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The impact of radical prostatectomy on the social well-being of prostate cancer survivors: A qualitative meta-synthesis

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Abstract

Introduction: The impact of radical prostatectomy on the social well-being of survivors remains poorly understood. This meta-synthesis therefore aimed to integrate the findings of qualitative research evaluating the impact of surgery on the patient relationships with partners, family and wider societal interactions.

Methods: Medline, CINAHL, PsycINFO and Embase were searched for qualitative studies evaluating social well-being dimensions. A thematic meta-synthesis was conducted to inductively construct descriptive themes and overarching analytical themes.

Results: Thirty-one articles were included, with seven descriptive themes under two analytical themes generated to describe the experiences of 469 participants. 'Pathway to Conversion' encompassed three themes on the evolving social behaviour of men with both partners and family to adapt to their new normality postoperatively. 'A Man on My Own' discussed four themes focussing on both intimate and wider social relations, describing the stigma, shame and embarrassment felt by patients due to changes in their perceived body image and physical function. This resulted in men feeling alone, unsupported and seeking isolation.

Conclusion: Radical prostatectomy's impact on survivors' social well-being extends beyond surgery and causes a shift in their relationship dynamics with partner and family, highlighting the importance of preoperative and postoperative clinician's counselling to both patient and partner.

KEYWORDS

prostate cancer, prostatectomy, quality of life, sexual partners, surgery, survivorship

1 | INTRODUCTION

Prostate cancer is globally the second most diagnosed male cancer, with an often slowly progressive disease course and survivals of 86% and 77% at 5 and 10 years, respectively (Cancer Research UK, 2020; Sung et al., 2021; Thompson et al., 2013). Due to the high survival

rates, issues in survivorship are becoming more apparent and there is a growing realisation that living longer does not always equate to living well (De Angelis et al., 2014). Radical prostatectomy offers one curative treatment modality for clinically significant localised cancer but can be associated with significant postoperative sequelae (Sanda et al., 2018). Physical implications such as erectile dysfunction, loss of

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libido and urinary incontinence are common (Emanu et al., 2016; Hoyland et al., 2014) and can have a profound subsequent impact on men's mental health, body image and overall well-being (Bowie et al., 2021; Brunckhorst et al., 2020). Furthermore, there is now an increasing acknowledgement that radical prostatectomy can have a negative implication on the patient's social relationships and interactions with others, such as intimate partners, family and friends (Collaço et al., 2018). Sequentially, this has a negative impact on radical prostatectomy survivors' adaptive coping strategies due to the lack of social support networks and ultimately leads to a deterioration in their well-being (Zhou et al., 2010).

Whilst a comprehensive consensus is lacking on all components of individual's health related quality life, these are often divided into physical, psychological and social domains (Felce & Perry, 1995). This is in line with the World Health Organisation (WHO) acknowledging that an individual's health comprises three interconnected domains: Physical, mental and social well-being (International Health, 2002). A state of stable well-being is when an individual possesses the physical, psychological and social resources to deal with the physical, psychological and social challenges they face (Dodge et al., 2012). When considering individuals treated for prostate cancer, who have undergone radical prostatectomy, the impact on an individual's physical and mental well-being as well as their interconnecting relationship is well investigated. However, less exists on the social well-being of patients, with a large quantitative focus on the functional implications of surgery in the literature. Additionally, the qualitative evidence evaluating radical prostatectomy that does exist also often focusses on the impact of specific side effects such as sexual dysfunction and urinary incontinence or the men's general perception of quality-of-life post-surgery (Edwards & Carrier, 2019; Fan et al., 2012; Kong et al., 2017). As a result, there is at present a lack of in-depth and focussed evaluation of the social construct of health post-radical prostatectomy within the literature. This is important, as results from qualitative meta-synthesis in other cancer cohorts, such as breast and colorectal cancer survivors, reveal the ongoing and profound social challenges and disruptions to relationships following treatment that survivors require support for (Arman & Rehnsfeldt, 2003; Rutherford et al., 2020).

Some of this deficiency may be attributed partly to the varying definitions placed on 'social well-being' within the literature, with different definitions attributed to the phrase (Umberson & Montez, 2010). For this review, we have utilised a broad definition of social well-being encompassing the biopsychosocial model and WHO definition of health (International Health, 2002; Kusnanto et al., 2018). Here, social well-being refers to an individuals' appraisal of their interaction, contribution and functioning to society, with social integration, acceptance, contribution, coherence and actualisation being its five dimensions (Corey Lee, 1998). From this specifically for this study, we define social well-being as an individual's ability to form meaningful relationships and interactions with others, including partners or significant others, family, friends, work colleagues and the wider society (Cicognani, 2014). Additionally, social well-being also encompasses the individual's social ability to carry out activities of daily living such as work and hobbies (Cicognani, 2014; Umberson & Montez, 2010).

The current limited in-depth and focused investigation within literature evaluating social well-being post-radical prostatectomy limits the understanding and ability of healthcare professionals to provide support to patients. An increased understanding of the important social implications of surgery is required to improve the holistic management of post-radical prostatectomy patients. Therefore, this meta-synthesis aims to identify and integrate the available qualitative evidence addressing the impact of surgery on the social well-being of patients with prostate cancer. Specifically, this review aims to explore in-depth the implications of surgery on the different dimensions of social well-being, such as relationship with intimate partners, family, friends and wider society.

2 | METHODS AND DESIGN

2.1 | Protocol and registration

This meta-synthesis was conducted following the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) (Page et al., 2021), search extension (PRISMA-S) (Rethlefsen et al., 2021) and Enhancing Transparency in reporting synthesis of qualitative research (ENTREQ) (Tong et al., 2012) reporting guidelines. A priori protocol was registered on the International Prospective Register of Systematic Reviews (PROSPERO CRD42021227846).

2.2 | Study eligibility criteria

This meta-synthesis was conducted as a part of series of systematic reviews integrating the findings from qualitative studies to describe the social well-being of men following prostate cancer treatments. This review specifically focused on prostate cancer survivors following radical prostatectomy. Inclusion criteria were primary qualitative studies evaluating the impact of radical prostatectomy on at least one of the following dimensions of social well-being: relationship with partner or significant other, family, friends, work colleague and the wider society, or activities of daily living, work and hobbies. Mixed-method articles utilising both qualitative and quantitative research methods were also included for analysis of their qualitative findings only. Data collection could arise from any type of interviews or focus groups to acquire the in-depth data on patient's post-radical prostatectomy, irrespective of the presence of a partner during the interviews. We included articles regardless of the ethnicity and sexual orientation of participants and studies could use any qualitative data analysis methods for their generation of findings. When records included prostate cancer patients undergoing other treatment modalities, themes and quotes were extracted and analysed only if it was clear that radical prostatectomy patients were specifically addressed. We excluded all articles utilising quantitative methods, review articles and conference abstracts with insufficient information. Articles were also excluded if questionnaires were the only method of generating qualitative data and when an English translation was not available.

2.3 | Information sources and search

Three reviewers (OE, OB and MD), qualitative trained researchers with a clinical background, conducted a comprehensive search utilising the MEDLINE (via PubMed), CINAHL (via EBSCO), PsycINFO and Embase (via OVID SP) databases from inception to 31/01/2021. This included a mixture of keywords and MeSH terms for prostate cancer, social well-being dimensions and qualitative research (Appendix S1). We searched the grey literature through conference abstracts on Embase and through ongoing studies on the ClinicalTrials.gov registry. Reference lists of included articles were manually screened to identify additional studies.

2.4 | Study selection

Following de-duplication of results, three reviewers (OE, OB and MD) independently screened titles and abstracts from the search utilising Rayyan Qatar Computing Research Institute (QCRI) Software (Ouzzani et al., 2016). Subsequently, articles were further classified based on the treatment modality received (radiotherapy, chemotherapy, hormone therapy, active surveillance and radical prostatectomy). Full texts of remaining articles were screened against eligibility criteria, with disagreements resolved in a consensus meeting between reviewers. Finally, this meta-synthesis only included records describing social well-being in treated prostate cancer patients following radical prostatectomy.

2.5 | Data collection and synthesis

Initial data extracted included study and participant characteristics such as authors' name, publication year, country, number of participants, age, ethnicity, civil status, sexuality, time since diagnosis, data collection method and the data-analysis strategy utilised. We subsequently extracted data for analysis including themes and direct participant quotes relating to social well-being of radical prostatectomy survivors. All data extraction was conducted by two reviewers independently (OE and OB).

Extracted data were subsequently exported onto NVivo 12 Software to be analysed utilising the meta-synthesis approach described by Thomas and Harden (2008). This approach was used to integrate the findings of qualitative research and allow interpretation of qualitative data from a wide selection of studies. The analysis was conducted through the lens of the social well-being definition and dimensions stated in the introduction. This involved coding the themes and quotes extracted line-by-line to inductively generate a list of codes. Codes are words or phrases assigned to a passage in-text to define and establish patterns in the data being analysed. These were subsequently grouped together based on their similarity and relatedness to generate descriptive themes. Descriptive themes describe the reoccurring patterns found in the primary studies or articles being analysed. Finally, we grouped the developed descriptive themes to

generate overarching themes. These are called analytical themes which aim to go beyond the findings of primary studies and allow for reinterpretation of results and subsequent generation of new theories and notions about the impact of surgery on the social well-being of participants. These additional concepts are an exclusive and essential feature of qualitative meta-synthesis (Green & Thorogood, 2018; Thorne et al., 2004). The generated descriptive themes and their placement under analytical themes were discussed between two reviewers (OE and OB) until full agreement was reached on final descriptive and analytical themes of the study.

2.6 | Risk of bias

The critical appraisal skills programme (CASP) qualitative checklist was used to evaluate individual study quality for included articles at the full-text stage (Critical Appraisal Skill Programme, 2009). The checklist comprises 10 questions, nine of which require Yes/No answers and a final question addressing the value of the research. We have therefore only utilised the first nine questions to score articles, up to a maximum score of nine and converted to percentages. A score was given independently by reviewers (OE and CJ) and disagreements discussed until 100% consensus was reached. The GRADE CERQual (Confidence in the Evidence from Reviews of Qualitative research) approach was used to assess the methodological limitations, coherence, adequacy and relevance of study findings to determine how much confidence can be placed in the findings of our review. Each theme was then given a confidence level (High, Moderate, Low or Very Low). Table 1 shows a summary of qualitative findings of the review.

3 | RESULTS

3.1 | Study selection and characteristics

After duplicate removal, 1706 unique records were screened for inclusion. Of these, 141 underwent full-text review with a final 31 articles included (Albaugh et al., 2017; Araújo et al., 2019; Capistrant et al., 2016; Chapple & Ziebland, 2002; Collaço et al., 2020; Dickey et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Fergus et al., 2002; Green, 2019; Grunfeld et al., 2013; Hanly et al., 2014; Hedestig et al., 2005; Kelly et al., 2015; Maliski et al., 2002; Martínez-Bordajandi et al., 2020; McConkey & Holborn, 2018; Nanton & Dale, 2011; Nelson et al., 2019; O'Brien et al., 2011; Oliffe, 2005; Petry et al., 2004; Pietilä et al., 2018; Powel & Clark, 2005; Schantz Laursen, 2017; Speer et al., 2017; Wagland et al., 2020; Wall et al., 2013; Wennick et al., 2017; Wittmann et al., 2015; Yu Ko et al., 2018) (Figure 1). Dates of publication ranged from 2002 to 2020 and study populations drawn from 12 different countries, spanning five continents (Europe 17, North America 9, Australia 3, South America 1 and Asia 1). Across all study reports, 469 participants who underwent radical prostatectomy were included. Detailed study and patient characteristics are included in Table 2.

TABLE 1 CERQUAL qualitative evidence profile

Review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Shaking the foundation	(Albaugh et al., 2017; Araújo et al., 2019; Collaço et al., 2020; Eilat-Tsanani et al., 2013; Fergus et al., 2011; Fergus et al., 2002; Green, 2019; Grunfeld et al., 2013; Hanly et al., 2014; Hedestig et al., 2005; Kelly et al., 2015; Maliski et al., 2002; Martinez-Bordajandi et al., 2020; Nelson et al., 2019; O'Brien et al., 2011; Oliffe, 2005; Petry et al., 2004; Schantz Laursen, 2017; Speer et al., 2017; Wennick et al., 2017; Yu Ko et al., 2018)	Minor methodological limitations (16 studies with minor and five studies with moderate methodological limitations)	No or very minor concerns about coherence	No concerns about adequacy (studies offered rich data)	No concerns about relevance (studies included a wide range of settings)	High confidence
Reminiscing over the past	(Albaugh et al., 2017; Araújo et al., 2019; Collaço et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Fergus et al., 2002; Green, 2019; Hanly et al., 2014; Maliski et al., 2002; Martinez-Bordajandi et al., 2020; Nelson et al., 2019; O'Brien et al., 2011; Oliffe, 2005; Pietila et al., 2018; Powel & Clark, 2005; Schantz Laursen, 2017; Wennick et al., 2017; Wittmann et al., 2015)	Minor methodological limitations (14 studies with minor and four studies with moderate methodological limitations)	Very minor concerns about coherence	Very minor concerns about adequacy (most studies offered rich data)	No concerns about relevance (studies included a wide range of settings)	High confidence
Rediscovering relationships	(Albaugh et al., 2017; Araújo et al., 2019; Capistrant et al., 2016;	Minor methodological limitations (14 studies with minor and five	Very minor concerns about coherence	No concerns about adequacy (studies offered rich data)	No concerns about relevance (studies	High confidence

TABLE 1 (Continued)

Review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
	Collaço et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Fergus et al., 2002; Hanly et al., 2014; Hedestig et al., 2005; Kelly et al., 2015; Martinez-Bordajandi et al., 2020; McConkey & Holborn, 2018; O'Brien et al., 2011; Oliffe, 2005; Petry et al., 2004; Pietlău et al., 2018; Powel & Clark, 2005; Wennick et al., 2017; Wittmann et al., 2015)	studies with moderate methodological limitations)			included a wide range of settings)	
The social stigma	(Araújo et al., 2019; Capistrant et al., 2016; Chapple & Ziebland, 2002; Dickey et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Hanly et al., 2014; Hedestig et al., 2005; McConkey & Holborn, 2018; Nanton & Dale, 2011; Nelson et al., 2019; Oliffe, 2005; Powel & Clark, 2005; Schantz Laursen, 2017; Wagland et al., 2020; Wall et al., 2013; Wennick et al., 2017)	Minor methodological limitations (13 studies with minor and four studies with moderate methodological limitations)	Very minor concerns about coherence	Very minor concerns about adequacy (most studies offered rich data)	No concerns about relevance (studies included a wide range of settings)	High confidence
Nobody understands	(Albaugh et al., 2017; Capistrant et al., 2016; Chapple & Ziebland, 2002; Fergus, 2011; Fergus et al., 2002; Hanly et al., 2014; Hedestig et al., 2005; Martinez-Bordajandi et al., 2020;	Minor methodological limitations (10 studies with minor and three studies with moderate methodological limitations)	Moderate concerns about confidence	Moderate concerns about adequacy (studies offered very thin data)	Minor concerns about relevance (studies offered from a smaller number of settings compared to other themes)	Moderate confidence

(Continues)

TABLE 1 (Continued)

Review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Alleviating burden	Nelson et al., 2019; Olliffe, 2005; Petry et al., 2004; Schantz Laursen, 2017; Wennick et al., 2017) (Araujo et al., 2019; Capistrant et al., 2016; Collaço et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Fergus et al., 2002; Hanly et al., 2014; Kelly et al., 2015; Martínez-Bordajandi et al., 2020; Nelson et al., 2019; Olliffe, 2005; Petry et al., 2004; Powel & Clark, 2005; Schantz Laursen, 2017; Wennick et al., 2017)	Minor methodological limitations (11 studies with minor and four studies with moderate methodological limitations)	Minor concerns about confidence	Minor concerns about adequacy (most studies offered rich data)	No concerns about relevance	High confidence
Seeking belong	(Albaugh et al., 2017; Capistrant et al., 2016; Eilat-Tsanani et al., 2013; Green, 2019; Hanly et al., 2014; Hedestig et al., 2005; Nanton & Dale, 2011; Nelson et al., 2019; Speer et al., 2017; Wagland et al., 2020; Wall et al., 2013; Wennick et al., 2017)	Minor methodological limitations (eight studies with minor and four studies with moderate methodological limitations)	Moderate concerns about confidence	Moderate concerns about adequacy (studies offered very thin data)	Minor concerns about relevance (studies offered from a smaller number of settings compared to other themes)	Moderate confidence

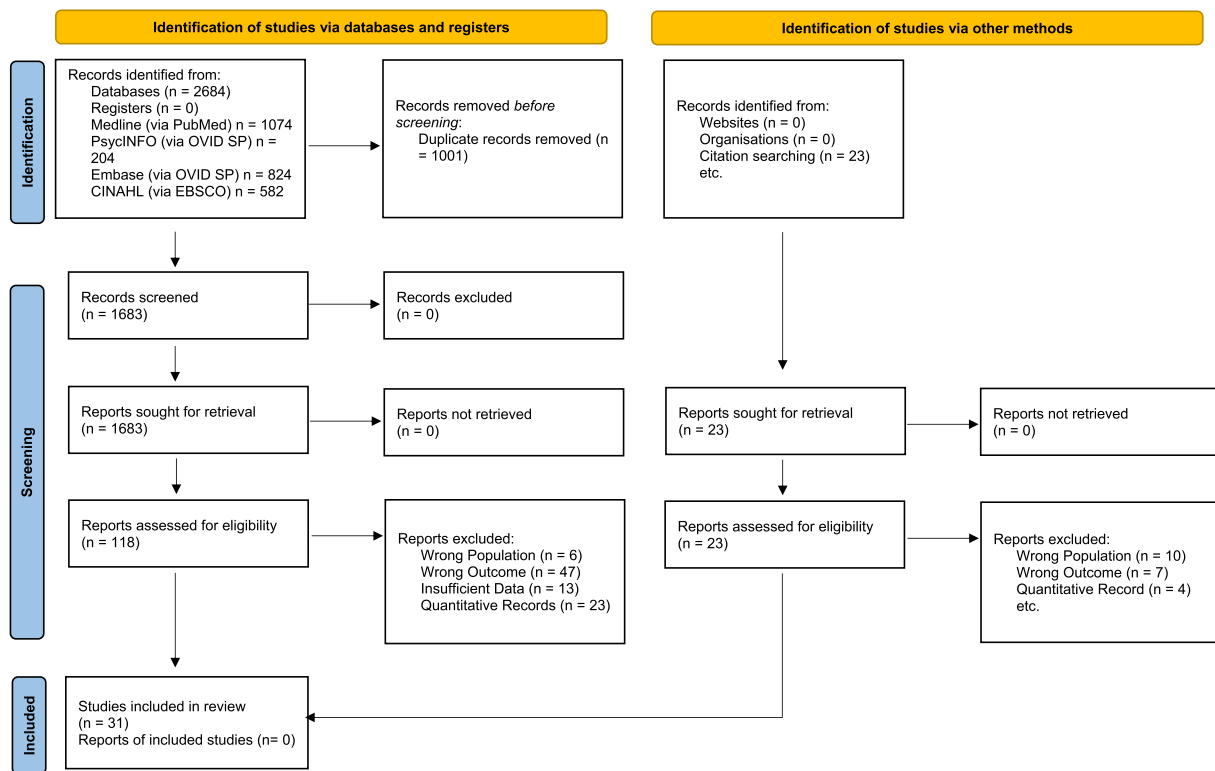


FIGURE 1 PRISMA diagram showing the selection of studies

3.2 | Risk of Bias

Evaluation using the CASP tool demonstrated overall good study quality with a median of 89% of criteria met with scores ranging from 78% to 100% (Interquartile range 22). Question 6 ‘Has the relationship between researcher and participants been adequately considered?’ was most commonly unmet with 18 of the 31 articles not considering this. Additionally, nine articles did not score on Question 7 ‘Have ethical issues been taken into consideration?’ due to the lack of inclusion of an ethics statement or insufficient ethical approval details. Detailed individual study scores is available in Appendix S2.

3.3 | Findings

Thematic analysis generated 77 codes (Appendices S3 and S4) which were formulated into seven descriptive themes. These themes were arranged under two overarching analytical themes: ‘Pathway to Conversion’ and ‘A Man on My Own’ (Figure 2). Relationship with intimate partners was by far the most frequently coded social well-being dimension, accounting for over half of the generated codes. Other less commonly coded dimensions included relationship with family, friends, wider social network and the effects of surgery on individuals’ work and activities of daily living.

3.3.1 | Pathway to Conversion

The ‘Pathway to Conversion’ analytical theme describes the multi-stage process men endure following their surgery to adjust to the new life cancer has brought them. Following surgery, men found themselves under a new reality where their relationships dynamics, such as the way they relate, interact and communicate with other people, disrupted. Subsequently, men came to a realisation that their relationships with others were likely to suffer unless change is implemented. Thus, prompting men to alter the way they interact with other people, specifically their intimate partners.

The descriptive themes generated under ‘Pathway to Conversion’ each represent a stage in the men’s conversion journey after surgery, including ‘Shaking the Foundation’, ‘Reminiscing Over the Past’ and ‘Rediscovering Relationships’.

Shaking the foundation

After surgery, men found themselves facing many physical challenges during their recovery which had important implications for their social well-being (Albaugh et al., 2017; Collaço et al., 2020; Grunfeld et al., 2013; Hedestig et al., 2005; Maliski et al., 2002; Nelson et al., 2019; O’Brien et al., 2011; Speer et al., 2017). This was especially true early in the postoperative period in the weeks to months after (Eilat-Tsanani et al., 2013; Maliski et al., 2002; Petry et al., 2004; Wennick et al., 2017). Early physical sequelae of the operation,

TABLE 2 Detailed study characteristics table

Author	Year	Location	Total no. of patients	No. of patients undergoing radical prostatectomy	Ethnicity	Marital status	Sexuality	Mean (range) age	Mean time since diagnosis	Data collection method	Data analysis method
Albaugh et al.	2017	USA	27	25	22 White, 1 Asian, 4 African American	All married	Not mentioned	61 (44–77)	23.5 months	Interviews	Thematic analysis
Araujo et al.	2019	Brazil	17	17	Latino	Most married	Not mentioned	61–81	Not mentioned	Interviews	Thematic analysis
Capistrant et al.	2016	USA	30	19	18 White, 1 African American	Not mentioned	30 homosexual/bisexual	62.4	7 years	Interviews	Thematic analysis
Chapple and Ziebland	2002	UK	52	7	48 White 2 afro-caribbean	Not mentioned	Not mentioned	68 (50–85)	Not mentioned	Interviews	Not mentioned
Collaco et al.	2020	UK	28	Not mentioned	White	All married	Heterosexual	<65	Not mentioned	Interviews	Framework method/ thematic analysis
Dickey et al.	202	USA	11	10	African-American	8 married	Not mentioned	65 (51–76)	7.6 years	Focus Group	Thematic network analysis
Eliat-Tsamani et al.	2013	Israel	22	22	Jewish	17 married	Not mentioned	73	1 year	Interviews	Thematic analysis
Fergus	2011	Canada	5	5	White	All married	Heterosexual	61 (58–64)	2 years	Interviews	Grounded theory method
Fergus et al.	2002	Canada	34	34	White	All married	Heterosexual	60 (50–68)	Not mentioned	Interviews	Grounded theory method
Green	2019	UK	29	>half	White	27 married	Not mentioned	53–83	5 years	Interviews	Thematic analysis
Grunfield et al.	2013	UK	50	33	38 White, 9 black, 3 Asian	42 married	Not mentioned	59	39 days	Interviews	Framework analysis
Hanly et al.	2014	Australia	21	19	Not mentioned	17 married	20 heterosexual, 1 homosexual	59 (49–69)	2.2 years	Interviews	Thematic analysis
Hedestig	2005	Sweden	10	10	Not mentioned	9 married	Not mentioned	66.2	2.4 years	Interviews	Content analysis
Kelly et al.	2015	UK	18	4	10 white, 8 other	16 married	14 heterosexual, 4 homosexual	(34–78)	2 years<	Interviews	Not mentioned
Maliski et al.	2002	USA	20	20	19 White, 1 African American	All married	Not mentioned	59	7 months	Interviews	Grounded theory method
Martinez Bordajandi et al.	2020	Spain	16	16	Not mentioned	All married	Heterosexual	64.2	4.9 years	Interviews	Inductive analysis

TABLE 2 (Continued)

Author	Year	Location	Total no. of patients	No. of patients undergoing radical prostatectomy	Ethnicity	Marital status	Sexuality	Mean (range) age	Mean time since diagnosis	Data collection method	Data analysis method
McConkey and Holborn	2018	Ireland	8	6	White	5 partnered	Homosexual	55.6 (49–66)	5.9 years	Interviews	Phenomenological method
Nelson et al.	2019	UK	18	6	White	All married	Heterosexual	67.7	≤ 1 year	Interviews	Thematic analysis
Nanton and Dale	2011	UK	16	9	African-Caribbean	11 married	Not mentioned	71 (50–83)	2 years	Interviews	Not mentioned
O'Brien et al.	2011	UK	35	12	White	All married	Not mentioned	64.5 (60–69)	3.6 years	Interviews	Constant comparison
Oliffe	2005	Australia	15	15	Anglo-Australian	All married	Heterosexual	57.1 (46–74)	19 months	Interviews	Framework analysis
Petry et al.	2004	Switzerland	10	10	Not mentioned	All married	Heterosexual	64.6	4–12 weeks	Interviews	Constant comparison
Pietilä et al.	2018	Finland	22	22	White	16 married	Heterosexual	63 (56–71)	Not mentioned	Interviews	Narrative analysis
Powel and Clark	2005	USA	48	48	43 White, 2 African American, 2 Hispanic, 1 Asian	Not mentioned	Not mentioned	57 (49–72)	16 months	Open ended question (interview)	Grounded theory method
Schantz Laursen	2017	Denmark	4	4	Not mentioned	All married	Heterosexual	61.5 (55–68)	Not mentioned	Interviews	Kvales theory
Speer et al.	2017	UK	21	9	White	18 married	19 heterosexual	64.8 (52–78)	Not mentioned	Interviews	Thematic analysis
Wagland et al.	2020	UK	14	6	Black African-Caribbean	9 married	Heterosexual	66 (55–85)	Not mentioned	Interviews	Framework analysis
Wall et al.	2013	Australia	8	3	Anglo-Celtic	Not mentioned	Heterosexual	63.4 (48–77)	3 months	Interviews	Constant comparison
Wennick et al.	2017	Sweden	19	19	Not mentioned	Not mentioned	Not mentioned	60.7 (49–65)	12–18 months	Interviews	Thematic analysis
Wittmann	2015	USA	20	20	1 Chinese, 1 Hispanic, 18 White	All married	19 heterosexuals, 1 homosexual	60.2	Not mentioned	Interviews	Analytic induction
Yu Ko et al.	2018	Canada	24	24	7 Asian, 14 White, 1 Latina, 1 Caribbean, 1 aboriginal	20 married	Not mentioned	61.6	Not mentioned	Interviews	Grounded theory method

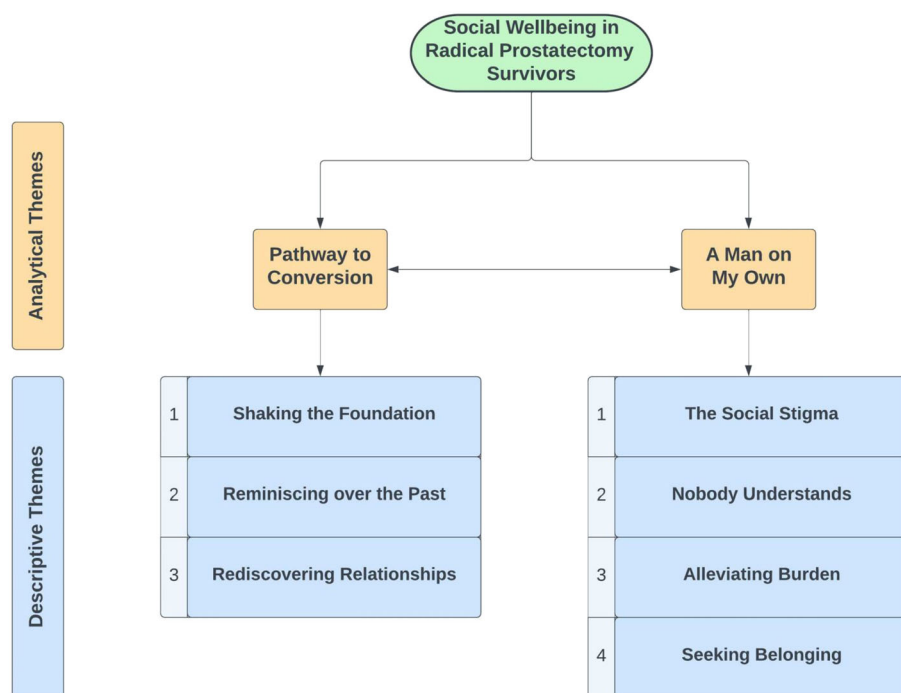


FIGURE 2 A flow diagram showing the relationship between the analytical descriptive themes generated through qualitative meta-synthesis

including erectile dysfunction meant men were unable to initiate sexual relations with their partners (Albaugh et al., 2017; Araújo et al., 2019; Collaço et al., 2020; Eilat-Tsanani et al., 2013; Fergus, 2011; Green, 2019; Hanly et al., 2014; Martínez-Bordajandi et al., 2020; Schantz Laursen, 2017; Wennick et al., 2017). Men also suddenly required more care and support due to their physical incapacity. When men realised that the decreased sexual intimacy and incapacity was likely to continue in the future, the couple's relationship was 'shaken' through increased strain to their usual functioning and the couple went through a variety of emotions such as distress, shock, disbelief and anger (Fergus, 2011; Fergus et al., 2002; Nelson et al., 2019; O'Brien et al., 2011; Petry et al., 2004). The change in men's view of their own masculinity and body image also heavily affected their social well-being (Araújo et al., 2019; Green, 2019). This was because of the associated shame and embarrassment with their lack of ability to get an erection and satisfy their partners, as well as fear they were seen differently in their partners' eyes (Collaço et al., 2020; Fergus, 2011; Hanly et al., 2014; Schantz Laursen, 2017).

Lack of communication was common, ultimately leading to misunderstanding and caused the social relationship and bond the couple had to suffer (Araújo et al., 2019; Fergus, 2011; Fergus et al., 2002; Martínez-Bordajandi et al., 2020; O'Brien et al., 2011; Oliffe, 2005). Men became focused on the new situation they found themselves in, hence became wrapped-up and self-absorbed with their disease in this early postoperative phase (Fergus et al., 2002; Schantz Laursen, 2017). This often led to men ignoring their partners and not realising the psychological impact the disease has taken upon their significant others (Fergus et al., 2002; Petry et al., 2004). Additionally, men and their partners were seen to have differing needs, and as a result of the unawareness and misunderstanding between both members in the relationship, those needs were not met (Collaço et al., 2020; Eilat-

Tsanani et al., 2013; Fergus, 2011; Petry et al., 2004). The foundation the relationship was built upon lost some of its important components. Ultimately, partners became distressed, and sometimes felt a loss of affection towards each other (Fergus, 2011; Kelly et al., 2015; Martínez-Bordajandi et al., 2020; Wennick et al., 2017).

Reminiscing over the past

Following the initial stages of shock and disbelief, men started thinking more about their important social relationships prior to their illness, including that with their partners, family and friends (Hanly et al., 2014; Oliffe, 2005). Men, and occasionally their partners too, often described missing the sexual chemistry that existed in the relationship prior to surgery (Oliffe, 2005). In several men's eyes, this was believed to only be replicated through penetrative sexual relationships (Martínez-Bordajandi et al., 2020; Schantz Laursen, 2017; Wennick et al., 2017). Subsequently, men underwent a grief stage over their presurgery sex life (Schantz Laursen, 2017; Wittmann et al., 2015). Several men portrayed their relationship as 'broken' and in need of 'fixing' as a direct consequence of their loss in ability to have penetrative sex (Oliffe, 2005; Schantz Laursen, 2017). As a result, men tried different means to restore their previous normality. In an effort to save their intimate sexual relationships, men tried multiple medical treatments for erectile dysfunction, including sildenafil and penile pumps or engaged in penile rehabilitation interventions (Albaugh et al., 2017; Araújo et al., 2019; Fergus, 2011; Hanly et al., 2014). Despite these often-continued efforts, many failed, resulting in pain and more importantly a removed spontaneous nature from the relationship (Schantz Laursen, 2017; Wittmann et al., 2015). The intimate relationship had now shifted as couples had to plan before engaging in sexual intimacy, removing the spur-of-the-moment aspect and increasing stress on couples, ultimately decreasing pleasure (Collaço

et al., 2020; Fergus, 2011; Maliski et al., 2002; Nelson et al., 2019; O'Brien et al., 2011; Schantz Laursen, 2017; Wittmann et al., 2015). Whilst younger men tended to keep persevering to initiate sexual penetrative relations, older men more frequently discontinued efforts, attributing their incapacity and decreased sexual intimacy with partners to their old age (Araújo et al., 2019; Eilat-Tsanani et al., 2013; Fergus et al., 2002; Hanly et al., 2014; Oliffe, 2005).

The disturbed intimate relations were not the only dimension of social well-being affected by surgery; men also described missing socialising with their friends, attending gatherings and pursuing hobbies as it served as a distraction and was important in the maintenance of the integrity of their social well-being (Collaço et al., 2020; Oliffe, 2005). Men also described the importance of the role they held as the head of their family, and despite becoming more challenging to fulfil, men held on to their role as they needed to be brave and strong for their family (Araújo et al., 2019; Green, 2019; O'Brien et al., 2011; Pietilä et al., 2018). Some men, however, were not able to fulfil this role anymore as they felt the need to put a mask on to pretend everything was normal, just like the past, which limited their ability to express their feelings and hence negatively impacted their social well-being (Araújo et al., 2019; Powel & Clark, 2005).

Rediscovering relationships

'Rediscovering relationships' was the stage where men found other means and new meaning to preserve the existing bonds in their social life. This was seen to start off by accepting the failures from the previous stages and acknowledging the new reality men found themselves in, despite being a harsh one (Eilat-Tsanani et al., 2013; Fergus, 2011; Fergus et al., 2002; Kelly et al., 2015; McConkey & Holborn, 2018; O'Brien et al., 2011; Oliffe, 2005; Pietilä et al., 2018; Wennick et al., 2017). The social roles and priorities were shifted and discovering other means to pursue relationships became the focus for survivors (Collaço et al., 2020; Oliffe, 2005; Petry et al., 2004; Pietilä et al., 2018; Wennick et al., 2017; Wittmann et al., 2015). As sexual intimacy was previously regarded by most as penetrative intimacy, the challenges associated with this enabled a new form of intimacy to emerge (Fergus et al., 2002; Martínez-Bordajandi et al., 2020; Oliffe, 2005; Petry et al., 2004; Powel & Clark, 2005). Hugging, touching and kissing often became the principal approaches of expressing love and affection between the dyad when other means were not possible (Albaugh et al., 2017; Eilat-Tsanani et al., 2013; Fergus et al., 2002; Hanly et al., 2014; Martínez-Bordajandi et al., 2020; Oliffe, 2005; Petry et al., 2004; Powel & Clark, 2005; Wennick et al., 2017; Wittmann et al., 2015). This new focus on nonpenetrative intimacy was regarded as a necessary adjustment to maintain relations and increase closeness between couples (Collaço et al., 2020; Fergus et al., 2002). Men often reflected on what they really valued and deemed important in intimate relationships, with several men reporting their bond with their partner became stronger after surgery (Albaugh et al., 2017; Fergus, 2011; Fergus et al., 2002; Oliffe, 2005; Powel & Clark, 2005). The new renegotiated relationship was often described as a friendship, with support and care being at the core of it and was a necessity to improve the social well-being state of survivors (Oliffe, 2005; Wennick et al., 2017).

Within the wider family dynamic, men came to the realisation that their position as the head of their family can no longer be maintained. Therefore, men became more willing to accept support and allowed the role to be fulfilled by another family member (Araújo et al., 2019; Collaço et al., 2020; Fergus, 2011; Fergus et al., 2002). Some men were not able to financially provide for their families as a result of adjusting life around treatment (Araújo et al., 2019; Collaço et al., 2020). This meant financial responsibility was shifted to the partner or their children. The new 'rediscovered' social relationships meant men were no longer the ones families depend on, but rather became the dependent. The shift in roles allowed family members to witness the negative impact of surgery on the patient's social well-being which was particularly important as family was in a position to help (Capistrant et al., 2016; Hedestig et al., 2005; Petry et al., 2004; Wennick et al., 2017).

3.3.2 | A Man on My Own

'A Man on My Own' is the second analytical theme generated describing the lonely feeling many men experienced during their prostate cancer and post-surgery journey, despite the support received from partners, families and friends. Descriptive themes generated under this analytical theme included 'The Social Stigma', 'Nobody Understands', 'Alleviating Burden' and 'Seeking Belonging'. These themes were found to be closely interlinked.

The prostate cancer journey was often challenging with an overwhelming change experienced in a short period. The negative impact of surgery on the patient's physical and mental well-being ultimately affected their social well-being and the way they interacted with others. Several men failed to adapt and 'rediscover' relationships and hence began avoiding others and chose isolation over socialisation.

The social stigma

Fear of judgement was a common theme across prostate cancer survivors, hindering their socialisation ability and preventing them from the pursuit of hobbies and activities of daily living (Araújo et al., 2019; Capistrant et al., 2016; Chapple & Ziebland, 2002; Dickey et al., 2020; Eilat-Tsanani et al., 2013; Hanly et al., 2014; Hedestig et al., 2005; Nelson et al., 2019; Powel & Clark, 2005; Schantz Laursen, 2017; Wagland et al., 2020; Wennick et al., 2017). Although occasionally impacting couples' relationships too, the social stigma was mainly concerned with judgement received from distant family, friends and the wider community (Araújo et al., 2019; Eilat-Tsanani et al., 2013; Hanly et al., 2014; Nelson et al., 2019). Men needed support as their social well-being suffered due to surgery, however, many felt vulnerable due to the stigma faced and feared exposing their feelings to others as a result. As a consequence, men hid their struggles and maintained secrecy regarding the side effects they are experiencing. This left men with little to no social support, greatly affecting their social well-being (Araújo et al., 2019; Dickey et al., 2020; Fergus, 2011; Hedestig et al., 2005; Schantz Laursen, 2017; Wagland et al., 2020; Wall et al., 2013).

Postoperative physical symptoms also generated considerable fear of stigmatisation. Urinary incontinence resulted in the need to wear pads to prevent leakage, and this was associated with feelings of shame and embarrassment when around others. Several individuals reported the anxiety of being stigmatised as a result of this, due to the urine odour and leakage associated with incontinence and hence retreated socially to avoid embarrassment (Capistrant et al., 2016; Chapple & Ziebland, 2002; Eilat-Tsanani et al., 2013; Hanly et al., 2014; Hedestig et al., 2005; McConkey & Holborn, 2018; Nanton & Dale, 2011; Nelson et al., 2019; Powel & Clark, 2005; Wennick et al., 2017). Additionally, participants were sometimes reminded of their erectile dysfunction and loss of libido when surrounded by other people, sensing judgement and stigma (Hanly et al., 2014; Nelson et al., 2019; Schantz Laursen, 2017). Men sought isolation and sacrificed their socialisation needs as a result of the surrounding stigma (Araújo et al., 2019; Capistrant et al., 2016; Hanly et al., 2014; Hedestig et al., 2005; McConkey & Holborn, 2018; Oliffe, 2005; Wennick et al., 2017). Whilst these significantly affected existing relationships with friends and family, those without partners also found it very difficult to approach new people and seek a romantic partner (Hanly et al., 2014; Schantz Laursen, 2017). Participants feared a lack of understanding and subsequent rejection from new partners regarding their sexual dysfunction. Unfortunately, this caused several men to give up and put an end to their sexual relationships, despite its great importance to their social well-being (Hanly et al., 2014; Schantz Laursen, 2017; Wennick et al., 2017).

Nobody understands

The lived experience of radical prostatectomy survivors is unique, exhibiting challenges unfamiliar to the majority of the population. As a result, a lack of understanding of the men's situation and social needs was described commonly (Albaugh et al., 2017; Chapple & Ziebland, 2002; Fergus, 2011; Fergus et al., 2002; Martínez-Bordajandi et al., 2020; Oliffe, 2005; Schantz Laursen, 2017; Wennick et al., 2017). Men often felt completely ignored by friends and family and not provided with social support when that was what they desperately needed. Some men needed to socialise as it allowed them to forget about cancer and served as a distraction to the harsh challenges they faced. Therefore, the misunderstanding and lack of social support had a great impact on the participants' social well-being and their continued socialisation efforts (Albaugh et al., 2017; Wennick et al., 2017). Conversely, at other times, people sometimes insisted that participants should socialise with them, ignoring their need for space which men required in order to reflect on their new reality and deal with cancer challenges. When men did not get the space they required, their social well-being suffered, as despite being surrounded by many, they felt misunderstood and on their own. Therefore, men found comfort through the avoidance of others and seeking their own company (Capistrant et al., 2016; Hedestig et al., 2005; Petry et al., 2004).

Men also described how other people often belittled the impact of surgery on their lives and assumed complete 'cure' and predisease health after surgery, ignoring the ongoing difficulties encountered due

to the operation (Wennick et al., 2017). Family members and friends often questioned the reason men attended events and social gatherings less frequently after their diagnosis. The side effects were not known to many forcing men to explain challenges (Fergus, 2011; Nelson et al., 2019; Wennick et al., 2017). Men described how people did not understand the multitude of precautions required before leaving their homes. As an example, side effects meant survivors were forced to drink less, especially alcohol, otherwise participants were at risk of wetting themselves (Chapple & Ziebland, 2002; Hanly et al., 2014; Hedestig et al., 2005; Petry et al., 2004). The need for constant explanations left many men exhausted and seeking withdrawal from society, which ultimately led them to neglecting their own social well-being needs (Fergus, 2011; Nelson et al., 2019; Wennick et al., 2017).

Alleviating burden

Patient's care requirements increased exponentially after surgery. These needs differed between men, ranging from requiring physical help such as with body hygiene and basic needs, to needing financial support due to their incapacity to work (Araújo et al., 2019; Fergus et al., 2002; Hanly et al., 2014; Kelly et al., 2015; Oliffe, 2005). Men often described the increased requirement in care they required from their family members, and despite not complaining about it, men themselves often felt the magnitude of this care (Collaço et al., 2020; Fergus et al., 2002; Martínez-Bordajandi et al., 2020; Nelson et al., 2019; Petry et al., 2004). This resulted in many avoiding asking for help in an attempt to alleviate the burden off their family members. Men did not inform others of their needs, hiding it from close family, and thereby avoid, in their view, unnecessary hassle to family (Oliffe, 2005; Powel & Clark, 2005; Schantz Laursen, 2017; Wennick et al., 2017). This increased men's feelings of loneliness and placed men in a solitude they could not escape (Araújo et al., 2019; Capistrant et al., 2016). Men did this out of love and care for others, and to provide a respite for their carers (Fergus, 2011; Fergus et al., 2002; Martínez-Bordajandi et al., 2020). Other men often felt the element of shame associated with their increased care needs and refused support when friends offered, whether physical or psychological. The shame and fear of being perceived as a liability caused men to neglect their social well-being as a sacrifice to ease the responsibility off others (Eilat-Tsanani et al., 2013; Hanly et al., 2014).

Seeking belonging

There was a common need for radical prostatectomy survivors to actively search for other individuals who understand their situation, having undergone similar challenges and experiences (Albaugh et al., 2017; Capistrant et al., 2016; Green, 2019; Hanly et al., 2014; Hedestig et al., 2005; Nanton & Dale, 2011; Nelson et al., 2019; Speer et al., 2017; Wennick et al., 2017). This was commonly due to men feeling out of place and unable to fit in social situations they were previously happy in (Capistrant et al., 2016; Eilat-Tsanani et al., 2013; Hanly et al., 2014; Nelson et al., 2019). As men felt stigmatised, judged, misunderstood and embarrassed of being a liability, the avoidance of others pushed men away in the pursuit of finding belonging elsewhere (Hanly et al., 2014; Nanton & Dale, 2011; Nelson

et al., 2019; Wagland et al., 2020; Wennick et al., 2017). A sense of belonging was vital to improving the social well-being of participants and was most commonly met through prostate cancer support groups. When provided with the opportunity to socialise with other prostate cancer survivors, men felt more liberated and comfortable being able to discuss the barriers and problems they faced (Capistrant et al., 2016; Eilat-Tsanani et al., 2013; Hanly et al., 2014). The fear of judgement encountered in other situations was no longer present as these men lived through each other's experiences, meaning greater sharing was possible (Green, 2019; Hanly et al., 2014; Hedestig et al., 2005; Nelson et al., 2019; Wagland et al., 2020; Wennick et al., 2017). Support groups allowed men to compare and contrast their experiences with other prostate cancer patients and find new methods to cope with challenges. In some instances, men developed meaningful friendships and socialised outside the prostate cancer support group setting (Nelson et al., 2019; Wall et al., 2013; Wennick et al., 2017). The informational, emotional and social support left men feeling empowered, providing survivors with the necessary boost to their social well-being which they greatly needed after the suffering encountered during their postoperative journey (Albaugh et al., 2017; Capistrant et al., 2016; Hanly et al., 2014; Nanton & Dale, 2011; Wall et al., 2013; Wennick et al., 2017).

4 | DISCUSSION

Radical prostatectomy appears to have a significant impact on the social well-being of survivors, and our review is the first to consider this influence on numerous different social well-being dimensions such as relationship with partner, friends, family and wider society as well as the social activities of daily living. The described impact on social well-being differed between included articles, as some predominantly focused on the effect of sexual side effects, whereas other studies addressed the social support needs of men following surgery. By far the most implicated dimension was the relationship with intimate partners, which was also in line with the findings of other qualitative reviews (Collaço et al., 2018; Edwards & Carrier, 2019; Fan et al., 2012; Kong et al., 2017). Our review, however, provided a more in-depth exploration into the factors specifically affecting the social well-being of couples and the drastic reformation participants underwent as a part of the postoperative journey, as described by our 'Pathway to Conversion' analytical theme. Interestingly, the descriptive themes generated under this analytical theme resembled the five stages of the grief cycle described by Kübler-Ross: denial, anger, bargaining, depression and acceptance (Parkes, 2013). This comes as no surprise as men's cancer journey was associated with loss of physical capacity, sense of masculinity and social status. 'Shaking the Foundation' denoted the disbelief and anger over the disrupted relationships. 'Reminiscing over the Past' represented men's failed efforts to regain sexual function and fix social relationships incurring negative psychological impact as a result. The final stage occurred through the acceptance of the new reality by shifting roles and priorities to preserve intimate relationships and social support.

Our second analytical theme, 'A Man on My Own', offered an insight into the unfamiliarity men received from the general population whilst dealing with postoperative complications. This was a key contributing factor into the poor social well-being of radical prostatectomy survivors as this resulted in misunderstanding of participants' needs and lack of social support. Participants were, therefore, unable to fit into society and pushed away to seek belonging through other prostate cancer patients and support groups.

Although social well-being was the main scope under review in our study, our findings again demonstrated the clear link between the physical, mental and social domains of well-being and how these domains cannot sometimes be separated. For example, we found it necessary to address how concepts such as masculinity and body image were affected following surgery to subsequently clearly explain the social impact on survivors. The physical effects of radical prostatectomy were commonly linked to difficulties in social well-being across the themes. Most commonly, sexual dysfunction had as expected, a significant impact on the relationship with partners as it decreased the frequency of engaging in intimacy and the ways intimacy was achieved e.g. having to use sexual aids. However, other issues including urinary symptoms and increased care requirements were also important factors negatively impacting intimate, family and wider social relationships. Similarly, the mental well-being of participants often also resulted in difficulties for social relationships. Anxiety, shame and diminished sense of masculinity were common reasons for isolation and difficulties in intimate relationships. These support the increasing realisation that effective survivorship care requires a holistic integration of biopsychosocial evaluation and management to ensure the best quality of life for prostate cancer survivors following surgery (Matthew et al., 2018; Wittmann et al., 2011).

There are still important limitations within the currently available evidence, with a particular underrepresentation of several patient populations. Married heterosexual Caucasian men formed the majority of the current sample. Less than 10% of the included 469 were Afro-Caribbean despite their known increased prostate cancer risk (Jones & Chingwundoh, 2014). Similarly, only 42 participants of this sample identified as gay or bisexual. Finally, most study participants were married or lived with a partner and were in their early 60s, with older men underrepresented despite forming the majority of the prostate cancer population (Taitt, 2018). Further qualitative evidence is certainly required to evaluate these underrepresented groups, to ensure a greater understanding of the impact of surgery across the diverse patient population that experience it. Additionally, the current evidence is mostly focused on intimate partner relationships with more focus required on evaluating other family and friend relationships. Lastly, there was a lack of discussion surrounding the work aspect of social well-being. With the large impact a cancer diagnosis can have on working life, particularly in younger survivors, this is an important dimension of social well-being that requires further investigation postoperatively (Grunfeld et al., 2013; Yu Ko et al., 2018).

As more discussion occurs surrounding the treatment of localised prostate cancer, these findings have important clinical implications,

particularly in low-risk disease groups where discussions surrounding active surveillance versus radical treatments commonly occur. Prostate cancer care providers should discuss with patients that whilst radical prostatectomy offers a curative option, the impact surgery has on their lives and social well-being can extend beyond treatment. This, in addition to the more commonly discussed physical and mental effects, should form a key component of the preoperative counselling to aid patients in treatment decision-making and increase patients' understanding of the magnitude of the change they can expect (Janssen, 2008; Sartor, 2008). Additionally, we demonstrate the link between physical, mental and social well-being, highlighting the importance to evaluate and identify issues in these concurrently to ensure effective management of problems encountered (Wittmann et al., 2011). Lastly, our findings highlight the importance of prostate cancer support groups in improving the social well-being of men, prompting the evaluation of psychosocial interventions to provide better support for survivors postoperatively (Garrett et al., 2014).

This review is not without its own limitations. First, whilst findings are generalisable, due to the underrepresentation of certain populations, these may not be apply to specific populations. For example, qualitative studies on gay and bisexual prostate cancer patients demonstrated that their social support network may differ from their straight counterparts, with higher incidence of isolation and seclusion reported (Capistrant et al., 2016; Hanly et al., 2014; Kelly et al., 2015; McConkey & Holborn, 2018; Wittmann et al., 2015). Additionally, our review excluded the use of questionnaires as a data source. Whilst these can capture important information about social well-being (Adams & Cox, 2008), with the study aims of evaluating in-depth experiences of patents, this was necessary. Lastly, with the range of sources of qualitative articles and including English-only articles, there is always the possibility of missed pertinent articles. However, we attempted to minimise this through our comprehensive and in duplicate search strategy.

5 | CONCLUSION

The impact of radical prostatectomy on the social well-being of prostate cancer survivors is significant. Whilst the relationship with intimate partners was most commonly impacted, wider implications included changing family dynamics and increasing social isolation post treatment. These issues were commonly linked to the physical implications of surgery, such as sexual and urinary dysfunction, and mental well-being symptoms of anxiety and shame. This review demonstrated the importance of approaching the treatment of prostate cancer patients holistically to improve postsurgical quality of life. Further evidence is required to investigate the needs of underrepresented cohorts, and those not cured such as patients on active surveillance or with metastatic disease, and explore ways to better support them.

CONFLICT OF INTEREST

The authors declare no competing interests.

AUTHOR CONTRIBUTION

Conceptualisation: Oliver Brunckhorst, Prokar Dasgupta, Kamran Ahmed. Methodology: Omar Eymech, Oliver Brunckhorst, Callum James, Jessica Bowie, Kamran Ahmed. Literature Search: Omar Eymech, Oliver Brunckhorst, Matthew Deacon. Data Analysis and Interpretation: Omar Eymech, Oliver Brunckhorst, Matthew Deacon, Callum James, Jessica Bowie. Writing - original draft preparation: Omar Eymech, Oliver Brunckhorst. Writing - review and editing: Matthew Deacon, Callum James, Jessica Bowie, Prokar Dasgupta, Kamran Ahmed. Funding acquisition: Omar Eymech, Oliver Brunckhorst, Prokar Dasgupta, Kamran Ahmed. Resources: Prokar Dasgupta, Kamran Ahmed. Supervision: Prokar Dasgupta, Kamran Ahmed.

DATA AVAILABILITY STATEMENT

Original data utilised for the analysis of this review is available bona fide researchers following reasonable requests to the corresponding author.

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