: 751–760
94. Andrykowski MA, Manne SL (2006) Are psychological interventions effective and accepted by cancer patients? I. Standards and levels of evidence. *Ann Behav Med* 32:93–97
95. Antoni MH, Lechner SC, Kazi A, Wimberly SR, Sifre T, Urcuyo KR, Phillips K, Glück S, Carver CS (2006) How stress management improves quality of life after treatment for breast cancer. *J Consult Clin Psychol* 74:1143–1152
96. Badr H, Carmack Taylor CL (2006) Social constraints and spousal communication in lung cancer. *Psychooncology* 15:673–683
97. Dorval M, Guay S, Mondor M, Mâsse B, Falardeau M, Robidoux A, Deschênes L, Maunsell E (2005) Couples who get closer after breast cancer: frequency and predictors in a prospective investigation. *J Clin Oncol* 23:3588–3596
98. Acitelli LK, Badr HJ (2005) My illness or our illness? Attending to the relationship when one partner is ill. In: *Couples coping with stress Emerg. Perspect. Dyadic coping*. American Psychological Association, pp 121–136
99. Department of Health (2014) NHS outcomes framework 2015/16
100. National Collaborating Centre for Cancer (2014) Prostate cancer: diagnosis and treatment