

## Bridging the information and support gap: evaluation of a hospital-based cancer support nurse service

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### Abstract

Health professionals play an important role in meeting the information and support needs of individuals following a diagnosis of cancer. The aim of this study was to evaluate the acceptability and impact of a hospital-based cancer support nurse (CSN) service. A total of 98 patients completed a structured telephone interview after discharge concerning their use, perceptions and satisfaction with the service. The majority of patients perceived service delivery to be appropriate and reported that they had gained both information and support. The service also had a positive impact on behavioural, cognitive and affective outcomes. Overall satisfaction with the service was very high. Results indicate that a hospital-based cancer support nurse service provides a promising model for meeting the early information and support needs of patients, thereby promoting continuity of care. © 2002 Elsevier Science Ireland Ltd. All rights reserved.

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### 1. Introduction

A diagnosis of a life-threatening illness such as cancer can have major adverse psychosocial consequences for patients [1]. The provision of adequate information and support plays an important role in facilitating adjustment and adaptive coping following a cancer diagnosis [2]. While the treating clinician is the initial source of illness and treatment-related information, patients may often need to access other sources to meet their ongoing information and support needs [3,4]. Patients may utilise alternative sources of information to enhance their sense of control and knowledge and thus improve communication with their doctor and facilitate greater participation in treatment-related decisions [3,4]. Access to other sources of support can also help address the often-neglected emotional or affective aspects of the diagnosis and treatment [5].

Cancer telephone helplines are one such alternative source of information and support [6–8]. The Anti-Cancer Council of Victoria (ACCV) in Melbourne, Australia, has

operated a telephone cancer helpline (CanHelp) since 1990 as part of its Cancer Information and Support Service (CISS). The helpline is staffed by trained oncology nurses and utilises a unique, comprehensive database, allowing the nurses to provide callers with tailored up-to-date information on illness and treatment-related issues, referral to community-based support sources, as well as emotional support. Previous evaluations have reported high caller satisfaction [9] and positive impact of service use on cognitive, behavioural and affective outcome measures [10]. Similar findings have been reported in user surveys of cancer helplines in the US [6], UK [11] and Europe [8]. Despite the demonstrated benefits, cancer helplines are often not accessed until patients have been discharged from hospital. Patient needs for information and support, however, are greatest around the time of diagnosis [12]. Trained oncology nurses are ideally placed to meet this need [13,14]. In the UK, recent changes to cancer services have led to the appointment of cancer support nurses to several district cancer services. Aligned with primary health care teams in district hospitals, the cancer support nurse's role is to ensure that the information and support needs of cancer patients and their families are met at the time of diagnosis

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and across the course of the illness [12,15,16]. Elsewhere, however, including Australia, few hospital settings or cancer services have a dedicated cancer support nurse.

In recognition of this gap in service provision, a cancer support nurse (CSN) service was established within the oncology unit of a metropolitan public hospital in Melbourne, Australia. Unlike UK cancer services, where most CSN–patient contact is post discharge [12,15,16], delivery of the CSN service reported on here was hospital-based. In addition to provision of information and support during the patient's hospital stay, the CSN's role is to provide patients with links to other relevant hospital and community-based support services to facilitate continuity of care.

The overall aim of this study was to evaluate patient perceptions of the acceptability and impact of the cancer support nurse service. Specifically, the study aimed to identify patient characteristics and use of the service; patient perceptions of the information received from, and satisfaction with, the service, as well as patient perceptions of the impact of service use on behavioural, cognitive and affective functioning. A further aim was to examine the relationship between patient demographics, illness characteristics, service use and service impact.

## 2. Methods

### 2.1. Service delivered

The aim of the CSN service is to liaise with and support existing hospital and community-based services to ensure the needs of cancer patients are met. The service is also available to family members and friends, as well as to medical and nursing staff. Two experienced oncology nurses (GA and SA) with 10 years of prior experience in oncology settings undertook one-to-one training from the Deputy Director of CISS in use of the CanHelp database in preparation for the CSN role. Due to demand, the second CSN (SA) was appointed to the service 1 month after the study had commenced. Operating within a multidisciplinary health team, service delivery is proactive, with the CSNs approaching patients in the oncology unit. Ward nurses and doctors may also identify patients for the CSN to approach, while some patients may self refer in response to advertisement of the service within the hospital. On contact with the service, patients may be at various stages of their illness and treatment regimen. The initial contact with patients is often brief, serving to introduce the service. During subsequent mutually agreed contact, the CSNs provide patients with tailored information and support, both practical and emotional, as required. During a visit, a patient may, for example, request information about a particular treatment. In addition to providing the patient with any available brochures or pamphlets, the CSN could access the CanHelp database and extract up-to-date information from journals or Internet sites for the patient. Patients may also talk over any

worries or concerns they may have with the CSN. Should patients require additional support when they leave the hospital, the CSN can access the database to find the location of cancer support groups or professional counselling services closest to the patient's home. The service may also be delivered by telephone if, for example, patients have been too sick during their hospital stay, or have been discharged before the CSN has been able to arrange a visit.

### 2.2. Sample

Patients were eligible for the CSN service if they had been admitted to the Alfred Hospital for treatment of any type of cancer, had received the service in person, were English speaking, not too distressed or sick, had no cognitive impairment, and were not participating in any other trial or study. Two CSNs approached a total of 381 patients over a 10 month period between November 1998 and September 1999. Of these, 220 patients were ineligible to participate in the study. The major reasons for ineligibility were elevated distress/poor physical health (21%), language difficulties (19%), service refusal (17%) and service delivery by telephone (14%). Despite non-participation in the study, those patients with elevated distress levels and language difficulties may still have received the service. Of the 161 eligible patients, 110 (68%) gave consent to participate in the study. Non-consent was primarily due to time constraints and competing demands on patient time by other health professionals. Of the 110 patients who consented, 98 completed the interview. Interviews were not conducted for 12 patients mainly due to elevated distress level or poor physical health ( $n = 7$ ). Other reasons included death, readmission to hospital, lack of time, overseas travel and unsuccessful contact. The study was approved by the hospital's ethics committee.

### 2.3. Procedure

Following initial contact, the CSN invited eligible patients to participate in the study. Patients were given a brief plain language statement about the study and written informed consent obtained. A confidential patient recruitment card was completed by the CSN including the patient's name, telephone number, preferred contact times and date of contact. Recruitment cards were collected for 1 week, after which time they were placed in a sealed envelope, marked confidential and mailed to the research interviewer who was located at the ACCV.

To allow for the receipt of any written information sent by the CSN, the interviewer telephoned the patient within 1 week of contact with the CSN in order to arrange a suitable time to conduct the interview by telephone at the patient's home. Interviews were administered by an experienced interviewer who was completely independent of the CSN service in order to minimise any potential response bias among patients. Up to four attempts were made to contact each patient.

## 2.4. Interview schedule

The structured interview schedule used in the present study was developed from Broadstock's [15] earlier evaluation of the CISS telephone helpline and the results of a pilot study. The former interview schedule included questions related to the type of information sought and received from the helpline, caller expectations, perceptions of, and satisfaction with, the service and caller perceptions of the impact of the service on behavioural, affective and cognitive functioning. The pilot study involved telephone interviews by a research psychologist with 10 patients who had used the CSN service but were not part of the present study. Qualitative analysis of the audiotaped interviews was undertaken to develop additional questions relevant to the use and impact of the CSN service. Patients were asked about their perceptions of the initial visit from the CSN and various aspects of overall service provision. The latter included questions about service referral and expectations; patient perceptions of verbal and written information received from the CSN; impact of service use and overall satisfaction with the service. Patient demographic and illness characteristics were also included.

### 2.4.1. Initial contact with the CSN service

Patients were asked to describe what happened during their initial contact with the CSN and to report on the emotions they experienced, whether the timing of the visit was appropriate and if not, when would have been better ("sooner", "later", "different moment"), whether they were in a suitable mood to speak to the CSN and whether other people were with them at the time.

### 2.4.2. Overall contact with the CSN service

**2.4.2.1. Preliminary questions.** Preliminary questions included which of the two CSNs the patient had seen, their referral source, expectations of the service and the frequency of service contact.

**2.4.2.2. Perception of information received from the CSN.** Patients were asked whether they had specific questions for the CSN and if so, to indicate on a five-point scale (ranging from "very dissatisfied" to "very satisfied") how satisfied they were with the answers they received. The extent to which information received from the CSN added to patients' existing knowledge was measured with one item using a four-point scale, ranging from "not much at all" to "a great deal". Patients were also asked if they regretted hearing, were upset by, or unable to obtain, certain information from the CSN, and whether they sought answers to their questions from other sources. In addition, they were asked to indicate on a four-point scale ("too little", "right amount", "too much" or "not discussed") whether they had received the right amount of information in regard to their illness, medical treatment, the availability of practical and emotional support and things they could do to stay healthy. Patients

were asked to describe any written information they had received from the CSN, and to indicate how much of it they had read using a five-point scale ranging from "all of it thoroughly" to "none of it". Patients were also asked if it was the right time to receive the written information, and if not, to indicate when would have been a more suitable time using a three-point scale ("sooner", "later", "different moment"). In addition, patients were asked if they had discussed any of the information they had read with other people, and if so, to indicate the nature of their relationship with that person(s).

**2.4.2.3. Impact of service use.** Patients were asked to describe any action they had taken, or were planning to take, as a direct result of information or help received from the CSN. They were also asked if, and in what way, the service had helped them to talk with their doctor. Using a five-point scale ("not at all", "a bit", "quite a lot", "a lot", "not discussed") patients were asked to indicate the extent to which the service had helped them to: better understand their cancer and medical treatment; feel more positive, feel more in control of their life, feel more supported, feel able to cope better and to feel less worried and less stressed. They were also asked to indicate on a three-point scale ("better", "worse", "no different") how they felt overall following visits from the CSN and what they gained from the service.

**2.4.2.4. Satisfaction with service.** Patients were asked to indicate their overall satisfaction with the CSN service using a five-point scale ranging from "very dissatisfied" to "very satisfied". They were also asked whether they felt that the service could be delivered as well or better by telephone, and whether there were any ways in which the service could be improved.

### 2.4.3. Demographic and illness characteristics

Demographic and illness characteristics of patients obtained included sex, age, type of cancer, time since diagnosis, type of previous and, if planned, future or further treatment, as well as the prognosis given by the doctor.

## 2.5. Statistical analysis

Statistical analyses were conducted using SPSS for Windows. Patient responses were initially summarised using descriptive statistics. Chi-squared analyses were used to assess the associations between patient demographics, illness characteristics and patient use, satisfaction with and impact of, the CSN service.

## 3. Results

### 3.1. Sample characteristics

Table 1 shows the demographic and disease characteristics of the 98 patients who completed the interview. Patient

Table 1  
Sample demographic and illness characteristics ( $n = 98$ )

Characteristic	<i>N</i>	%
Sex		
Male	39	40
Female	59	60
Age (years) <sup>a</sup>		
Younger (31–58)	51	53
Older (59–83)	46	47
Cancer type		
Breast, bone and connective tissue	34	35
Digestive organs and peritoneum	31	31
All other cancers	33	34
Time since diagnosis		
<1 year	50	51
1–2 years	27	28
>2 years	20	21
Had previous treatment		
Yes	93	95
No	5	5
Type of previous treatment		
Surgery alone	33	37
Radiotherapy or chemotherapy alone	18	20
Combination	39	43
Future/further planned treatment		
Yes	52	53
No	21	22
Uncertain	24	25
Type of future/further planned treatment		
Known	52	69
Unknown	23	31
Prognosis		
Remission likely	9	9
Remission unlikely	22	23
Not discussed with doctor	5	5
Patient unsure	62	63

<sup>a</sup> Mean (S.D.) = 58 (11.2); range = 31–83 years.

reports of cancer type were classified using ICD-10 topography codes and grouped into three categories: cancer of the bone, connective tissue, skin and breast (76% of whom had breast cancer); cancer of the digestive organs and peritoneum (48% of whom had colon cancer) and all other cancers. The latter group included lymphatic and haematopoietic tissue cancer (13%), cancer of the respiratory system (11%), cancer of the genito-urinary organs (7%) and brain cancer (2%). Approximately half of patients had been diagnosed within the last 12 months and nearly all patients had already received some form of treatment. Over half (53%) of the patients reported that future or further treatment was planned for them. Nearly two-thirds (63%) of patients reported that they were unsure about their prognosis.

### 3.2. Initial contact with the CSN service

Most patients (79%) first had contact with the CSN during their hospital stay, with a small percentage of patients first

contacted by telephone, either prior to admission (12%) or post discharge (9%). Half the patients (51%) reported that at first contact the CSN introduced herself and explained the service, or gave information, particularly about treatment (42%). The majority of patients considered that the timing of the CSN's initial contact was appropriate (82%), and that they were in a suitable mood to speak to her (85%). Over half (52%) of the patients experienced negative emotions— anxious or worried (19%), shock (15%), depressed (9%), or frightened (9%) concurrent with the CSN's initial visit. Approximately one-quarter of patients reported that they felt either positive (16%) or calm/neutral (8%). Nearly two-thirds (64%) of the patients had other people with them at the time of the CSN's initial visit. Typically, this was other cancer patients (54%), since most patients were in a shared room when visited by the CSN. Family and friends (27%) were often also present.

### 3.3. Overall contact with the CSN service

#### 3.3.1. Preliminary questions

Over half (59%) of the patients were first told about the service by the CSN, with 23% of patients referred by other nurses, 10% by allied health professionals and 8% by oncologists or surgeons. Over half of the patients (55%) were visited by the first CSN to be trained for the service, with 4% of patients visited by both CSNs. Most patients used the service two (25%) or three (27%) times, while 17% of patients reported that this was their first contact. Of the remaining patients, nearly one-third (27%) saw the CSN between 4 and 12 times, with three patients reporting contact on 13, 15 and 30 occasions. Nearly half (49%) of the patients reported that they had no clear expectations about the service, while 26% of patients expected to find both someone to talk to and to find out more about what had happened to them.

#### 3.3.2. Information received from the CSN

Two-thirds (67%) of the patients reported that they did not have specific questions to ask the CSN. Of those patients who did (33%), the majority (78%) were "very satisfied" with the answers they received. Nearly all patients (90%) reported that the CSN was able to answer all their questions. No patients reported having received unwanted or upsetting information from the CSN. Over half (54%) of the patients sought answers to their questions from sources other than the CSN service, most often their doctor or GP (37%), or medical specialist (20%). Other sources included medical literature or the Internet (11%), nurses (10%) and family or friends (7%). The majority of patients reported that they had received the "right amount" of information from the CSN about their illness (85%), emotional support (82%), practical support (82%), staying healthy (79%) and medical treatment (74%). Nearly all patients reported being given or sent written information by the CSN (90%) and that it was the right time to receive the information (86%). Of those patients who received written information, 43% reported

that they had read “all of the information thoroughly”, while 13% had read “most of all booklets”. Only 13% of patients reported that they had not read any of the written information. Just over half (53%) of the patients reported that they had discussed the written information with other people, most often their spouse or partner (39%) or other close family member (40%).

### 3.3.3. Impact of service use

The majority of patients reported that the information they received from the CSN had increased their knowledge level either “a great deal” (56%) or “quite a lot” (19%), and that they “felt better” immediately after the CSN’s visit (83%). Over half (56%) of the patients reported that the service had helped them to talk to their doctor. Open-ended responses indicated that it had helped them formulate and feel more comfortable about asking the doctor questions (44%), as well as helping them to obtain more information from their doctor (35%). Over one-third (39%) of patients took some kind of action as a direct result of information or help received from the CSN. Actions most frequently mentioned were taking care with their diet (24%) and engaging in more exercise (13%). Of those patients who had not yet taken any action, 15% were planning to take some action. This included taking care with diet (28%), relaxation (17%) and adopting a positive attitude (11%). With regard to specific benefits gained from the CSN service, patients reported that the greatest perceived benefit (either “quite a lot” or “a lot”) was the feeling of increased support (79%), followed by feeling more positive (67%) and an ability to cope better (61%). A similar percentage of patients reported feeling less worried (57%), less stressed (56%) and more in control (53%) as a result of service use. Fewer patients reported that service use had helped them (either “quite a lot” or “a lot”) to better understand their cancer (44%) or medical treatment (49%). In relation to overall benefit gained from the CSN service, almost two-thirds (65%) reported that it had provided both an opportunity to find out more about what was happening to them (information) and to have someone to talk to (emotional support).

### 3.3.4. Satisfaction with service

Over two-thirds of patients (68%) reported that they were “very satisfied” with the CSN service. Nearly all patients (91%) believed that the service provided by the CSN could not be done as well, or better, by telephone. Open-ended responses indicated that this was primarily attributed to the personal contact with the nurse (39%) and a perception that, compared to telephone, face-to-face delivery of the service was more caring (33%).

### 3.4. Relation between service use, service impact and patient demographics

Age was related to information seeking behaviour, with younger patients significantly more likely to seek additional

Table 2

Service use and impact variables by patient gender

Variable	Male (%)	Female (%)	$\chi^2$	d.f.
Frequency of service contact				
1	15	19	11.7**	2
2–3	72	39		
4–30	13	42		
Timing of CSN's first visit				
Appropriate	72	90	5.33*	1
Not appropriate	28	10		
Specific questions for CSN				
Yes	18	42	6.37*	1
No	82	58		
Amount of written information read				
All, most or some	60	84	5.52*	1
Skimmed or none	40	16		
Felt after service contact				
Better	71	91	7.03**	1
No different	29	9		

\*  $P < 0.05$ .\*\*  $P < 0.01$ .

information beyond the CSN service compared to older patients ( $\chi^2 = 6.9$ ; d.f. = 1;  $P < 0.01$ ). Sex was found to be related to some aspects of service use and impact (see Table 2). Compared to males, female patients were significantly more likely to have: received more visits from the CSN, perceived the timing of the CSN’s visit as appropriate, had specific questions for the CSN and read the written material more thoroughly. With respect to service impact, sex was related to affective evaluation of the service.

Table 3

Service use and impact variables by patient cancer type

Variable	Breast (%)	Colon (%)	All other (%)	$\chi^2$	d.f.
Information received on medical treatment					
Right amount	94	69	71	7.26*	2
Not discussed	6	31	29		
Action taken					
Yes	56	23	38	7.60*	2
No	44	77	62		
Benefit gained					
Information and support	90	64	61	7.52*	2
Support only	10	36	39		
Felt more positive					
Not at all/a bit	12	41	29	6.10*	2
Quite a lot/a lot	88	59	71		
Frequency of service contact					
1	12	20	22	20.6***	4
2-3	29	67	62		
4-30	59	13	16		

\*  $P < 0.05$ .\*\*\*  $P < 0.001$ .

Table 4  
Service use and impact variables by previous treatment type

Variable	Surgery only (%)	C or RT alone (%)	Combination (%)	$\chi^2$	d.f.
Frequency of service contact					
1	18	29	10	14.5**	4
2–3	64	59	37		
4–30	18	12	53		
Referral source					
CSN	57	6	38	7.48*	2
Other health professional	43	94	62		
Action taken					
Yes	24	39	58	8.30*	2
No	76	61	42		
Understand medical treatment					
Not at all/a little	58	33	26	6.26*	2
Quite a lot/a lot	42	67	74		

\*  $P < 0.05$ .

\*\*  $P < 0.01$ .

Although the majority of patients reported that they felt “better” immediately after the CSN’s visit, a significantly greater percentage of men (29%) reported that they felt “no different” following the CSN’s visit.

### 3.5. Relation between service use, service impact and patient illness characteristics

Table 3 shows that compared to all other cancer types, patients who had been diagnosed with breast, bone or connective tissue cancer were significantly more likely to have: received the right amount of information about medical treatment, taken action and to have felt much more positive as a result of service contact, received both information and emotional support from the service, rather than just emotional support, and received more visits from the CSN. Of the 34 patients who had been diagnosed with breast, bone or connective tissue cancer, 30 were female. To clarify any confounding sex effect on the above results, the relationship between cancer type and service contact (1–3 visits, 4–30 visits) and impact was re-analysed for females only. The results held for frequency of service contact ( $\chi^2 = 12.3$ ; d.f. = 2;  $P < 0.01$ ) and action taken as a result of service contact ( $\chi^2 = 8.2$ ; d.f. = 2;  $P < 0.05$ ).

With respect to previous treatment, Table 4 shows that compared to patients who had undergone chemotherapy or radiotherapy alone, or either of these treatments in combination with surgery, surgery only patients were significantly more likely to have found out about the service from the CSN rather than other health professionals, more likely to report minimal impact of the service on their understanding of their medical treatment and less likely to have taken action as a result of information received from the CSN. Patients who had undergone chemotherapy or radiotherapy in conjunction with surgery were significantly more likely to have had less frequent contact with the CSN.

Table 5 shows the results for future or further planned treatment and prognosis. Compared to patients who reported that their future treatment was known, those who reported that their future treatment was unknown were significantly more likely to report that service use had a greater impact on

Table 5  
Service use and impact variables by future/further treatment plans and prognosis

Variable	Known (%)	Unknown (%)	$\chi^2$	d.f.
Future/further treatment				
Feel less worried				
Not at all/a little bit	50	16	6.49*	1
Quite a lot/a lot	50	84		
Feel less stressed				
Not at all/a little bit	50	21	4.59*	1
Quite a lot/a lot	50	79		
Feel more positive				
Not at all/a little bit	37	5	6.74**	1
Quite a lot/a lot	63	95		
Cope better				
Not at all/a little bit	42	16	4.14*	1
Quite a lot/a lot	58	84		
Amount of information on medical treatment				
Right amount	83	59	4.60*	1
Not discussed	17	41		
Discuss information with others				
Yes	69	41	4.66*	1
No	31	59		
Prognosis				
Frequency of service contact				
1	33	10	7.42*	2
2–3	40	58		
4–30	27	32		

\*  $P < 0.05$ .

\*\*  $P < 0.01$ .

helping them to feel less worried, less stressed, more positive, more in control of their life, and that the service had helped them to gain a better understanding of their medical treatment. Patients who did not know their future treatment plans were also significantly less likely to have discussed written information received from the CSN with other people. Patients who did not know their prognosis were significantly more likely to have had greater contact with the service.

### 3.6. Relation between service impact and service use

Patients who used the service more frequently were significantly more likely to have: discussed the written information they received with others ( $\chi^2 = 6.9$ ; d.f. = 1;  $P < 0.05$ ), received the right amount of information on medical treatment ( $\chi^2 = 9.3$ ; d.f. = 1;  $P < 0.05$ ), taken subsequent action ( $\chi^2 = 11.4$ ; d.f. = 1;  $P < 0.01$ ), reported a better understanding of their cancer ( $\chi^2 = 12.6$ ; d.f. = 2;  $P < 0.01$ ) and medical treatment ( $\chi^2 = 13.9$ ; d.f. = 2;  $P < 0.01$ ), gained both information and emotional support from the service ( $\chi^2 = 11.8$ ; d.f. = 2;  $P < 0.01$ ) and felt less stressed ( $\chi^2 = 7.2$ ; d.f. = 2;  $P < 0.05$ ).

## 4. Discussion

The present study investigated patient use and perceptions of a hospital-based cancer support nurse service. Patients reported high levels of satisfaction with the service. Nearly all patients (91%) believed that the service provided by the CSN could not be done as well, or better, by telephone. The majority of patients reported that the timing of the CSN's first visit was appropriate and that they were in a receptive mood at the time. Nearly two-thirds of the patients reported that the service had provided them with both support and information. No patients reported that they had received unwanted or upsetting information from the CSN and nearly all reported that the CSN was able to answer all of their questions. These results highlight the benefits of ensuring that health professionals involved in the delivery of such services are experienced and adequately trained. Previous studies have shown that overall satisfaction and impact of cancer telephone information services were partly predicted by patient caller perceptions of the communication skills of the nurse counsellors [8,11]. These included a perception that the nurse understood what the patient needed to know and that the nurse had a good knowledge of the information.

Patient use of the CSN service had a positive effect on behavioural, cognitive and affective functioning. Patients reported that they felt more supported and positive, better able to cope, less worried and more in control. Patients also reported that service use helped improve communication with their doctor and empowered them to take a more active role in the management of their illness. Similar outcomes have been reported among patients who have sought infor-

mation and support of their own initiative [3]. The greatest perceived benefit of the CSN service was the feeling of support that it engendered among patients. In a recent review of nurse–patient communication, Kruijver et al. [14] concluded that the communicative behaviours of nurses appear to be more critical in meeting the affective needs (e.g. empathy, comfort, support) compared with the cognitive or information needs of cancer patients. Regardless of the shift in health care towards a model of more active patient participation, doctors may still be regarded as the preferred source of illness and treatment-related information [17]. It has been argued, however, that the traditional comforting role that nurses fulfil should extend beyond providing physical comfort to include emotional support, information provision and support of patients, active participation in decision making [18]. This viewpoint concurs with the cancer support nurse role in the UK [16].

Over half of the patients in the present study sought answers to their questions from other sources, although older patients were significantly less likely to do so. Despite the advent of a much more patient centred era, older patients, particularly males, still appear to play a non-participatory role in the management of their illness [19]. The more active information seeking behaviour observed among younger patients may reflect their upbringing in a less “doctor centred” era [20]. Given the reported high satisfaction with the CSN service, the use of additional sources of information may be consistent with the general power shift in the doctor–patient relationship, rather than the inadequacy of the CSN service. Patients may access other sources to complement, or add to information received from the CSN service [3].

Given that women access health and supportive services more frequently than men [21], the significantly greater service use by female patients in this study is perhaps not surprising. Men, in contrast, prefer to receive cancer support within the close social network of the family and the physician [22], with the physician the preferred source for illness related information [20,23].

While over two-thirds of male and female patients reported “feeling better” after the CSN's visit, nearly one-third of male patients reported that they felt “no better”. This result may be related to the CSN being of the opposite sex. Same sex provider patient dyads have been reported to result in more effective communication than opposite-sex dyads [21]. A study by Whitcher and Fisher [24] assessed patients' affective, behavioural and physiological responses to nurses touching them during pre-operative teaching sessions. Results showed that male patients responded more negatively than females, particularly for affective measures. In their meta-analysis, Dindia and Allen [25] concluded that individuals tend to self-disclose more to women than men. It is possible that male patients in the present study may have responded more negatively if the CSN had been male. Results from a study by Hall et al. [26] revealed low patient satisfaction with patient–physician discussions about psychosocial issues when both patient and physician were men

compared to a female–female combination. These results may also reflect males' tendency to engage in less self-disclosure and to exhibit less emotional expressiveness in comparison to females [25]. Some of the male patients in the present study may have responded more negatively to the affective evaluation of the service in an effort to disguise any feelings of vulnerability. The finding related to affective evaluation of the CSN service suggests that health professionals need to be sensitive to potential sex differences in the way in which patients perceive and respond to support services [12].

For patients who did not know their future treatment plans, service use had a much greater impact on reducing their levels of emotional distress and improving their coping ability, compared to those patients who knew their future treatment plans. Uncertainty associated with diagnosis and treatment is a primary variable affecting adjustment among cancer patients [27]. Access to a supportive service, such as the CSN service, may play a valuable role in facilitating improved patient adjustment. Patients who had been diagnosed with breast, bone or connective tissue cancer (most of whom were breast cancer), were significantly more likely than patients with any other cancer type, to have used the service more frequently, received the right amount of information about medical treatment, taken action and felt more positive as a result of service contact, and to have received both information and emotional support from the service, rather than just emotional support. In all developed countries, breast cancer is a significant public health issue. Breast cancer is the most common life-threatening cancer detected in Australian females, and is the most common cause of death from cancer in females [28]. Vigorous media campaigns and the establishment of screening programs in recent years have done much to raise public awareness of the importance of preventive measures. The comparatively greater service use and impact observed for breast cancer patients in the present study may be due, at least in part, to the implementation of preventive measures at a public level.

The results reported here were based on a single hospital. Clearly, evaluation of this service in other hospital settings, including those in rural areas, is needed. Further, the study was based entirely on self-report data. Future evaluations of the service should include objective outcome measures or collateral reports. Many potential eligible patients were not included in the study due to elevated distress levels or language difficulties at the time of approach. Inclusion of these patients may well reveal less positive impact and lower satisfaction levels with the service. The focus of this study was on patient perceptions of the acceptability and impact of the CSN service. Given the reported positive impact and high level of patient satisfaction with the service, specific assessment must be undertaken of its "fit" with other hospital services and the existing practices of staff who are responsible for the care of patients if the service is to become an integral part of patient care.

Importantly, this study adds to the literature on information seeking which has largely focused on individuals who have sought information and support of their own initiative. No relationship was found between time since diagnosis and any of the service impact variables, suggesting that cancer patients across the illness course could benefit from such a service. With the changing face of health care, new and innovative ways must be sought to keep pace with these changes to ensure that the information and support needs of cancer patients and their families are adequately met, right from the time of diagnosis. The results of this study indicate that a hospital-based cancer support nurse service provides a promising model to meet these needs.

## 5. Practice implications

The reported high level of patient satisfaction with the amount and quality of information received from the CSN, as well as the positive impact of service contact, reinforces the importance and benefits of adequate training for health professionals involved in the delivery of such services. The way in which information is delivered to patients is equally important as the nature of the information [29]. The use of the CanHelp database as an integral component of the CSN service allowed the CSNs to provide patients with immediate, tailored and up-to-date information and support. Further, the operation of such a service within a hospital setting facilitates the prompt referral of patients to other relevant hospital and community-based support services, such as cancer telephone helplines. In this way, such a service can play a pivotal role in ensuring continuity of care and may, in turn, facilitate better adjustment and coping for both the individual with cancer and their family.

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