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Original Article

A Psychosexual Rehabilitation Booklet Increases Vaginal Dilator Adherence and Knowledge in Women Undergoing Pelvic Radiation Therapy for Gynaecological or Anorectal Cancer: A Randomised Controlled Trial

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Abstract

Aims: Women treated with pelvic radiation therapy (PRT) for gynaecological or anorectal cancer report a high number of sexual problems and unmet post-treatment psychosexual information needs. Currently, there is suboptimal adherence to recommended rehabilitation aids, such as vaginal dilators, and a paucity of resources to facilitate post-radiation rehabilitation and reduce distress in this population. This randomised controlled trial aimed to evaluate the effectiveness of a study-developed psychosexual rehabilitation booklet in this setting.

Materials and methods: Eighty-two women scheduled for PRT to treat gynaecological/anorectal cancer were randomised to receive the intervention booklet ($n = 44$) or standard information materials ($n = 38$). Self-report questionnaires administered at pre-treatment baseline and at 3, 6 and 12 months post-treatment assessed adherence with rehabilitation aids, booklet knowledge, anxiety, depression and sexual functioning/satisfaction.

Results: Dilator adherence and booklet knowledge were significantly higher in the intervention group than in the control group (averaged over time points), with scores significantly increasing over time. Younger age and gynaecological cancer were significant predictors of greater dilator adherence. No significant group differences were found on psychological and sexual measures.

Conclusions: The psychosexual rehabilitation booklet was effective in educating women with gynaecological and anorectal cancers about PRT-related psychosexual side-effects and rehabilitation options, as well as promoting uptake of vaginal dilator use. Future research should elucidate the effectiveness of this booklet in women with greater psychological and sexual functioning needs.

Key words: Cancer; female anorectal; gynaecological; pelvic radiation therapy; psychosexual rehabilitation booklet; vaginal dilators

Introduction

In total, 14 962 cases of colorectal cancer (one-third of which are anorectal) and 4534 cases of gynaecological cancer are diagnosed in Australia each year [1]. Pelvic radiation therapy (PRT, i.e. external beam and/or

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brachytherapy) is a commonly administered treatment for gynaecological cancer and anorectal cancer, with potential side-effects including vaginal fibrosis, dryness, adhesions, agglutination and stenosis [2]. The side-effects of PRT can often lead to chronic and distressing post-radiation sexual difficulties, including reduced sexual desire and activity, anorgasmia and decreased overall satisfaction with sexual life [3]. These side-effects are common, with sexual difficulties reported in 47–85% of women with gynaecological cancer [4,5] and 55–62% with anorectal cancer [6,7]. Psychological issues are also commonly reported in this population, including anxiety, depression [8,9], distress [9], low self-worth [10], poor body image [11] and breakdown in couple communication [10]. Additionally, up to 88% of gynaecological cancer patients experience vaginal stenosis after PRT [2,12], which can impair sexual function and prevent adequate pelvic examinations, potentially reducing the detection of new cancer or recurrence.

Rehabilitation aids, such as vaginal dilators, moisturisers and lubricants, may prevent or minimise post-PRT vaginal changes and subsequent impairment of sexual functioning, potentially reducing distress [13]. Current guidelines, such as those of the American Cancer Society [14] and the current International Guidelines for Vaginal Dilation after Pelvic Radiotherapy [12], support dilator use, although recent reviews [12] note a lack of high-level evidence of dilator effectiveness. Audits suggest that recommendations, information and support to promote dilator use are infrequent and inconsistent in routine practice [15].

Survey data suggest that women with gynaecological cancer [16] and anorectal cancer [17] want to discuss potential PRT-related sexual changes, be actively engaged and make informed decisions about their post-treatment recovery process. However, sexual information needs of gynaecological cancer [18] and anorectal cancer [19] patients are frequently not met. Many doctors self-report avoiding discussing sexual issues [16,20], and many patients find it difficult to raise this topic with their doctors [21], particularly older women and those from culturally/religiously diverse backgrounds [22,23].

Our group developed an evidence-based psycho-educational booklet to address the significant paucity of psychosexual rehabilitation interventions for patients undergoing PRT [15,24]. A pilot evaluation found the booklet to be helpful, acceptable and feasible [25].

The current study aimed to evaluate the efficacy of the booklet in a parallel randomised controlled trial (RCT). It was hypothesised that compared with controls, the intervention group would report: (i) greater adherence to rehabilitation strategies (vaginal dilators, lubricants/moisturisers, pelvic floor muscle exercises [PFME]) (primary outcomes); (ii) greater knowledge of rehabilitation strategies; (iii) lower levels of anxiety and depression; and (iv) greater levels of sexual functioning and satisfaction.

Materials and Methods

Patients

Eligibility criteria included current or previous diagnosis of gynaecological (cervical, endometrial, vaginal, vulvar) or anorectal (anal or rectal) cancer of any stage, being scheduled for PRT, over 18 years of age and English speaking. Exclusion criteria included psychiatric or intellectual impairment and poor physical functioning that precluded questionnaire completion. Women were included whether they were sexually active or not.

Procedures

Women were recruited from seven tertiary radiation oncology centres in New South Wales (Australia) over a 2-year period, from August 2011 to July 2013. Radiation oncology clinicians introduced the study to eligible women at their first radiotherapy session. Interested women provided permission for the researcher to contact them and received a study pack including the information sheet, consent form and baseline questionnaire. Consenting participants completed the baseline questionnaire. Two weeks post-PRT, the intervention booklet 'Recovering after pelvic radiation therapy: a guide for women' [26] or a control booklet (Cancer Council, 'Understanding radiotherapy') [27] was randomly allocated. The randomisation sequence was generated using www.randomizer.org. We used a 1:1 allocation ratio with packages randomised in blocks of 10 according to centre. Pre-randomised study packs were given to interested patients by recruiting clinicians, ensuring that recruiters (as well as statisticians) were blinded to participant group allocation. Women were mailed follow-up questionnaires at 3, 6 and 12 months post-PRT. Ethical approval for the study was obtained from all relevant institutions.

Measures

Demographic and clinical information were collected at baseline (Table 1).

Adherence and knowledge were assessed by purpose-designed questionnaires informed by the literature, expert clinicians, researchers and clinical psychologists.

The Adherence to Rehabilitation Strategies Scale had items pertaining to the use of vaginal dilators, vaginal moisturisers and PFME, all of which were scored as single items (0 = have not used, 1 = less often than recommended, 2 = as often as recommended, 3 = more often than recommended).

The Knowledge Scale included 14 items assessing women's post-PRT psychosexual knowledge (e.g. side-effects, sexual difficulties, recommended rehabilitation options) with a total score of 0–14. Higher scores in Adherence/Knowledge scales indicate greater use/knowledge.

Table 1
Demographic and clinical characteristics of participants at baseline

Characteristic	Overall ($n = 82$)	Control ($n = 38$)	Intervention ($n = 44$)
	Mean (SD)	Mean (SD)	Mean (SD)
Age	60.4 (12.1)	61.1 (10.9)	59.8 (13.2)
	n (%)	*n* (%)	*n* (%)
Marital status			
Single	13 (15.9)	5 (13.2)	8 (18.2)
Married/de facto	48 (58.5)	24 (63.2)	24 (54.5)
Separated/divorced	10 (12.2)	6 (15.8)	4 (9.1)
Widowed	11 (13.4)	3 (7.9)	8 (18.2)
Sexual orientation			
Heterosexual	77 (93.9)	37 (97.4)	40 (90.9)
Homosexual	1 (1.2)	0 (0.0)	1 (2.3)
Bisexual	1 (1.2)	1 (2.6)	0 (0.0)
Non-response	3 (3.7)	0 (0.0)	3 (6.8)
Children			
Yes	63 (76.8)	29 (76.3)	34 (77.3)
Highest qualification			
Year 10 or below	21 (25.6)	9 (23.7)	12 (27.3)
Completed high school	8 (9.8)	3 (7.9)	5 (11.4)
TAFE/diploma	25 (30.5)	14 (36.8)	11 (25.0)
University degree	24 (29.3)	11 (28.9)	13 (29.6)
Postgraduate degree	4 (4.9)	1 (2.6)	3 (6.8)
Language spoken at home			
English	64 (78.1)	29 (76.3)	35 (79.6)
Cancer type			
Cervical	7 (8.5)	5 (13.2)	2 (4.8)
Endometrial	49 (59.8)	21 (55.3)	28 (66.7)
Anal	6 (7.3)	1 (2.6)	5 (11.9)
Rectal	17 (20.7)	8 (21.1)	9 (20.5)
Vaginal	2 (2.4)	2 (5.3)	0 (0.0)
Vulvar	1 (1.2)	1 (2.6)	0 (0.0)
Treatment			
Surgery	55 (67.1)	26 (68.4)	29 (65.9)
External pelvic radiation	46 (56.1)	21 (55.3)	25 (56.8)
Internal radiation	38 (46.3)	17 (44.7)	21 (47.7)
Chemotherapy	39 (47.6)	17 (44.7)	22 (50.0)

SD, standard deviation.

Depression and anxiety were assessed using the Hospital Anxiety and Depression Scale [28], comprising two seven-item subscales (anxiety and depression) with total scores of 0–21. Higher scores reflect higher depression/anxiety.

Sexual function, satisfaction and communication needs:

(1) A subset of the 14-item Sexual Activity Questionnaire [29], assessing sexual activity and reasons for inactivity, was utilised. Excluded items overlapped with items in the questionnaires below.
(2) The 27-item Sexual Vaginal Changes Questionnaire [30], comprising three general subscales (sexual interest, intimacy and global sexual satisfaction) and two subscales applicable to sexually active respondents only (sexual functioning and vaginal changes), was used. Higher scores on all subscales indicate higher satisfaction and functioning.
(3) An eight-item subset of the 30-item Sexual Functioning After Gynaecological Illness Scale [31] (original form) was used to assess frequencies of doctor–patient discussions related to potential PRT-induced sexual changes. The excluded items overlapped with the above two questionnaires.

Statistical Analyses

Descriptive statistics were used to describe the sample. Theoretical considerations were used to select an optimal set of covariates in subsequent analyses.

We used single items to represent the three adherence variables (dilator, moisturiser and PFME adherence), which were ordinal in nature (0 = have not used to 3 = most of the time). Therefore we analysed these using generalised estimating equations (multinomial distribution, logistic link function). We accounted for repeated measures by modelling time (three post-baseline time points) as a random effects variable (unstructured variance–covariance matrix),

included condition as the fixed effects factor of primary interest and also modelled the condition–time interaction. We included partner status (current partner versus none), cancer diagnosis (anorectal versus endometrial, anorectal versus other gynaecological), education level (<Year 12 versus TAFE/diploma, <Year 12 versus university), age in years and baseline anxiety and depression as predictors. As tests of simple main effects are unavailable for generalised estimating equations, we examined interactions further using chi-squared tests of independence at each time point, comparing response patterns between intervention and control conditions. We reported the phi coefficient at each time point as a measure of effect size (interpreted in the same way as a Pearson correlation). Although the various parameter estimates required for sample size estimation (e.g. variances and covariances of intercepts and slopes) for generalised estimating equations were unavailable, we selected values of these that appeared reasonable (change between groups = 1.5, variance of random slope = 10; other estimates made little difference to the calculation) and for triangulation also calculated the sample required to detect a moderate–large effect (phi = 0.4) for the chi-squared test. The larger of these values was 72 and for an attrition rate of 20%, this gives a total required sample of 90.

Knowledge, anxiety and depression were approximately normally distributed and were therefore analysed using linear mixed modelling. Change from baseline in anxiety and depression was the dependent variable. The predictors were the same as for the generalised estimating equations. For anxiety as a dependent variable, we controlled for baseline anxiety; for depression as a dependent variable, we controlled for baseline depression; and for knowledge as a dependent variable, we controlled for both baseline anxiety and depression. To examine any interactions further we tested simple main effects, i.e. we compared the conditions at each of three time points, including standardised mean differences (Cohen's d). All tests were two-sided with $\alpha = 0.05$, conducted in SPSS v22.

Results

In total, 104 eligible women were invited and 82 consented to participate in the study (response rate 79%). Reasons for declining are given in Figure 1.

Baseline sample demographic and clinical characteristics are shown in Table 1, with no significant differences between control and intervention groups.

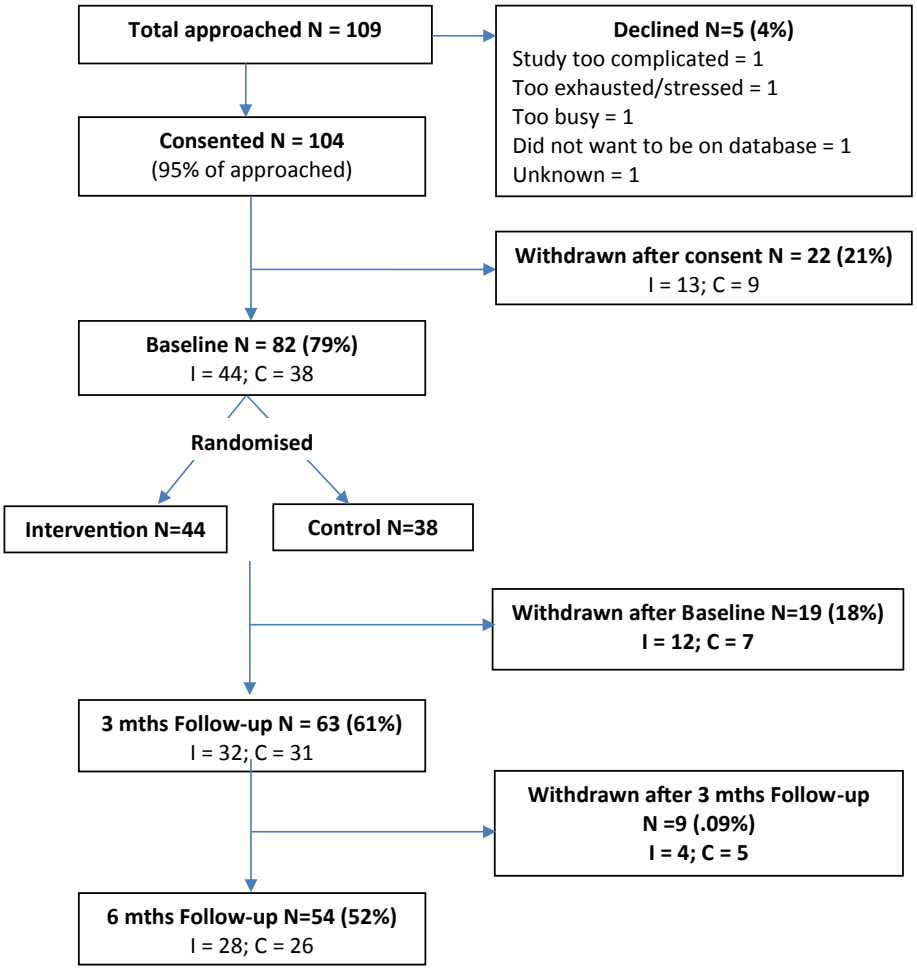

Fig 1. Recruitment sample and data collection overview. I, intervention; C, control.

Primary Outcome: Adherence to Rehabilitation Strategies

Vaginal dilator adherence was significantly higher in the intervention than in the control group ($P < 0.01$). Chi-squared tests revealed this difference at Time 3 (phi = 0.41) but not Time 1 (phi = 0.20) or Time 2 (phi = 0.25). Adherence increased over time ($P < 0.01$) (Table 2). Younger age ($P = 0.02$) and gynaecological diagnosis ($P < 0.01$) also predicted higher adherence.

Lubricants/moisturisers (phi = 0.22 at Time 1, 0.20 at Time 2, 0.36 at Time 3) and PFME adherence (phi = 0.25 at Time 1, 0.27 at Time 2, 0.28 at Time 3) did not differ significantly between control and intervention groups. Having a current partner was predictive of moisturiser adherence ($P = 0.04$). Cancer site (endometrial cancer greater than anorectal cancer) ($P < 0.01$), less depression ($P = 0.02$) and greater anxiety ($P < 0.01$) were predictors of greater PFME adherence (Table 2).

Secondary Outcomes

Mean knowledge scores regarding psychosexual adjustment and rehabilitation strategies were significantly higher in the intervention group (averaged over time points, $P = 0.04$; d = 0.55 at Time 1, 0.38 at Time 2, 0.23 at Time 3) (Table 2) and significantly increased over time ($P = 0.01$). No other predictors were significant.

There were no significant group differences for depression (d = 0.23 at Time 1, 0.33 at Time 2, 0.15 at Time 3) and anxiety (d = 0.04 at Time 1, 0.30 at Time 2, 0.09 at Time 3) and there were no time or condition–time interaction effects for either variable.

Psychological and sexual function/satisfaction scales revealed low levels of sexual activity, dysfunction and dissatisfaction, anxiety and depression, and no group differences. The sample mean anxiety score was 5.21 (standard deviation = 3.63) and the median depression score was 2.00 (interquartile range = 4).

Sexual Findings

Many women were not partnered (40%) and/or were sexually inactive (80%) and 16% were not provided with a dilator.

Of those women who responded and had a partner at baseline, 20% reported being sexually inactive due to treatment-related physical problems making sexual relations difficult or uncomfortable, decreasing to 8, 5 and 7% at follow-up of 3, 6 and 12 months, respectively. Many women reported greater vaginal dryness (27, 48, 53 and 44% at baseline, 3, 6 and 12 months of follow-up, respectively), with similar numbers reporting that their vagina was smaller. Over the study period, about two-thirds of women reported more pain during intercourse since having cancer. About a third of women reported sexual dissatisfaction over all time periods and a quarter were unhappy with their appearance. At all assessment points, most women were interested in close physical contact (i.e. a kiss/cuddle). About two-thirds of women across the study were ‘not at all’ or ‘had little” interest in sexual relations.

Doctor–patient Communication

About a third of women (32%) reported not discussing potential post-PRT sexual issues with their doctor before treatment, 32% did not recall any discussions about these potential issues, 15% noted they were raised only after treatment and 17% reported discussion both before and after treatment. Half of the women would have liked such a discussion, some preferring a female doctor; 28% did not want sexual information from anyone, highlighting the need for sensitive negotiation around this topic.

Discussion

This study evaluated a psychosexual rehabilitation booklet aimed at improving women’s knowledge and use of rehabilitation strategies to facilitate their adjustment to the physical/vaginal, psychosexual and psychological impacts of PRT for gynaecological or anorectal cancer.

Vaginal dilator adherence was higher in the intervention group at 12 months of follow-up (although not at 3 and 6 months of follow-up). This finding may reflect women experiencing early and resolving PRT effects such as pain and bleeding, and thus not being comfortable or motivated to attempt dilator use until later in their recovery trajectory. However, when ready, the intervention booklet seemed to motivate and support such attempts. These findings are noteworthy, as dilator use can potentially reduce/minimise vaginal stenosis, thus facilitating adequate pelvic examinations for detecting new or recurrent cancer and improving sexual function and satisfaction [32].

Women of a younger age and with gynaecological cancer (versus anorectal cancer) adhered to dilator use to a greater degree. Other studies have also noted that younger women are more adherent to sexual interventions following cancer, perhaps because they have more active sex lives [33]. Anorectal cancer patients can be dealing with many other issues, such as significant uncertainty regarding surgical outcomes and/or the possibility of having a temporary or permanent stoma [24], as well as multimodal treatment with a higher side-effect burden, potentially reducing the focus on dilators and sexual activity.

Our intervention did not increase adherence for all participants, suggesting further barriers. A number of women were not provided with a dilator (16%) or did not have a partner (40%) and/or were sexually inactive (80%), all of which represent potential disincentives to maintaining vaginal patency. Baseline interest in sex may also impact motivation to use dilators; in a similar study, women with endometrial cancer who were more interested in their sex life had greater dilator use adherence [23].

Lubricant/moisturiser and PFME adherence did not differ significantly between the groups. Having a partner was a significant predictor of lubricant/moisturiser adherence, suggesting that sexually active women experience a greater need for this after PRT. Missing data on lubricant/moisturiser use (suggesting reluctance discussing sensitive questions) made it hard to find an effect. With increasing clinician recognition of the benefits of lubricant/moisturiser

Table 2
Results of the linear mixed models (booklet knowledge, anxiety, depression) and generalised estimating equations (adherence variables)

	Dilator adherence	Moisturiser adherence	PFME adherence	Knowledge	Depression	Anxiety
Predictor						
Condition	(<0.01)	(0.12)	(0.51)	(0.04)	(0.39)	(0.79)
Time	(<0.01)	(0.34)	(0.32)	(0.01)	(0.86)	(0.93)
Condition × Time	(<0.01)	(0.16)	(0.85)	(0.27)	(0.72)	(0.52)
Condition difference at Time 1	(0.51)	(0.41)	(0.34)	−0.2 (0.02)	−0.02 (0.62)	0.02 (0.82)
Condition difference at Time 2	(0.38)	(0.54)	(0.87)	−0.19 (0.05)	−0.07 (0.32)	−0.09 (0.37)
Condition difference at Time 3	0 (.02)	(0.15)	(0.36)	−0.12 (0.18)	−0.05 (0.52)	0.01 (0.92)
Marital status	0.34 (0.51)	−1.15 (0.04)	0.29 (0.66)	−0.39 (0.61)	−0.05 (0.91)	0.99 (0.17)
Cancer diagnosis						
Anorectal versus endometrial	−3.64 (<0.01)	−0.79 (0.18)	−2.53 (<0.01)	−2.08 (0.05)	0.99 (0.10)	−0.17 (0.86)
Anorectal versus other gynaecological	−2.58 (<0.01)	−0.77 (0.31)	−0.69 (0.61)	−0.83 (0.51)	0.25 (0.72)	−0.21 (0.86)
Education						
≤Year 12 versus TAFE	−0.64 (0.27)	−0.22 (0.75)	1.07 (0.20)	−0.31 (0.75)	0.2 (0.72)	−0.17 (0.85)
≤Year 12 versus university	0.55 (0.39)	−0.42 (0.51)	0.35 (0.59)	−1.74 (0.09)	0.49 (0.40)	0.66 (0.47)
Age	−0.07 (0.02)	−0.02 (0.53)	0.02 (0.44)	−0.05 (0.23)	−0.02 (0.28)	−0.09 (0.02)
Baseline depression	−0.03 (0.77)	−0.03 (0.74)	−0.39 (0.02)	−0.05 (0.73)	−0.18 (0.02)	–
Baseline anxiety	0.01 (0.90)	0.15 (0.07)	0.42 (<0.01)	0.02 (0.86)	–	−0.74 (<0.01)

PFME, pelvic floor muscle exercises.
Note: The values reported are parameter estimates (and *P* values). For effects of condition, time and their interaction parameter, estimates from the omnibus test are omitted; rather, these effects are represented using simple main effects estimates. For the equivalent of simple main effects for the adherence variables, only *P* values are reported in this table; the direction of effects are described in the main text.

use (e.g. reduced tears and thus infection, greater sexual function/satisfaction) [34], a stronger emphasis on and justification of lubricants/moisturisers in the booklet, and further research, would be beneficial.

PFME has been found to improve sexual function in women with gynaecological cancer after PRT [34]. Adherence to PFME was not affected by the intervention, although use increased from 40% at 3 months to 52% at 6 months. The lack of significant effect for both PFME and lubricant/moisturiser adherence may be partially explained by the booklet's focus on dilator use as the primary rehabilitation strategy (i.e. seven pages dedicated to dilator use versus one page each for PFME and lubricant/moisturiser). It is also possible that, for the intervention to be effective, women need more intensive and personalised PFME instruction. A review of PFME interventions among a wide population of men and women noted that adherence may be improved through the use of goal setting and reminders combined with instruction by a physiotherapist [35]. Future research could examine the utility of these techniques among women with gynaecological and anorectal cancer.

Psychosexual knowledge was significantly higher in the intervention group and remained significantly higher at 3 and 6 months but not at 12 months of follow-up, suggesting that the information in the psychosexual booklet remained salient and important to women over time. At 12 months of follow-up, psychosexual knowledge may have reached saturation.

Similar to other studies, low levels of anxiety and depression were found [36], suggesting good psychological outcomes in this population, limiting success in improving these [37].

Low levels of sexual activity, dysfunction and dissatisfaction were found at all time points, with no group differences. In the current study, many women had no partner (40%) and reported low sexual activity at baseline (80%), which combined with a high average age (60 years) may have contributed to missing sexual data [38]. Non-response rates of 15–50% are often found in psychosexual studies [39], possibly obscuring treatment effects [40]. Strategies to minimise missing data in this context should be considered in future studies [40]. Nonetheless, cancer-related physical morbidity interfering with sexual satisfaction (e.g. reduced vaginal lubrication, smaller vagina) was reported in our sample, although the numbers were relatively low.

Likewise, in an RCT of an intervention to improve sexual function in women after breast and gynaecological cancer treatment, 74% reported not currently engaging in a sexual relationship at baseline, with 20% reporting sexual problems [41]. Many of these women (40%) were also not in an intimate relationship, citing lack of sexual interest, physical problems and being too tired as the main reasons for their sexual inactivity. Similarly, in a longitudinal study on sexual function and vaginal changes post-PRT for cervical cancer, 85% of women had little or no sexual interest [4]. Our findings seem to corroborate those of other studies. However, although some women have little sexual interest and/or activity after gynaecological cancer treatment, it is important that clinicians do not assume that all women have no interest in sexual activity. Additionally, low sexual interest/activity immediately after gynaecological or anorectal cancer does not negate the need for women to be told about rehabilitative strategies. Clinicians should therefore sensitively enquire about psychosexual issues and tailor

information according to women's preferences and needs, remaining cognisant that these may change over time.

Clinician–patient Communication/Information Needs Related to Sexuality

The present findings indicated that about a third of cancer patients did not have discussions about sexual matters with their clinician that were sufficiently meaningful to be recalled. There is a danger that patients may interpret absent discussion concerning sexuality as indicating it is not appropriate to discuss sexual matters within the context of cancer and its treatment. Irrespective of the patients' difficulties confronting sexual matters, it is the responsibility of the health care professional to offer comprehensive care that includes post-treatment psychosexual components at a level preferred by the patient/couple. This requires relevant knowledge and good communication skills. However, medical and allied health clinicians report having limited expertise in discussing and managing these specific physical and sexual difficulties [22]. This study attempted to address some of these gaps in the clinical setting by providing a resource for patients that could also help clinicians tackle these complex and sensitive issues.

Although this study had a large sample relative to other studies in this field, selection bias was a potential limitation, as was loss at all follow-ups. However, analysis of differences between withdrawers/non-responders and participants on clinical and demographic characteristics showed no differences between the groups. Comparisons across studies are problematic due to methodological, cancer types/stage and treatment differences. Despite strong encouragement to participating sites to recruit women with diverse cancers, women with anorectal and cervical cancers were under-represented in the sample, making it difficult to reach conclusions about the efficacy of the booklet for this group. It is possible that the booklet acted as a prompter for clinicians to have more open discussion with women about sexual issues and strategies, thereby improving adherence. As we did not measure communication or satisfaction with communication after booklet provision, we cannot evaluate this pathway. This study was limited to English speakers. Research into the use of this booklet with culturally and linguistically diverse patients would be highly beneficial, given the high rates of cervical cancer among some migrant groups who have been less exposed to pap smears and may have other risk factors for gynaecological cancers.

Conclusions

The current RCT was undertaken with a view to ultimately provide a much needed, novel psychosexual resource [42], while targeting under-researched cancer populations (i.e. women with anorectal, vulvar and vaginal gynaecological cancer) known to have significant unmet informational, psychosexual and psychological needs [43]. The psychosexual rehabilitation booklet was effective in promoting vaginal dilator use and providing knowledge about physical and psychosexual side-effects and rehabilitation options for women undergoing PRT for gynaecological or anorectal cancer. Given the widely recognised difficulties surrounding post-PRT dilator use due to many patient–clinician and patient-related barriers, this represents an important outcome. The booklet represents a cost-effective intervention, does not require staff input and could reach many women in hardcopy or online (currently online - CeMPED and Cancer Institute NSW eviQ websites) [26,44].

Given this cohort's complex issues, it appears a challenge to reduce physical/sexual/psychosexual morbidity post-PRT, requiring continued work in this area. Examining individual pelvic cancers and individual treatment effects would further enhance research targeting the development and provision of psycho-educational resources in the oncology setting.

Conflict of Interest

The authors declare no conflict of interest.

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