# The psychosocial impact of prostate cancer on patients and their partners

Jeremy W Couper, Sidney Bloch, Anthony Love, Gillian Duchesne, Michelle Macvean and David W Kissane

## ABSTRACT

**Objective:** To assess the psychosocial impact of the diagnosis of either localised or metastatic prostate cancer (PCA) on patients and their female partners.

**Design:** Observational, prospective study at Time 1 and 6 months later at Time 2 of two groups of couples facing PCA. Time 1 was when patients were first diagnosed with histologically confirmed localised (potentially curable) PCA or metastatic (incurable) PCA.

**Main outcome measures:** Depression and anxiety disorders according to the *Diagnostic and statistical manual of mental disorders* 4th edition (DSM-IV); psychological distress; marital satisfaction.

**Results:** At Time 1, partners had rates of DSM-IV major depression and generalised anxiety disorder twice those of women in the Australian community, and considerably higher than the patients' rates. At Time 2, psychological distress in partners had lessened but that in patients had increased. On the other hand, at Time 2, partners' marital satisfaction had deteriorated.

**Conclusions:** To be fully effective, interventions aimed at reducing the psychosocial morbidity of PCA must involve both patient and partner, rather than the patient alone.

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Prostate cancer (PCA) is the most common non-skin cancer in men (over 11 000 cases in Australia in 2001), and, with a lifetime risk of 1 in 10 men, it is the second leading cause of death from cancer in men.[1] Despite these statistics, there have been very few studies of the psychosocial impact on the patient and his family of PCA and its treatment, and limited research on psychosocial interventions to promote adaptive coping.[2-4]

Clearly, the negative psychosocial effects of this cancer represent a major health care issue. As with breast cancer, research on men's reactions to the diagnosis and treatment of this intensely personal condition — without involving partners — risks overlooking a key relational dimension.[5] As the side effects of mastectomy (disfigurement and scarring) and hormone therapy and chemotherapy (hair loss) can challenge a woman's self-image as mother, wife and sexual partner, similarly the side effects of prostatectomy (impotence and urinary incontinence), hormone therapy (feminisation and loss of libido) and external beam radiotherapy (bowel disturbance) can shake a man's view of himself in his various roles.

A review of the limited number of reports on the psychosocial impact of PCA on patient and partner demonstrates a pressing need for integrated research to establish the psychological needs of couples as they grapple with decisions about treatment and their consequences.[6] A prospective observational study incorporating different stages of the patient and partner's journey is needed to guide the development of a focused, coherent psychosocial intervention, which can be tested and, if effective, woven into routine clinical care to improve psychosocial adjustment. Here, we report the findings of such a study and recommend the development of a program of counselling.

## METHODS

### Recruitment

Our multisite study was designed to elicit data from two groups of couples facing PCA: (i) couples where the patient has just learnt he has localised (potentially curable) PCA; and (ii) couples where the patient has been told that he has metastatic (incurable) PCA. Consecutive clinic attendees who met study criteria (Box 1) were recruited between March 2002 and March 2005 by oncologists and urologists working in public hospitals and private practices in metropolitan Melbourne. (The patients were also recruits for a larger, patient only, 18-month longitudinal study.) Interviews took place before the launch of definitive treatments, such as prostatectomy or radiotherapy, or soon after.

### Consent and ethical approval

All patients had a living female partner, and both patient and partner gave written consent to participate. If patients died, their partners became ineligible. Ethical approval was obtained from human research ethics committees at each of the five public hospitals involved in the study and from the University of Melbourne.

### Procedure

Patients and partners simultaneously and confidentially completed self-report questionnaires at the time of diagnosis of localised or metastatic PCA (Time 1), and 6 months later (Time 2). Demographic data were collected from all patients and partners. Most Time 1 interviews took place in the couples' homes; Time 2 questionnaires were sent by mail with telephone follow-up. Patients and partners were interviewed and completed their questionnaires separately, so that their responses could be kept confidential from their spouse. A computer-based psychiatric diagnostic interview (see below) was conducted with the partners at Time 1, and with the patients 3 months later (both will be referred to as part of Time 1 data hereafter).

### Measures

The anxiety and depression modules of the Composite International Diagnostic Interview (CIDI)[7] were administered to patients and partners. The CIDI, which derives psychiatric diagnoses according to the *Diagnostic and statistical manual of mental disorders* 4th edition (DSM-IV),[8] has confirmed reliability and validity.[7] The CIDI computer software takes account of symptoms arising from physical illness (including cancer and its treatments) to ensure they are not incorrectly ascribed to depression or anxiety diagnoses.[7] The CIDI has recency codes that separate past psychiatric disorders from current disorders. For our study, only DSM-IV diagnoses over the 12 months before the interview are reported (12-month prevalence rates).

*The Brief Symptom Inventory* (BSI)[9] is a 53-item self-report psychological symptom scale. It yields a global rating of psychological status called the Global Severity Index (GSI), comprising a grand total of scores divided by the number of valid items. The BSI also provides subscale scores for depression and for anxiety. In each case, a higher score denotes greater psychological distress. The BSI's ability to discriminate clinically distressed from non-distressed samples has been well established, using structured psychiatric interviews as benchmarks.[9] Extensively used in psycho-oncology research, the BSI is sensitive to changes in psychological adjustment and to psychopathology.[10] Specific threshold scores of psychiatric "caseness" (where an individual's levels of symptoms are deemed to correspond to a diagnosable psychiatric disorder) have been established for both men and women.[11]

*The Dyadic Adjustment Scale* (DAS)[12] is a six-item self-report scale widely used in the context of families experiencing cancer.[13] The DAS is designed to measure the quality and level of satisfaction of romantic relationships in cohabiting couples.[14] The DAS yields the DAS Full Scale score, comprising the sum of the recoded item scores; a higher score represents greater marital satisfaction (maximum 30).

### Statistical analysis

In the data presented below, we cite the number of participants at Time 1 and Time 2 who had usable scores for each analysis. SPSS, version 11.5 (SPSS Inc, Chicago, Ill, USA) was used throughout.

The independent sample *t* test was used to compare psychological distress and marital satisfaction in couples who participated at Time 2 and those who did not, and $\chi^2$ tests were used to compare couples facing localised PCA with those facing metastatic PCA. Rates of DSM-IV diagnoses (given as percentages) were compared directly with 12-month community prevalence rates. Paired samples *t* tests were used to compare psychological distress and marital satisfaction of patient and partner at each time point, and a repeated-measures analysis of variance (ANOVA) was used to examine the interaction of psychological distress and marital satisfaction at Time 1 and Time 2 in patients and partners.

## RESULTS

### Sample

Referring clinicians identified 141 eligible patients from consecutive clinic attendees: 28 patients refused permission for their partners to be approached. Of the partners approached, 10 were ineligible, could not be contacted, or declined to participate.

### 1 Eligibility criteria for patients and partners

Patient

- Diagnosis of prostate cancer
  - ➢ Localised prostate cancer — T1–T3, N0, M0 (pretreatment or early treatment)

  *OR*
  - ➢ Metastatic prostate cancer — N+, M+
- Does not currently have other cancer
- Does not have intellectual disability, dementia, or psychotic disorder
- Can speak/understand English

Partner

- Female partner of man eligible for the men's study (marital status unimportant)
- Does not have currently active cancer or other severe debilitating illness
- Does not have intellectual disability, dementia, or psychotic disorder
- Can speak/understand English

T1–T3 = tumour is confined to the prostate; N0, M0 = no involvement of lymph nodes, no metastatic spread; N+, M+ = tumour has spread to the lymph nodes and elsewhere.

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### 2 Age of patients and partners

| Age (years) | No. of patients | No. of partners |
|---|---|---|
| 40–49 | 4 | 8 |
| 50–59 | 27 | 42 |
| 60–69 | 29 | 29 |
| 70–79 | 37 | 22 |
| 80 + | 6 | 2 |
| Total | 103 | 103 |

The remaining 103 couples (73% of identified couples) were recruited. The mean age of the patients was 66 years (SD, 9.5; range, 43–92), and that of their partners was 62 years (SD, 9.3; range, 41–83) (Box 2). The patients' ages were in the expected range.[15]

Forty-seven patients (46%) were diagnosed with localised PCA and 56 (54%) with metastatic disease. Twenty-four of the 103 patients (23%) received no active treatment during the study period, and 49 (48%) had hormone treatment. Of the 47 patients with localised PCA, 13 (28%) had a radical prostatectomy and five (11%) had some form of radiotherapy. Of the 56 patients with metastatic PCA, eight (14%) received chemotherapy. The range of treatments was generally consistent with Victorian Cancer Registry data.[16] Seventy-one of the patients (69%) were recruited from public hospital clinics, the remainder from private practice.

The longest time between first PCA diagnosis and recruitment into the study as a patient with metastatic PCA was 14 years, the shortest was within a year (five patients), with a mean duration of 4.6 years. Twenty eligible patients and 11 partners reported having previously had other types of cancer.

### Attrition

Twenty patients (19%) were no longer participating at Time 2: nine had died and 11 withdrew. Thirteen of these patients (seven dead, six withdrawn) were lost to the study at Time 1 before the CIDI was administered, so that DSM-IV diagnoses were not obtained for these patients. Fourteen partners (13.5%) were no longer participating at Time 2: 10 were no longer eligible to continue, nine because the patient they partnered had died, and one had suffered a disabling stroke. Four other partners withdrew because of lack of time or feeling overwhelmed by their situation.

Patients and partners not participating at Time 2 were significantly more likely to have been facing advanced PCA at Time 1 (if a patient died, his partner was not eligible to continue, but if he survived but withdrew she remained eligible) (Box 3). The age of patients (but not partners) was significantly higher among non-participants at Time 2. There was no significant difference between participants and non-participants at Time 2 in GSI or DAS scores (data not shown).

### Psychosocial adjustment of couples facing localised versus metastatic PCA

Contrary to our expectations, differences in psychological distress or marital satisfaction between patients (and between partners) facing localised and metastatic PCA at both Time 1 and Time 2 did not reach statistical significance. In subsequent analyses, patients with localised and metastatic disease (and their partners) were combined into one group.

### Psychiatric diagnoses in patients and partners at Time 1

The rates of DSM-IV anxiety and depression for 90 patients and 103 partners at Time 1 are given in Box 4. The partners had rates of major depression more than twice the normal rate for the Australian (Victorian) community;[17] patient rates were also

**3 Comparison of stage of prostate cancer (PCA) at Time 1 in partners and patients completing and not completing Time 2 assessments**

| | Early stage PCA at Time 1 | | Advanced stage PCA at Time 1 | | | |
|---|---|---|---|---|---|---|
| | Participating at Time 2 | | Participating at Time 2 | | | |
| | Yes | No | Yes | No | $\chi^2_2$ | $P$ |
| Partners ($n$ = 103) | 45 | 2 | 44 | 12 | 8.490 | 0.014 |
| Patients ($n$ = 103) | 45 | 2 | 38 | 18 | 13.361 | 0.001 |

**4 Rates of DSM-IV psychiatric disorders diagnosed in prostate cancer patients and their partners* at Time 1, compared with 12-month prevalence rates for adults†**

| | Major depression | Social phobia | Agora-phobia | Panic disorder | Generalised anxiety disorder |
|---|---|---|---|---|---|
| **Patients ($n$ = 90)** | | | | | |
| Rate of psychiatric diagnosis | 5.6% | 1.1% | 0 | 1.1% | 3.3% |
| Community prevalence of psychiatric diagnosis for adult males† | 3.0% | 2.5% | 0.7% | 0.5% | 2.6% |
| **Partners ($n$ = 103)** | | | | | |
| Rate of psychiatric diagnosis | 14.6% | 3.9% | 1.9% | 2.9% | 6.8% |
| Community prevalence of psychiatric diagnosis for adult females† | 6.2% | 2.4% | 1.2% | 1.7% | 3.7% |

* Diagnosed using the anxiety and depression modules of the Composite International Diagnostic Interview.[7]
† Rates for adults in the Victorian community (Australian Bureau of Statistics, 1997).[17]
DSM-IV = *Diagnostic and statistical manual of mental disorders*, 4th edition.

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**5 Comparison of mean Brief Symptom Inventory (BSI) scores for patients and their partners at the time of diagnosis of localised/metastatic prostate cancer (Time 1)**

| | Mean (SD) | | | 95% CI of the | |
|---|---|---|---|---|---|
| | Partners | Patients | $t$ | difference | $P$ |
| Global Severity Index score ($n$ = 102) | 0.43 (0.53) | 0.26 (0.30) | 2.909 | 0.055–0.291 | 0.004 |
| BSI Depression Subscale score ($n$ = 102) | 0.46 (0.70) | 0.23 (0.38) | 3.008 | 0.079–0.385 | 0.003 |
| BSI Anxiety Subscale score ($n$ = 101) | 0.61 (0.83) | 0.21 (0.32) | 4.441 | 0.221–0.578 | 0.000 |

higher than the community rate but proportionally not as elevated. A similar pattern emerged for rates of generalised anxiety disorder and other anxiety disorders in patients and partners.

### Comparing distress in patients and partners at Time 1

Overall mean psychological distress (GSI) in partners at Time 1 was almost twice as high as in patients (Box 5). Similarly, depressive symptoms and anxiety symptoms at Time 1 (BSI Depression and Anxiety Subscales) were substantially higher in partners compared with patients.

### Psychological distress at Time 2

Patients experienced an increase in distress at Time 2 compared with Time 1 ($F_{1,81}$, 7.26; $P<0.05$; $n=82$), whereas partners reported a reduced level of distress at Time 2 compared with Time 1 ($F_{1,87}$, 3.99; $P<0.05$; $n=88$) (Box 6A). At Time 2, distress in partners did not differ significantly from that of patients, unlike the situation 6 months earlier.

A mixed-model repeated-measures ANOVA ($n=76$), with the within-subject factor of time and the between-subject factor of patient versus partner, revealed a significant convergent interaction overall in mean GSI scores between patients and partners over time ($F_{1,75}$, 14.256; $P<0.001$).

### Marital satisfaction at Time 2

Patients' and partners' marital satisfaction at Time 1 was not significantly different. At Time 2, however, partners' satisfaction was lower than that of patients ($t$, 2.35; df, 70; $P<0.05$; $n=71$). Moreover, partners' satisfaction fell from Time 1 to Time 2 ($F_{1,88}$, 5.71; $P<0.05$, $n=89$), whereas that of patients did not change significantly (Box 6B).

A mixed-model repeated-measures ANOVA ($n=77$), with the within-subject factor of time and the between-subject factor of patient versus partner, revealed a borderline significant divergent interaction overall in mean DAS Full Scale score between patients and partners over time ($F_{1,76}$, 3.917; $P<0.05$). The effect of time alone was significant ($F_{1,76}$, 6.565; $P<0.01$), but the effect of patient versus partner alone was not ($F_{1,76}$, 2.775; $P=0.1$).

### Change in rates of psychiatric caseness in patients and partners at Time 2

At Time 1, 15% of partners ($n=102$) exceeded the female GSI threshold for psychiatric caseness;[11] at Time 2, 14% of partners ($n=89$) met criteria for psychiatric caseness. Ten per cent of patients ($n=103$) met criteria for psychiatric caseness at Time 1, but this went up to 15% of patients ($n=82$) at Time 2 (Box 7).

## DISCUSSION

To our knowledge, this is the first prospective, observational study of couples facing PCA using a sample of this size and gathering information from both patients and partners concurrently.[6] Our findings of a change in the psychological status of both partners and patients over a period of 6 months, and of different patterns of change in the two groups, are intriguing. The partners were more distressed at the time of diagnosis, and less so 6 months later; the converse occurred in the patients. With respect to marital satisfaction, there were again different patterns, with patients' satisfaction levels remaining constant over 6 months but partners' satisfaction declining.

The diminution in distress in partners supports findings from a previous study that the anxiety of partners of patients with advanced PCA decreased over a period of 6 months.[18] That study is the only prospective one, other than our own, that includes partners. The worsening marital satisfaction we identified in partners agrees with the findings of a cross-sectional study of 164 partners, a mean of 4.3 years after initiation of PCA treatment; most reported dissatisfaction with their relationship.[19]

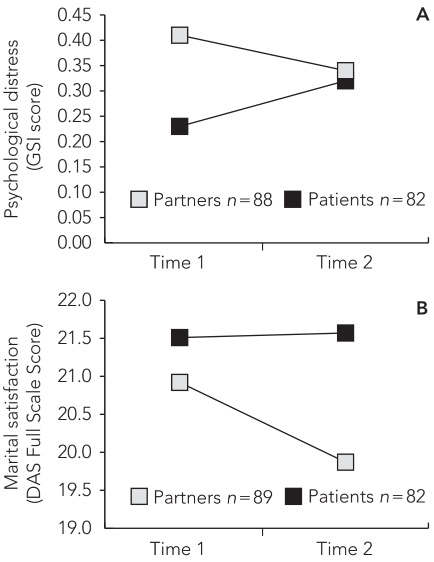
The elevated rates of diagnosable (DSM-IV) depression and anxiety in the partners we studied, compared with both a community sample of women and the patients diagnosed with cancer, also agree with previous research involving cross-sectional measurement of distress in patients with PCA and their partners.[20,21] Contradictory findings in one study[22] — lower distress in partners than patients — may be explained by sampling (patients were in remission with no metastatic disease and no hormone therapy and were interviewed many months after completing successful therapy). In the former two studies,[20,21] a broader range of patient stages and treatment modalities were sampled.

Our findings suggest that women whose partners are facing a new (or renewed) threat from PCA are initially vulnerable to distress, but their level of distress diminishes somewhat in succeeding months. Paradoxically, it appears they may become increasingly disenchanted with their marital relationship over the same period. Meanwhile, patients appear relatively unaffected psychologically at the outset, but become more distressed over time (although their marital satisfaction appears to remain unchanged).

The prevalence of GSI psychiatric caseness in partners diminished over 6 months. It is possible that this finding is a result of higher attrition of psychiatrically unwell partners, rather than the resolution of disorders. In nine of the 10 instances of partners dropping out of the study, the patient they partnered died during the 6-month period. Thus, this group may have represented partners facing greater psychological challenges than those who remained at Time 2. Patient GSI caseness, by contrast, was lower than that in partners initially, but 6 months later reached the same elevated level found in partners at Time 1.

Comparisons of mean BSI scores between patients and partners (or raw rates of DSM-IV diagnoses) need to be made with caution in the light of the widely established epidemiological finding that women report anxiety and depression symptoms at higher rates than men.[23] However, rates of BSI caseness should not be affected by this phenomenon, since separate caseness thresholds have been derived from normative samples for men and women.[11]

**6 Change in psychological distress (A) and marital satisfaction (B) scores (Time 1 to Time 2)**



Psychological distress scores (Global Severity Index [GSI]) and marital satisfaction scores (Dyadic Adjustment Scale [DAS]) of patients and partners in the 6 months after the diagnosis of localised/metastatic prostate cancer.

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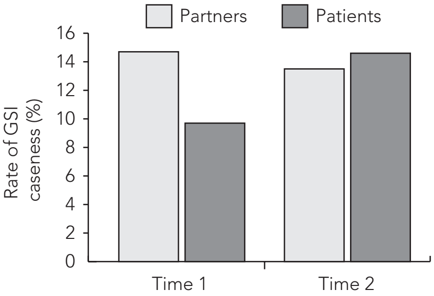
**7 Frequency of GSI psychiatric caseness (Time 1 to Time 2)**



Patients: Time 1 $n = 103$; Time 2 $n = 82$
Partners: Time 1 $n = 102$; Time 2 $n = 89$
Psychiatric caseness of patients and partners in the 6 months after the diagnosis of localised/metastatic prostate cancer.

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We had expected that the stage of PCA (localised or metastatic) would affect the level of psychological distress reported by patients and partners. We did not find this at the time of diagnosis or 6 months later. The dearth of longitudinal psychosocial research comparing stages of PCA makes it difficult to draw on other work to explain this. Our findings suggest that the psychosocial impact in the two events is similar, but it is possible that our study lacked the power to detect a small difference or that the differences emerge after more than 6 months.

A potential limitation of our study is that recruiting participants via clinics may introduce bias, as not every patient diagnosed with PCA in the community has an equal chance of being recruited into the study. However, it is the only practical way to gain timely access to a sufficient number of patients with PCA at a particular stage of the disease, and gives us access to patients and partners in a real world clinical setting.

Studies that obtain their sample from cancer registries, such as that of Valdimarsdottir et al,[24] may enjoy reduced selection bias, but the inevitable delays in registration into databases preclude researcher access to patients (and partners) at the time they are dealing psychologically with the diagnosis and its implications. Studies that seek recruits through advertisements, attendees at information sessions, or self-help group memberships, such as that of Ko et al,[25] face considerable potential selection bias as participants are self-selected. Recruitment of consecutive clinic attendees is a favoured form of sampling in psycho-oncology research.[5,6,10]

Although attrition was a feature of our study, the levels of participation and retention achieved suggest that couples facing PCA represent a motivated and accessible group for psychosocial assessment and, in all likelihood, counselling. The perseverance shown by most of the patients and partners, especially in answering highly personal questions about themselves and their partner at a demanding time, suggests that couples facing PCA construe the situation as a crucial challenge in their lives together.

Our findings suggest the value of a couple-focused counselling program, similar to that devised and applied for couples facing breast cancer.[26] A preventive intervention of this type could help the growing number of middle-aged and older men affected by PCA and their partners to, as much as possible, enjoy productive lives together. Such an intervention could buttress the most salient form of social support both patient and partner will need — each other's — in the months and years that follow the diagnosis of this common cancer.

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## COMPETING INTERESTS

None identified.

## AUTHOR DETAILS

**Jeremy W Couper,** MB BS, MMed(Psych), Lecturer[1]
**Sidney Bloch,** MB ChB, PhD, Professor[1]
**Anthony Love,** PhD, Senior Lecturer[2]
**Gillian Duchesne,** BSc(Hons), MB ChB, MD, Professor[3]
**Michelle Macvean,** PhD, Behavioural Scientist[4]
**David W Kissane,** MB BS, MPM, MD, Professor[5]

1 Department of Psychiatry, University of Melbourne, Melbourne, VIC.
2 School of Psychological Science, La Trobe University, Melbourne, VIC.
3 Peter MacCallum Cancer Centre, Melbourne, VIC.
4 The Cancer Council Victoria, Melbourne, VIC.
5 Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Centre, New York, NY, USA.

*Correspondence:* couperjw@svhm.org.au

## REFERENCES

1 Australian Institute of Health and Welfare, and Australasian Association of Cancer Registries. Cancer in Australia 2001. Canberra: AIHW, 2004. (AIHW Catalogue No. CAN 23; Cancer Series No. 28.)
2 Manne S, Babb J, Pinover W, et al. Psychoeducational group intervention for wives of men with prostate cancer. *Psychooncology* 2004; 13: 37-46.
3 Davison BJ, Goldenberg SL, Gleave ME, Degner LF. Provision of individualized information to men and their partners to facilitate treatment decision making in prostate cancer. *Oncol Nurs Forum* 2003; 30: 107-114.
4 Giarelli E, McCorkle R, Monturo C. Caring for a spouse after prostate surgery: the preparedness needs of wives. *J Fam Nurs* 2003; 9: 453-485.
5 Baider L, Kaplan De-Nour A. Cancer and couples — its impact on the healthy partner: methodological considerations. In: Baider L, Cooper CL, Kaplan De-Nour A, editors. Cancer and the family. Chichester: Wiley, 2000: 41-51.
6 Couper J, Bloch S, Love A, et al. Psychosocial adjustment of female partners of men with prostate cancer: a review of the literature. *Psychoncology* 2006; Mar 6: [epub ahead of print].
7 World Health Organization. Composite International Diagnostic Interview. CIDI-Auto Version 2.1. Sydney: Wild and Woolley, 1997.
8 American Psychiatric Association. Diagnostic and statistical manual of mental disorders, fourth edition (DSM-IV). Washington, DC: APA, 1994.
9 Derogatis LR, Melisaratos N. The Brief Symptom Inventory: an introductory report. *Psychol Med* 1983; 13: 595-605.
10 Kissane DW, Bloch S. Family focused grief therapy. Buckingham: Open University Press, 2002.
11 Derogatis LR, Spencer PM. Administration and procedures. BSI Manual – I. Baltimore: Clinical Psychometric Research, 1982.
12 Sharpley CF, Cross DG. A psychometric evaluation of the Spanier Dyadic Adjustment Scale. *J Marriage Fam* 1982; 44: 739-741.
13 Ptacek JT, Pierce GR, Ptacek JJ, Nogel C. Stress and coping processes in men with prostate cancer: the divergent views of husbands and wives. *J Soc Clin Psychol* 1999; 18: 299-324.
14 Spanier GB. Measuring dyadic adjustment: new scales for assessing quality of marriage and similar dyads. *J Marriage Fam* 1976; Feb: 15-28.
15 Giles G. Canstat: Cancer in Victoria 2003. Melbourne: The Cancer Council Victoria — Cancer Epidemiology Centre, 2004.
16 Frydenberg M, Giles GG, Mameghan H. Prostate cancer in Victoria in 1993: patterns of reported management. *Med J Aust* 2000; 172: 270-274.
17 Australian Bureau of Statistics. Mental health and wellbeing profile of adults Victoria, 1997. Canberra: ABS, 1997. (Catalogue No. 4326.2.40.001.)
18 Kornblith AB, Herndon JE 2nd, Zuckerman E, et al. The impact of docetaxel, estramustine, and low dose hydrocortisone on the quality of life of men with hormone refractory prostate cancer and their partners: a feasibility study. *Ann Oncol* 2001; 12: 633-641.
19 Neese LE, Schover LR, Klein EA, et al. Finding help for sexual problems after prostate cancer treatment: a phone survey of men's and women's perspectives. *Psychooncology* 2003; 12: 463-473.
20 Cliff AM, Macdonagh RP. Psychosocial morbidity in prostate cancer: II. A comparison of patients and partners. *BJU Int* 2000; 86; 834-839.
21 Kornblith AB, Herr HW, Ofman US, et al. Quality of life of patients with prostate cancer and their spouses: the value of a database in clinical care. *Cancer* 1994; 73: 2791-2802.
22 Baider L, Ever-Hadani P, Goldzweig G, et al. Is perceived family support a relevant variable in psychological distress? A sample of prostate and breast cancer couples. *J Psychosom Res* 2003; 55: 453-460.
23 Weissman MM, Klerman GL. Sex differences and the epidemiology of depression. *Arch Gen Psychiatry* 1977; 34: 98-111.
24 Valdimarsdottir U, Helgason AR, Furst C-J, et al. The unrecognised cost of cancer patients' unrelieved symptoms: a nationwide follow-up of their surviving partners. *Br J Cancer* 2002; 86: 1540-1545.
25 Ko CM, Malcarne VL, Varni JW, et al. Problem-solving and distress in prostate cancer patients and their spousal caregivers. *Support Care Cancer* 2005; 13: 367-374.
26 Scott JL, Halford WK, Ward BG. United we stand? The effects of a couple-coping intervention on adjustment to early stage breast or gynaecological cancer. *J Consult Clin Psychol* 2004; 72: 1122-1135.

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