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## ORIGINAL RESEARCH

# The marital relationship and health-related quality of life of prostate cancer patients and their spouses: A prospective, longitudinal study

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## Abstract

**Aims:** This study aims to measure any changes in the marital relationship during the first year after a diagnosis of prostate cancer, identify the demographic characteristics that influenced such changes, and measure changes related to health-related quality of life (HRQoL).

**Background:** Knowledge is limited on the impact of a diagnosis of prostate cancer on the marital relationship and HRQoL of patients and their spouses.

**Design:** A 1-year longitudinal study.

**Methods:** Data were collected from five Finnish hospitals between October 2013 and January 2017. Of the 350 recruited couples ( $N = 700$ ), 179 patients and 166 spouses completed the Marital Questionnaire and the RAND 36-Item Health Survey 1 year after diagnosis.

**Results:** No major changes were found in the marital relationship during the follow-up period. The spouses reported statistically significant changes in their marital relationships, but the patients did not. Furthermore, changes in the marital relationship were not associated with the patients' HRQoL. Among spouses, emotional well-being was associated with changes in the marital relationship.

**Conclusion:** The marital relationship was relevant in terms of the spouses' HRQoL during the first year after a diagnosis of prostate cancer. Nurses and other healthcare providers should assess counselling and support provided to spouses individually.

## KEYWORDS

health-related quality of life, longitudinal study, marital relationship, prostate cancer patients, spouses

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**Summary statement**

What is already known about this topic?

- Prostate cancer affects not only the individual but also the whole family's structure and hierarchy.
- Prostate cancer patients' quality of life is better if their spouses have positive beliefs about the disease's duration and treatment control.

What does this paper add?

- Spouses reported statistically significant changes in the marital relationship, but the patients did not.
- Among spouses, emotional well-being was associated with changes in the marital relationship.

This paper's implications:

- By individually assessing counselling and support to spouses during prostate cancer care, nurses and other healthcare providers have the opportunity to use these findings.

**1 | INTRODUCTION**

Prostate cancer is the second most commonly diagnosed cancer in men, with an estimated 1.1 million diagnoses worldwide in 2012, accounting for 15% of all cancers diagnosed (Bray et al., 2018; Mottet et al., 2019). In Finland, prostate cancer was the most common new cancer diagnosed in men in 2019 (Pitkaniemi et al., 2021). It had an age-standardized incidence rate of 195.1 per 100 000 person-years, with a total of 5245 new cases (Pitkaniemi et al., 2021). All treatment methods (e.g., non-invasive care, surgery, radiation therapy and hormonal therapy) can affect an individual both mentally and physically, as well as his close relations and his work or vocation. These multifaceted issues all have a bearing on his perception of quality of life (Bourke et al., 2015; Mottet et al., 2019). Prostate cancer significantly impacts not only the men diagnosed but also their spouses (Chien et al., 2018; Song et al., 2015). Therefore, heeding prostate cancer patients' concerns is integral to quality clinical care, and this includes spouses' needs (Resnick et al., 2015).

**1.1 | Background**

In oncology and oncology nursing, health-related quality of life (HRQoL) is an important patient outcome and a multidimensional issue. In this study, HRQoL encompasses physical, functional, psychological, emotional and social domains (Aalto et al., 1999; Ware & Sherbourne, 1992). Several studies have demonstrated that cancer patients and their spouses' HRQoL is interrelated. According to a Swedish population-based register study, partners of patients with cancer ( $N = 10\ 353$ ) suffer from significantly more mood disorders, poorer reactions to severe stress and ischaemic heart disease during the year after the cancer diagnosis, compared with the year before

diagnosis (Möllerberg et al., 2016). However, gender could explain differences in distress levels among couples: Women were found to report consistently more distress than men regardless of their role as patient or spouse (Duggleby et al., 2017; Lim et al., 2015).

According to a metasynthesis of 37 qualitative studies (Collaço et al., 2018), prostate cancer affects both members of the couple together, as well as individuals. Spouses could feel isolated and unsupported at times when men emotionally and physically withdraw, but some spouses understand that the man needs to retreat to adjust to his situation (Collaço et al., 2018). Men's relationship dynamics and family ties are important when considering the shared decision-making process across the prostate cancer field (Shaw et al., 2013). In a qualitative study (Shaw et al., 2013), three major themes of spousal influence were identified: (1) spousal alliance marked by open communication and shared decision making, (2) men who actively opposed spousal pressure and made the final decision themselves and (3) men who yielded to spousal pressure dynamics (Shaw et al., 2013). Although several studies (Chien et al., 2017; Collaço et al., 2018) have recommended developing interventions for a couple-focused approach, no clear consensus has been reached about how couple-based interventions are best structured (Jonsdottir et al., 2017; Manne et al., 2021). It is necessary to study long-term changes in the marital relationship and its association with HRQoL to determine whether a need exists for individually modified counselling and support for patients and their spouses (Harju et al., 2016). We proposed that this knowledge about the marital relationship and HRQoL, together with demographic characteristics, would help identify specific HRQoL deficits and their risk factors among prostate cancer patients and their spouses. Furthermore, to help develop care for prostate cancer patients and their spouses, we sought to determine whether the marital relationship and HRQoL are comparable across prostate cancer patients and their spouses.

## 2 | METHODS

### 2.1 | Aims

The present study aimed to (1) measure any change in the marital relationship during the first year after diagnosis, (2) identify demographic characteristics that influenced any change in the marital relationship and (3) measure any change in the marital relationship related to HRQoL during the first year of prostate cancer diagnosis.

### 2.2 | Design

This study used a longitudinal design, with the data comprising prostate cancer patients ( $n = 179$ ) and their spouses ( $n = 166$ ), using discretionary sampling at the time of diagnosis and during the 1-year period that followed.

### 2.3 | Sample/participants

Calculation of the sample size was done in consultation with a statistician. By using a paired-samples *t*-test and a standard deviation of 20, with the  $\alpha$  value set at 0.05, power at 0.8 and a change of 10 points, the calculated sample size was 33 respondents (Osoba et al., 2005). Assuming that approximately half the participants would complete the survey, goal enrolment was rounded to 70 patients. Furthermore, the patients might receive at least four types of treatment at several measurement points. Ultimately, a total of 350 prostate cancer patients and their 350 spouses were recruited for this study.

The inclusion criteria were as follows: (a) the patient had been diagnosed with prostate cancer prior to beginning treatment, and patients receiving a range of treatment modalities were included in this study; (b) the patient characterized the relationship with his spouse as permanent; and (c) the patient provided written informed consent and additional contact information for his spouse.

### 2.4 | Data collection

Prostate cancer patients were recruited from the urology outpatient clinics of five Finnish central hospitals between October 2013 and January 2017. One or two weeks after diagnosis, the questionnaires were distributed to the recruited patients at the time of their appointments with nurses in the hospitals. If the spouse was not present at this time, the patient delivered the questionnaire to his spouse. At the time of diagnosis, responses were received from 234 patients (response rate: 67%) and 230 spouses (response rate: 66%).

At the 6-month post-diagnosis data collection point, questionnaires were sent to prostate cancer patients or their spouses who had answered the questionnaire at the time of diagnosis who were willing

to continue with the study. During the second stage, responses were received from 199 patients (85%) and 195 spouses (85%). Data collection was conducted between April 2014 and July 2016.

During the third stage, 1 year post-diagnosis, questionnaires were sent out to participants who had answered the questionnaire at 6 months post-diagnosis. Responses were received from 179 patients (90%) and 166 spouses (85%). Data collection was conducted between October 2014 and January 2017. Response rates of the study participants during the study period are presented in detail in Table 1.

### 2.5 | Instruments

At all three timepoints, data were collected using a questionnaire that included two instruments and the following demographic characteristics: the participant's age; duration of marital relationship; treatment method; employment status; basic education level; and presence of chronic diseases.

Self-reported HRQoL was measured using the RAND-36 (Aalto et al., 1999), which contains the same questions as the MOS SF-36 (Aalto et al., 1999; Hays et al., 1993; Ware & Sherbourne, 1992). The instrument comprised 36 items with eight subscales, which are scored separately from 0 to 100. A higher score indicates a better HRQoL. The subscales are physical functioning (10 items), physical role functioning (four items), emotional role functioning (three items), energy (four items), emotional well-being (five items), social functioning (two items), bodily pain (two items) and general health (five items).

The marital questionnaire, developed by Saarijärvi (1991), is a 20-item instrument with four subscales: dyadic consensus (nine items); dyadic cohesion (three items); dyadic satisfaction (two items); and communication (six items). Each subscale score ranges from zero to five, in which a higher score corresponds to greater satisfaction with the marital relationship. Altogether, 14 of the items are from the dyadic adjustment scale (Spanier, 1976), and six are from the Marital Communication Inventory (Bienvenu, 1970).

### 2.6 | Validity and reliability

The RAND-36's reliability and construct validity have been tested in the Finnish general population (Cronbach's alpha = 0.80–0.94) (Aalto et al., 1999). In this study, Cronbach's alpha coefficients for the RAND-36 scale ranged from 0.85 to 0.87 in the patient sample and from 0.82 to 0.84 in the spouse data.

The Marital Questionnaire's reliability has been demonstrated to be high, with inter-item correlations varying between 0.63 and 0.81 (Saarijärvi et al., 1990). In this study, Cronbach's alpha coefficients for the Marital Questionnaire ranged from 0.52 to 0.87 in the patient sample and from 0.49 to 0.89 in the spouse sample. More detailed descriptions of the instruments were published elsewhere (Harju et al., 2016).

**TABLE 1** Study participants' response rates at the time of diagnosis and six months and one year post-diagnosis

Time	Patients		Spouses	
	n	Response rate (%)	n	Response rate (%)
At the time of diagnosis				
Number of questionnaires sent	350		350	
Number of returned questionnaires	234	67	230	66
Number of rejected questionnaires	2		1	
Number of samples analysed	232		229	
Number of respondents who did not continue with the study	1		1	
Six months				
Number of questionnaires sent out	231		228	
Number of returned questionnaires	199	85	195	85
Number of questionnaires rejected	13		9	
Number of samples analysed	186		186	
One year				
Number of questionnaires sent out	199		195	
Number of returned questionnaires	179	90	166	85
Number of questionnaires rejected	0		0	
Number of samples analysed	179		166	

## 2.7 | Ethical considerations

Before the data were collected, ethical approval was secured from the local hospital district's Scientific Committee. Managers from the five participating hospitals permitted execution of the study. The patients received verbal and written study information, and their spouses received written information regarding the study. Participants were informed that they could withdraw from the study at any time without affecting their care. The data were processed and analysed using a coded and anonymized form, in accordance with Finnish law and the Declaration of Helsinki (2008).

## 2.8 | Data analysis

HRQoL and participants' demographic characteristics were reported 1 year after the prostate cancer diagnosis. Demographic characteristics were described using frequencies, percentages, means, standard deviations, medians and quartiles. New variables for any changes in the marital relationship were calculated (the difference between one year after diagnosis minus the time of diagnosis). These change variables' distribution was skewed. Changes in the marital relationship during the first year after a prostate cancer diagnosis were analysed using Wilcoxon's signed-rank test because of skewed distributions. For the same reason, we used the Mann-Whitney and Kruskal-Wallis tests to examine the association between demographic characteristics (Table 2) and any changes in the marital relationship. These were followed by effect size using Cohen's *d* (Cohen, 1988) and post-hoc

comparisons using Bonferroni adjustment to determine where the change occurred (Munro, 2005).

Associations between change in the marital relationship and participants' HRQoL at 1 year post-diagnosis were analysed using linear regression models. In the first block, HRQoL at the time of diagnosis was added to the model. In the second block, the four marital relationship subscales (change in dyadic consensus, change in dyadic cohesion, change in dyadic satisfaction and change in communication) were added to the model simultaneously because they correlate with each other and describe the marital relationship from a slightly different perspective (Munro, 2005). Because no evidence was found of any association between any change in the marital relationship and participants' demographic characteristics, they were not selected in the models. Patients and spouses' models were created separately for each of the eight subscales describing HRQoL. Despite the calculated change variable's slight non-normality, the regression model residuals were examined and viewed as normally distributed (Munro, 2005). IBM SPSS Statistics (Version 23) (IBM Corp., Armonk, NY, USA) was used for data analysis, with the statistical significance level set at  $p < 0.05$ .

## 3 | RESULTS

### 3.1 | Descriptive results

One year after diagnosis, responses were received from 179 patients and 166 spouses. The participants' demographic characteristics are

**TABLE 2** Demographic characteristics of prostate cancer patients ( $n = 179$ ) and their spouses ( $n = 166$ ) 1 year after diagnosis

Variable	Patients		Spouses	
	<i>n</i>	%	<i>n</i>	%
One-year follow-up				
Age (years; mean, SD)	68 (9.8) <sup>a</sup>		66 (8.7) <sup>a</sup>	
≤59	30	17	40	24
60–69	70	39	68	41
≥70	79	44	58	35
Duration of marital relationship (years; mean, SD)	36 (15.6)			
Treatment method				
Radiation therapy	65	37		
Surgery	63	35		
Non-invasive care	32	18		
Hormonal treatment	18	10		
Missing	1			
Employment status				
Working	57	32	67	40
Not working	122	68	99	60
Basic education (years)				
Elementary school/civic school (6–8)	101	56	72	43
Comprehensive school/lower secondary school (9)	48	27	45	27
Upper secondary school (12)	30	17	49	30
Chronic diseases				
Yes	127	71	106	64
No	51	29	60	36
Missing	1			

<sup>a</sup>Mean (standard deviation).

presented in Table 2. The patients' mean age at 1 year after diagnosis was 68 years (SD 9.8 years). The spouses' mean age was 66 years (SD 8.7 years). On average, the duration of these marital relationships was 36 years (SD 15.6 years).

### 3.2 | Changes in the marital relationship between patients and spouses

Table 3 shows changes in the marital relationship at 1-year follow-up. On average, the marital relationship of the prostate cancer patients statistically did not change significantly during the first year after diagnosis. However, among spouses, statistically significant changes occurred in dyadic cohesion, dyadic satisfaction and total marital satisfaction scores. The mean dyadic cohesion of spouses was  $M$  3.93 (SD 0.74) at the time of diagnosis and  $M$  3.84 (SD 0.68) 1 year later. The difference was statistically significant ( $P = 0.031$ ). Spouses' dyadic satisfaction dropped from  $M$  4.07 (SD 0.67) to  $M$  4.00 (SD 0.70) ( $P = 0.032$ ), and their total score for marital satisfaction dropped from  $M$  3.95 (SD 0.53) to  $M$  3.89 (SD 0.53) ( $P = 0.023$ ). During the year after diagnosis, spouses reported more

statistically significant changes in the marital relationship than patients.

No evidence was found of an association between any change in the marital relationship and participants' demographic characteristics. Thus, these data are not in the table.

### 3.3 | Associations between change in marital relationship and HRQoL

A statistically significant variance was found in the patients' HRQoL at 1 year post-diagnosis compared with the time of diagnosis, realized in all eight HRQoL dimensions. Furthermore, a change in the marital relationship did not explain statistically the patients' HRQoL dimensions significantly (Table 4).

A statistically significant variance was found in spouses' HRQoL at 1 year post-diagnosis compared with the time of diagnosis, realized in all eight HRQoL dimensions. The spouses' reported change in the marital relationship explained 5.3% of the variance in emotional well-being. The spouses' reported change in the marital relationship did not explain the variance in the other HRQoL dimensions (Table 4).

**TABLE 3** Changes in the marital relationship at the 1-year follow-up

Marital questionnaire	n	At the time of diagnosis (baseline)		After 12 months (follow-up)		p value of the change between baseline and follow-up <sup>b</sup>	Cohen's d		
		Mean <sup>a</sup>	SD	n	Mean <sup>a</sup>			SD	
Dyadic consensus	Patients	217	4.02	0.52	177	4.01	0.52	0.977	0.019
	Spouses	213	4.02	0.62	165	3.98	0.64	0.309	0.017
Dyadic cohesion	Patients	217	3.86	0.58	176	3.91	0.58	0.842	0.086
	Spouses	214	3.93	0.74	164	3.84	0.68	<b>0.031</b>	0.127
Dyadic satisfaction	Patients	217	4.23	0.56	176	4.21	0.59	0.698	0.035
	Spouses	214	4.07	0.67	164	4.00	0.70	<b>0.032</b>	0.102
Communication	Patients	217	3.70	0.54	176	3.71	0.54	0.818	0.019
	Spouses	214	3.77	0.60	166	3.73	0.60	0.113	0.067
Marital satisfaction: total score	Patients	217	3.96	0.43	177	3.97	0.44	0.834	0.023
	Spouses	214	3.95	0.53	166	3.89	0.53	<b>0.023</b>	0.113

<sup>a</sup>Scale: 1–5.<sup>b</sup>Wilcoxon's signed-rank test.

## 4 | DISCUSSION

In this study, the marital relationship and HRQoL of prostate cancer patients and their spouses were measured at the time of diagnosis, at the 6 months and at 1 year post-diagnosis. The main finding was that the marital relationship remained stable for both patients and their spouses as reported at the time of follow-up; however, the spouses reported statistically significant changes in the marital relationship, while the patients did not. The changes in the marital relationship were not associated with patients' HRQoL. Among spouses, emotional well-being was associated with changes in the marital relationship.

The finding that changes in the marital relationship among spouses were greater than those of patients was interesting, although these changes' clinical relevance is difficult to assess. However, these findings correspond with those of previous studies, which found that prostate cancer patients' spouses reported greater psychological distress than the patients themselves after prostate cancer treatment (Chien et al., 2018; Manne et al., 2021). Furthermore, spouses experienced cancer-related communication difficulties while managing their spouses' prostate cancer symptoms (Song et al., 2015). A Taiwanese prospective survey indicated a significant correlation between marital satisfaction of prostate cancer patients ( $n = 115$ ) and their spouses ( $n = 91$ ) (Chien et al., 2017). Marital satisfaction is mutual at 6 months post-treatment, but by 12 months post-diagnosis, the spouses' marital satisfaction exerted a continuous influence on patients' marital satisfaction. However, the influence from patients' marital satisfaction on that of their spouses became insignificant (Chien et al., 2017).

Associations between participants' demographic characteristics and changes in their marital relationships were not found—a surprising finding. One reason could be that the participants in this study had long-term marital relationships. According to a previous study, couples' demographic characteristics did not affect their open communication in their marital relationships (Song et al., 2012).

One year after diagnosis, the linear regression models' results indicated that changes in the marital relationship were associated only with spouses' emotional well-being. Among patients, HRQoL was not associated with changes in the marital relationship. Patients and their spouses experienced effects from the marital relationship on HRQoL in a slightly different way. Therefore, spouses may benefit from discussing their situation with healthcare professionals. Based on a previous study, nurses play a key role in assessing and intervening with spouses, but some nurses may have little contact with spouses or may lack confidence in dealing with spouses' emotional distress (Irwin et al., 2018). Furthermore, according to Jonsdottir et al.'s (2017) systematic literature review, no clear consensus was reached on how couple-based interventions are best structured. Nurses' skills need to be enhanced when addressing sexual concerns that couples encounter after cancer, and they should be more proactive when seeking solutions to counterbalance challenges related to sexual function, sexual relationships and sexual identity (Jonsdottir et al., 2017).

### 4.1 | Limitations

This study has several limitations that should be noted when considering the results. The first is that the sample could have been biased. It is possible that the respondents who were willing to participate in this study were most likely to be white and heterosexual; therefore, generalization of results for all prostate cancer patients should be done cautiously. Second, the marital relationship and HRQoL are complex concepts to measure. The use of only one self-reported marital relationship scale could have oversimplified the marital relationship's complex aspects, as well as those of HRQoL. Furthermore, confounding factors could not be standardized in this design. Economic factors, relationships among family members and the presence of other diseases also may have influenced the results.



**TABLE 4** Associations between change in the marital relationship and HRQoL according to the linear regression model with the enter method

	Patients				Spouses			
	B	SE	p value	R <sup>2</sup> change	B	SE	p value	R <sup>2</sup> change
Physical functioning								
Model 1. Physical functioning at time of diagnosis	0.714	0.062	<0.001	0.507	0.877	0.047	<0.001	0.768
Model 2. (Model 1 and change in marital relationship)			0.154	0.008			0.360	0.001
Change in dyadic consensus	0.103	3.044	0.076		0.049	2.170		
Change in dyadic cohesion	0.081	2.517	0.165		-0.055	1.752		
Change in dyadic satisfaction	-0.035	2.906	0.568		-0.070	1.354		
Change in communication	0.018	2.335	0.762		0.011	2.521		
Role functioning/physical								
Model 1. Role functioning/physical at time of diagnosis	0.626	0.064	<0.001	0.389	0.741	0.058	<0.001	0.547
Model 2. (Model 1 and change in marital relationship)			0.762	-0.009			0.689	-0.006
Change in dyadic consensus	0.000	6.860	0.997		-0.040	5.291	0.563	
Change in dyadic cohesion	0.045	5.630	0.493		0.051	4.215	0.412	
Change in dyadic satisfaction	-0.071	6.488	0.309		-0.052	3.271	0.391	
Change in communication	0.073	5.236	0.277		0.069	6.132	0.291	
Role functioning/emotional								
Model 1. Role functioning/emotional at time of diagnosis	0.482	0.070	<0.001	0.228	0.588	0.075	<0.001	0.341
Model 2. (Model 1 and change in marital relationship)			0.193	0.010			0.593	0.017
Change in dyadic consensus	0.122	6.802	0.095		0.135	6.198	0.107	
Change in dyadic cohesion	0.036	5.578	0.619		-0.047	4.858	0.533	
Change in dyadic satisfaction	-0.055	6.485	0.477		-0.004	3.782	0.956	
Change in communication	0.121	5.238	0.109		-0.025	7.136	0.758	
Energy								
Model 1. Energy at time of diagnosis	0.644	0.063	<0.001	0.411	0.707	0.060	<0.001	0.496
Model 2. (Model 1 and change in marital relationship)			0.303	0.003			0.558	0.004
Change in dyadic consensus	0.108	3.244	0.088		0.039	2.798	0.596	
Change in dyadic cohesion	-0.017	2.675	0.786		-0.046	2.216	0.479	
Change in dyadic satisfaction	0.015	3.098	0.827		0.083	1.744	0.193	
Change in communication	0.064	2.502	0.326		0.010	3.241	0.882	
Emotional well-being								
Model 1. Emotional well-being at time of diagnosis	0.529	0.068	<0.001	0.275	0.583	0.079	<0.001	0.335
Model 2. (Model 1 and change in marital relationship)			0.076	0.020			0.003	0.053
Change in dyadic consensus	0.123	2.722	0.078		0.155	2.647	0.050	
Change in dyadic cohesion	0.010	2.248	0.886		0.096	2.132	0.181	
Change in dyadic satisfaction	0.093	2.605	0.212		0.146	1.668	0.039	
Change in communication	0.057	2.083	0.424		-0.049	3.086	0.515	
Social functioning								
Model 1. Social functioning at time of diagnosis	0.393	0.072	<0.001	0.149	0.517	0.076	<0.001	0.262
Model 2. (Model 1 and change in marital relationship)			0.080	0.023			0.178	0.012
Change in dyadic consensus	0.105	3.769	0.163		0.192	3.329	0.025	
Change in dyadic cohesion	0.133	3.111	0.077		-0.135	2.709	0.087	
Change in dyadic satisfaction	-0.066	3.596	0.407		-0.044	2.104	0.566	
Change in communication	0.115	2.897	0.134		-0.006	3.879	0.942	

(Continues)



TABLE 4 (Continued)

	Patients				Spouses			
	B	SE	p value	R <sup>2</sup> change	B	SE	p value	R <sup>2</sup> change
Bodily pain								
Model 1. Bodily pain at time of diagnosis	0.638	0.064	<b>&lt;0.001</b>	<b>0.404</b>	0.704	0.060	<b>&lt;0.001</b>	<b>0.492</b>
Model 2. (Model 1 and change in marital relationship)			0.119	0.012			0.207	-0.006
Change in dyadic consensus	0.139	3.779	0.031		0.121	3.646	0.099	
Change in dyadic cohesion	-0.045	3.085	0.475		-0.140	2.815	0.036	
Change in dyadic satisfaction	0.044	3.559	0.507		-0.058	2.142	0.355	
Change in communication	0.050	2.863	0.442		-0.001	4.001	0.984	
General health								
Model 1. General health at time of diagnosis	0.754	0.064	<b>&lt;0.001</b>	<b>0.565</b>	0.799	0.059	<b>&lt;0.001</b>	<b>0.635</b>
Model 2. (Model 1 and change in marital relationship)			0.657	-0.004			0.701	-0.004
Change in dyadic consensus	0.076	2.883	0.167		0.089	2.513	0.143	
Change in dyadic cohesion	0.013	2.374	0.814		-0.026	2.043	0.638	
Change in dyadic satisfaction	0.002	2.800	0.971		-0.006	1.585	0.912	
Change in communication	-0.002	2.245	0.968		-0.037	2.928	0.528	

Note: The *p* values in boldface have been adjusted according to a Bonferroni correction.

Furthermore, it is unclear whether the participating couples completed the surveys together. Third, information on the progression of prostate cancer and other chronic diseases was self-reported. To improve reliability, this information could be collected from medical records in the future.

## 5 | CONCLUSION

In conclusion, this longitudinal study's results provide a context through which nurses and other healthcare professionals can understand the marital relationship and HRQoL in prostate cancer patients and their spouses. The results indicate that the spouses perceived changes in their marital relationships, but that the patients did not. Furthermore, the marital relationship explained differences in spouses' HRQoL at 1 year after a prostate cancer diagnosis. It is recommended that nurses also individually assess whether spouses need counselling and support during prostate cancer care. Future research also could use, for example, a mixed methods design to foster a better understanding of the marital relationship and HRQoL of prostate cancer patients and their spouses.

### CONFLICT OF INTEREST

All authors report no conflict of interest related to this manuscript.

### AUTHORSHIP STATEMENT

EH, AR, MH, MK, TI and PÅ-K designed the study. EH collected the data. EH and MH analysed the data. EH, AR, MH, MK, TI and PÅ-K prepared the manuscript. All authors approved the final version for submission.

### DATA AVAILABILITY STATEMENT

Author elects to not share data.

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