

Overcoming Barriers to Cancer-Helpline Professionals Providing Decision Support for Callers: An Implementation Study

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Purpose/Objectives: To evaluate the effect of an intervention on healthcare professionals' perceptions of barriers influencing their provision of decision support for callers facing cancer-related decisions.

Design: A pre- and post-test study guided by the Ottawa Model of Research Use.

Setting: Australian statewide cancer call center that provides public access to information and supportive cancer services.

Sample: 34 nurses, psychologists, and other allied healthcare professionals at the cancer call center.

Methods: Participants completed baseline measures and, subsequently, were exposed to an intervention that included a decision support tutorial, coaching protocol, and skill-building workshop. Strategies were implemented to address organizational barriers.

Main Research Variables: Perceived barriers and facilitators influencing provision of decision support, decision support knowledge, quality of decision support provided to standardized callers, and call length.

Findings: Postintervention participants felt more prepared, confident in providing decision support, and aware of decision support resources. They had a stronger belief that providing decision support was within their role. Participants significantly improved their knowledge and provided higher-quality decision support to standardized callers without changing call length.

Conclusions: The implementation intervention overcame several identified barriers that influenced call center professionals when providing decision support.

Implications for Nursing: Nurses and other helpline professionals have the potential to provide decision support designed to help callers understand cancer information, clarify their values associated with their options, and reduce decisional conflict. However, they require targeted education and organizational interventions to reduce their perceived barriers to providing decision support.

Key Points . . .

- Current quality of decision support by healthcare professionals for callers is inadequate.
- Educational interventions (e.g., tutorial, skill-building workshop, coaching protocol) address barriers at the healthcare professional level that interfere with the provision of decision support.
- Integration of decision support skills in telepractice can be further facilitated by ongoing support for skill development, interventions targeting barriers at the organizational level, and an increase of patient and public awareness of such services.

cancer-related decisions, many report a lack of ability, limited decision-making skills, and low confidence to be involved to the extent they prefer (Lobb, Kenny, Butow, & Tattersall, 2001; O'Connor, Drake, et al., 2003; Steginga & Occhipinti, 2002, 2004). The need for patient decision support is rapidly increasing in cancer care given the numerous options and their complexity, requiring patients to weigh benefits and harms across options.

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Patients with cancer are faced with decisions throughout the continuum of care—from prevention, through treatment, to survivorship and the end of life (see Figure 1). Many such decisions are challenging because more than one medically reasonable option is available. Consequently, high-quality decisions are defined as being informed with the latest evidence and consistent with patients' informed values (Elwyn et al., 2006; Ratliff et al., 1999). Although most patients want to participate actively in making

- Chemoprevention for breast cancer
- Early detection with prostate-specific antigen testing
- Mastectomy versus lumpectomy
- Radiotherapy versus prostatectomy
- Whether to return to work
- Home versus hospice end-of-life care

Figure 1. Examples of Cancer Decisions Influenced by Patients' Values

Cancer call centers provide patients, their family members, and the public with telephone access to health information, navigation of cancer services, and links to other supportive care services. Such centers may be positioned to also provide decision support (Hutchison, Steginga, & Dunn, 2006). In the United States, the United Kingdom, the Netherlands, Australia, and Canada, cancer call center services are toll free, are staffed with healthcare professionals, and provide easy access to information and psychosocial support (Broadstock & Hill, 1997; Hardyman, Hardy, Brodie, & Stephens, 2005; Kessler et al., 1993; Lechner & De Vries, 1996). By using telecommunications, the programs overcome geographic barriers to access and therefore are able to reach more dispersed and disadvantaged populations, allow more flexible scheduling of support to further improve access, and provide anonymity and privacy that can reduce stigma associated with seeking help (Simon, Ludman, Tutty, Operskalski, & Von Korff, 2004). In addition, because the services typically are independent of cancer treatment programs, they provide informational support that may be less susceptible to clinician bias (O'Connor et al., 1999). However, information alone is not adequate for high-quality cancer care decisions (O'Connor et al., 2007). For such decisions, patients require guidance to understand probabilities of outcomes, clarify their informed values associated with potential outcomes of options, and manage support-related issues (e.g., pressures from others, conflicting opinions, confidence in making decisions) (O'Connor, Legare, & Stacey, 2003). Effective interventions to support patients' decision making include patient decision aids and decision coaching by healthcare professionals who are supportive but neutral (Briss et al., 2004; Coulter & Ellins, 2006; Whelan et al., 2002). The interventions not only aim to provide general education for patients about conditions but also focus on risk communication and values clarification specific to decisions (O'Connor, Legare, et al.). However, studies of decision support practices reveal that practitioners continue to focus primarily on information provision alone and that implementation of patient decision aids is limited (Gravel, Legare, & Graham, 2006; Guimond et al., 2003; Stacey, Graham, O'Connor, & Pomey, 2005).

Interventions known to improve nurses' knowledge and skills in providing decision support over the telephone or in person include the Ottawa Decision Support Tutorial, use of a decision coaching protocol, and skills-building workshops tailored to the clinical practice setting (Stacey, O'Connor, Graham, & Pomey, 2006; Wirrmann & Askham, 2006). However, practice environment barriers interfere with sustainable implementation of decision support in routine practice. A systematic review of barriers to involving patients in decision making or providing patient decision aids revealed that

few of the 28 studies had been conducted with nonphysician healthcare professionals (Gravel et al., 2006). Nine of the 28 studies included nurses or psychologists, and barriers to providing decision support were inadequate time, lack of familiarity with resources, perception that patients do not want to be involved, professionals not agreeing with patient involvement, lack of access to decision support tools, and tools being too complex or impractical. More specifically, a study of 38 nurses at a Canadian provincewide call center highlighted the need to engage supervisors in providing ongoing support, establish call length guidelines inclusive of decision support type calls, ensure a clear organizational mandate for providing decision support, and expand the educational intervention to the other 82 nurses at the call center (Stacey, Pomey, O'Connor, & Graham, 2006). Another study at urology departments of four hospital trusts in England found that implementation of patient decision aids and decision coaching by nurses for men with prostate cancer or benign prostate hyperplasia was influenced by the need to tailor the interventions to the local context, provide environmental supports such as strong leadership within the practices, integrate decision support in routine procedures, and increase access to training for all healthcare professionals (Wirrmann & Askham).

Purpose

The purpose of this study was to evaluate the effect of an implementation intervention on cancer call center healthcare professionals' perceptions of barriers influencing their provision of decision support for callers facing cancer-related decisions.

Methods

Design

A single-arm pre- and post-test study was guided by the Ottawa Model of Research Use (Logan & Graham, 1998). Barriers influencing the provision of decision support to callers, participants' knowledge, and quality of decision support provided to standardized callers were measured at baseline and within one and three months of the intervention designed to address known barriers.

Theoretical Framework

The Ottawa Model of Research Use is an implementation framework designed to enhance the uptake of evidence-based innovations in clinical practice (Logan & Graham, 1998). The model offers four stages to consider. First is an assessment of barriers and facilitators to implementing innovations into practice. Then, based on the identified barriers, an intervention is designed and implemented to overcome the barriers. The third stage is monitoring the intentions and uptake of innovations, as well as sustainability of practice changes. Finally, the model stipulates evaluation of patient-, practitioner-, and system-level outcomes. For the current study, the evidence-based innovation is decision support by healthcare professionals (e.g., decision coaching with or without patient decision aids) for patients facing cancer-related decisions. The assumption underlying the Ottawa Model of Research Use is that evidence-based innovations are more likely to be integrated in clinical practice when

healthcare professionals are exposed to interventions that address identified barriers.

Setting

The Cancer Council Queensland's Cancer Helpline in Australia provides telephone support and information to more than 50,000 Queenslanders each year. Calls to the cancer helpline fall into two broad categories: (a) general inquiries from the public about prevention and early detection of cancer, and (b) calls from patients with cancer, their families and friends, and healthcare professionals seeking information about a cancer diagnosis and treatment or emotional or practical support. Calls are managed by nurses, psychologists, and other healthcare professionals with undergraduate degrees in health promotion, social sciences, and allied and public health. Forty-two staff members work at the main office and three smaller offices within driving distance of the main one.

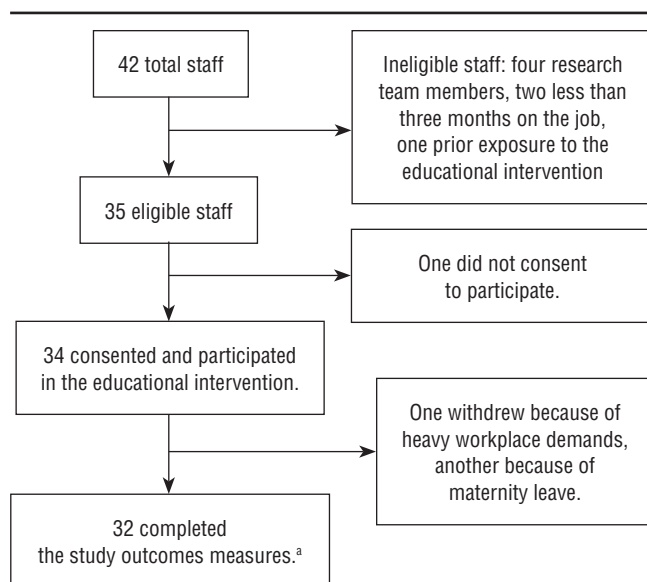
For calls relating to patients and their families, a Tiered Model of Psychosocial Intervention (Hutchison et al., 2006) is applied. The tiered model is a stepped care approach where the depth of support provided is graded to correspond to patient or carer levels of psychological distress. It includes five levels of care, from universal care for all patients to acute care for patients with complex needs. Universal care (level 1), like standard care, includes brief emotional support and information interventions such as patient education. Supportive care (level 2) includes psychoeducation and decision support. Care levels beyond supportive care are provided by a parallel telebased Cancer Counseling Service to which the helpline refers clients. For that service, extended care (level 3) refers to focused counseling and active skills training, and specialist care (level 4) includes specialized interventions such as individual therapy for people with mood disorders. Acute care (level 5) is for complex cases that require intervention from a multidisciplinary mental health team.

Participants

Thirty-five healthcare professionals working at the cancer helpline in the main office or in the three regional offices were eligible to participate in the study (see Figure 2). Excluded from the study were staff who had previous exposure to the educational intervention ($n = 1$), staff hired within the prior three months ($n = 2$), and staff directly involved on the research team ($n = 4$). Ethics approval was obtained from the University of Queensland.

Procedures

After signing consent forms, participants completed baseline questionnaires regarding their attitudes and perceived barriers and facilitators to providing decision support; they also took a decision support knowledge test. Participants subsequently received a telephone call from a standardized patient presenting with decisional conflict related to either unclear values about prostate cancer treatment decisions or pressure from others about the decision to have genetic testing for cancer. Then participants were exposed to the educational intervention, including a tutorial, workshop, and decision coaching protocol. The knowledge test was repeated at the end of the tutorial. Within a month of the workshop, participants received another telephone call from a standardized patient presenting with decisional conflict related to a different cancer decision than the baseline call. Three months



^a Three taped calls from two participants were lost as a result of technical difficulties; one participant did not complete the knowledge test in the tutorial because of difficulty obtaining Internet access but completed the tutorial by reading the handout without using the interactive program.

Figure 2. Flow Diagram of Recruitment and Data Collection

after the workshop, participants completed the survey of attitudes and perceived barriers and facilitators to providing decision support.

Interventions

The interventions were chosen to address barriers to providing decision support and were proven to be effective for improving nurses' decision support knowledge and skills (Stacey et al., 2005; Stacey, O'Connor, et al., 2006; Wirrmann & Askham, 2006) (see Table 1). The decision coaching protocol provided a stepped approach to assessing callers' decision-making needs, intervening to address callers' needs, and planning the next steps. Upon completion of the Ottawa Decision Support Tutorial, participants were expected to be able to recognize decisional conflict, describe concepts of decision support, tailor decision support to callers' needs, be aware of patient decision aids, and use the decision coaching protocol. (The tutorial is available at www.ohri.ca/decisionaid; click on Implementation Toolkit.) The three-hour skill-building workshop was tailored to an oncology setting and aimed at further developing participants' skills through having participants role play using the coaching protocol, receive feedback on the quality of decision support provided in the baseline standardized calls, appraise elements of decision support in a real patient-nurse call, and discuss integrating decision support in their practice. Three interventions aimed at addressing potential practice environment barriers were training supervisors in decision support, teaching two supervisory staff members how to facilitate the workshop (train the trainer), and demonstrating organizational support by having the director of the cancer helpline address workshop participants to validate that decision support is an important part of their call center role.

Table 1. Interventions Targeting Identified Barriers

Barrier	Intervention for Staff		New Resource: Decision Coaching Protocol	Organizational Intervention
	Online Tutorial	Workshop		
Unclear program direction	—	—	—	Director clarified direction in workshop.
Limited call center staff awareness of patient decision aids	X	—	—	—
Limited call center staff knowledge of factors affecting patient decision making	X	—	—	—
Limited call center staff decision support skills	—	X	X	—
Need for step-by-step process to guide callers	—	—	X	—
Lack of confidence in providing decision support	X	X	X	—
Inadequate training	—	X	—	—
Need for ongoing support	—	—	—	Supervisors trained

Outcome Measures and Instruments

The primary outcome was change in participants' perceived barriers to providing decision support. Secondary outcomes included change in participants' attitudes about and facilitators to providing patient decision support, knowledge of decision support, quality of decision support provided to standardized callers, and call length.

Participants' attitudes about and perceptions of barriers and facilitators to providing decision support were measured with the **Factors Influencing Health Professionals Providing Support for Patients Preparing to Make Health Decisions Survey Tool** (Stacey et al., 2005). Of the 22 items, 17 are statements rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), and 3 are open-ended questions to elicit perceived barriers and facilitators to patients obtaining decision support and call center staff providing decision support. The other items ask participants to identify how likely they are to inform someone within the next three months about decision support being within the call center services (very unlikely to very likely) and their view of patients' preferred role in decision making on a 5-point scale (from practitioner-controlled through shared decision making to patient-controlled). The original survey tool was developed based on the Ottawa Model of Research Use, a literature review of factors influencing implementation of innovations in practice, and findings from focus groups and interviews with practitioners at a Canadian call center (Stacey et al., 2005). The tool was validated by experts in knowledge translation and decision support, and results from the survey were triangulated with qualitative data collected from key informant interviews.

Participants' knowledge of decision support was measured with a 12-item multiple-choice test based on objectives of the tutorial. Previous use of the knowledge test showed that it discriminates between those who have been exposed to the tutorial and controls (Stacey, O'Connor, et al., 2006). The test is included in the Ottawa Decision Support Tutorial.

Researchers measured quality of decision support provided to standardized callers and call length using audiotapes of the standardized calls. Standardized callers facilitated a consistent experience across participants. The clinical scenarios were typical of actual decision support calls received by cancer helpline professionals. Participants were assigned scenarios based on whether they primarily handled inquiries from

the general public or from patients with cancer (i.e., a man aged 49 years considering prostate-specific antigen testing, a woman aged 44 years considering breast cancer genetic testing, treatment for a woman aged 51 years with breast cancer, or a man aged 54 years with prostate cancer). Each scenario stated that the caller had decisional conflict for one of two reasons: either unclear values regarding the personal importance of benefits versus harms or pressure from relatives to choose one option.

Analysis

Results of the surveys, calls from standardized patients, knowledge tests, and demographic characteristics were entered into SPSS® 13.0 and analyzed descriptively. Open survey questions regarding barriers and facilitators were examined via content analysis guided by the Ottawa Model of Research Use. Paired t tests were conducted to detect differences between the pre- and post-test scores for nurses' perceptions of barriers influencing decision support, knowledge, decision support quality scores, and call length.

Elements of decision support in the standardized patient calls were measured as present or absent with a 12-item modified version of the Decision Support Analysis Tool (Guimond et al., 2003) (see Figure 3). Calls were evaluated by raters trained in the use of the tool and blinded to timing of the calls (i.e., pre- or postintervention). Inter-rater reliability was moderate (interclass correlation coefficient = 0.66) and discriminated between those who had received decision support training and those who had not (Stacey, O'Connor, et al., 2006). Call length was measured from the beginning to the end of the standardized calls, excluding time for soliciting caller demographics or providing disclaimers.

Findings

Of the 35 staff eligible to participate, 34 agreed to join the study from June to December 2005, and 32 completed the study. The typical participant was female, an RN, employed full-time, university educated, and accustomed to handling cancer diagnosis-related calls (see Table 2). Most participants believed that patients prefer to share responsibility for decision making with their practitioners (39%) or make decisions after seriously considering a practitioner's opinion (39%). Few thought patients preferred doctors to make decisions (5%).

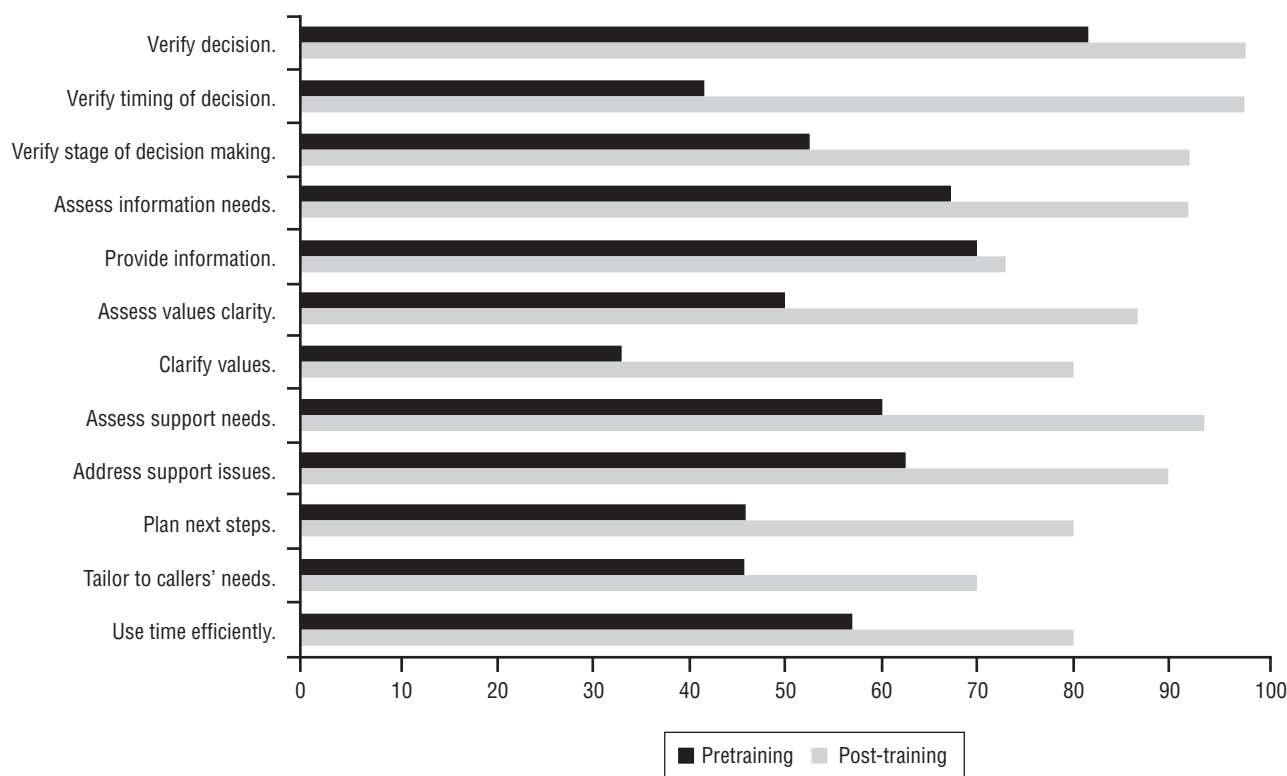


Figure 3. Change in the Proportion of Participants Providing Key Elements of High-Quality Decision Support

Perceived Barriers and Facilitators to Providing Decision Support

Table 3 displays the change in participants' perceptions of barriers to providing decision support from baseline to postintervention. Compared to baseline measures, a significant change occurred in participants' perceptions of having had enough training and feeling confident to support patient decision making ($p < 0.001$). Participants felt significantly less need to further enhance their knowledge of decision support or their ability to handle conflicting views about decisions ($p < 0.001$).

Participants maintained that they had no trouble recognizing callers who were having difficulty with decisions. Open-ended questions about factors influencing provision of decision support revealed that, postintervention, participants primarily wanted more opportunities to further develop their skills, such as attending continuing education sessions, listening to examples of taped calls, and sharing experiences of providing decision support.

Participants increased their perception of having access to good resources to support callers' decision making ($p = 0.002$), and they continued to agree that having a clear, step-by-step approach would facilitate their provision of decision support. At the end of the study, participants suggested that decision support resources be easily accessible at their work stations with greater availability of electronic access or links to high-quality resources, including patient decision aids and the decision coaching protocol.

Within the call center practice environment after the intervention, participants believed they had clearer direction to

provide decision support and decreased pressure to minimize call length. Consistent agreement existed at baseline and after training that sending written information would enhance the decision support provided. Participants were neutral (neither agreed nor disagreed) in their perception of whether patients and the public were aware of decision support services available at the call center. In open questions about facilitators, participants said that providing decision support was easier for them because they had to handle only one call at a time. Suggestions to further facilitate provision of decision support to callers were to raise awareness of decision support services among the public and within cancer-specific practices, to explore feasibility of sending out written decision support tools, and to provide ongoing performance monitoring with feedback.

Attitudes Toward Patient Involvement in Decision Making

Both before and after exposure to the decision support training interventions, participants agreed or strongly agreed that their role included supporting patient decision making, leading to patients being more involved in decision making (see Table 4). Significant increases occurred in strength of agreement for items related to participants' role in supporting patients facing decisions. Commonly suggested barriers to patients receiving decision support included patients' lack of awareness of decision support services, lack of accessibility because of geographic remoteness or poor-quality healthcare services, and inadequate time with healthcare professionals.

Table 2. Demographic Characteristics of Participants

Characteristic	n	%
Profession		
Nurse	18	56
Psychologist	4	13
Allied health professional	9	28
No response	1	3
Highest education level completed		
College or trade certificate	4	13
University undergraduate degree	12	38
Graduate degree	14	44
No response	2	6
Age (years)		
29 or younger	6	19
30–39	10	31
40–49	8	25
50–59	7	22
No response	1	3
Gender		
Male	6	19
Female	25	78
No response	1	3
Employment status		
Full-time	24	75
Regular part-time	3	9
Casual	4	13
No response	1	3
Types of calls usually handled		
Cancer prevention and early detection	9	28
Cancer treatment	23	72

N = 32

Note. Because of rounding, percentages may not total 100.

Knowledge, Quality of Decision Support, and Call Length

Knowledge scores increased from 61% at baseline to 84% post-tutorial ($t = 7.436$; $p < 0.001$). The mean quality of decision support provided to standardized callers improved from 56% at baseline to 86% after the workshop ($t = 6.116$; $p < 0.001$). Figure 3 shows the change in the proportion of participants providing elements of patient decision support. After training, participants were more likely to verify the timing and stage of decision making, assess information needs, discuss values and support issues, and plan the next steps. Overall, calls were more tailored to callers' needs and participants used their time more efficiently. One participant shared, "The training made the difference by naming the issues as 'values' and not medical problems." Another recognized the change in her skills using this example: "It has made me quicker in assessing it is a values issue. I can explain that to the patient, and that empowers the patient." The average call length was 11.93 minutes at baseline and 13.93 minutes after the workshop ($t = 1.522$; $p = 0.139$).

Discussion

According to the Ottawa Model of Research Use, interventions to facilitate research use in practice should be designed to ad-

dress healthcare professionals' perceived barriers (Graham & Logan, 2004). This is the first known study to monitor change in perceived barriers to providing decision support by healthcare professionals at a cancer call center. In addition to the fact that 97% of eligible staff in the organization participated, five of the seven staff who were ineligible to participate in the study took advantage of the learning opportunity by completing the tutorial and attending the workshop. As hypothesized in the Ottawa Model of Research Use, the tailored intervention (decision support training and tools) produced a significant reduction in participants' perceived barriers to providing decision support to callers by improving their knowledge and skills, raising their confidence in providing decision support, increasing awareness of patient decision aids, and ensuring that they were explicitly informed that decision support was part of the cancer call center services.

Participants' perceptions of improved decision support knowledge and skills were confirmed in the knowledge test and standardized patient calls. Postintervention scores for knowledge and decision support quality were similar to findings from a randomized, controlled trial evaluating the intervention with nurses working in a Canadian provincewide call center (Stacey, O'Connor, et al., 2006). Furthermore, no significant increase in call length occurred after decision support training. The overall shorter length of calls observed in the current study (13.9 minutes) compared to the Canadian study (18.5 minutes) is likely a result of the fact that nurses in the previous study often included a symptom assessment prior to providing decision support. Unlike other studies in which time pressure is a common barrier, the call center staff in the current study reported not feeling pressured to minimize call length and being able to give each caller their "undivided" attention (Gravel et al., 2006).

A facilitator of implementing decision support in the current study (and not a barrier as identified in some other studies) was participants' positive attitudes toward patient involvement in decision making and their role as practitioners in supporting such callers (Gravel et al., 2006). Given that patients with cancer want to have an active role in decision making and often require support to address their decisional needs, cancer call center staff can effectively support callers by assessing their decisional needs and providing support tailored to their needs (Lobb et al., 2001; O'Connor, Bennett, et al., 2007; O'Connor, Drake, et al., 2003; Steginga & Occhipinti, 2002, 2004). Furthermore, participants in the current study also identified the need to increase public and patient awareness of the decision support services. One example was to link call center services with oncology clinics such that patients facing cancer decisions would be referred directly to the cancer helpline for support.

Although many identified barriers were significantly reduced, the remaining barriers emphasized that changing clinical practice requires time for incorporation of new skills and that healthcare professionals expect to have ongoing continuing education opportunities to reinforce learning. The need for ongoing monitoring of barriers is an important element in the Ottawa Model of Research Use (Graham & Logan, 2004). Similar barriers to sustainable practice changes also were observed in studies primarily focused on nonphysician healthcare professionals providing decision support (Stacey, Pomey, et al., 2006; Wirmann & Askham, 2006). Throughout the current study, strategies to facilitate sustainability of decision support were

Table 3. Change in Perceived Barriers to Call Center Staff Providing Decision Support to Callers Pre- and Postintervention

Variable	\bar{X} Before the Intervention	\bar{X} After the Intervention	Change (95% Confidence Interval)	T Statistic (p)
Participants' perceptions of the influence of their knowledge, skills, and current practice on providing decision support				
• I need to enhance my knowledge about supporting callers making cancer-related decisions.	4.41	3.13	-1.28 (-1.61, -0.95)	-7.844 (< 0.001)
• I need to enhance my ability to support callers in handling conflicting views about the decision.	3.94	3.00	-0.94 (-1.29, -0.58)	-5.402 (< 0.001)
• I am familiar with patient decision aids.	2.53	3.84	1.31 (0.97, 1.66)	7.693 (< 0.001)
• I feel confident supporting callers making cancer-related decisions.	2.97	4.09	1.13 (0.80, 1.45)	7.017 (< 0.001)
• I find it difficult to recognize callers having difficulty making cancer-related decisions.	2.16	1.84	-0.31 (-0.58, -0.05)	-2.396 (0.023)
• I have received enough training to feel prepared for supporting callers facing cancer-related decisions.	2.59	4.06	1.47 (1.05, 1.89)	7.141 (< 0.001)
Participants' perceptions of access to decision support resources				
• I have access to good resources to support callers making cancer-related decisions.	3.91	4.31	0.41 (0.17, 0.65)	3.455 (0.002)
• I would prefer to have a clear step-by-step approach to use for supporting callers facing cancer-related decisions.	3.91	3.97	0.06 (-0.27, 0.39)	0.387 (0.701)
Participants' perceptions of practice environment barriers influencing their provision of decision support				
• There is clear program direction to provide decision support to callers facing cancer-related decisions.	3.44	3.97	0.53 (0.21, 0.85)	3.418 (0.002)
• I feel constant pressure to minimize call length.	2.09	1.63	-0.47 (-0.79, -0.15)	-3.016 (0.005)
• There are far too few calls about cancer-related decisions to develop my decision support skills.	2.78	2.81	0.03 (-0.22, 0.28)	0.254 (0.801)
• Sending written information to callers would enhance the decision support provided by the call center staff.	4.13	4.22	0.09 (-0.14, 0.33)	0.828 (0.414)
• Most patients and the public are aware of getting decision support for cancer-related decisions by calling the cancer call center.	2.78	3.03	0.25 (-0.12, 0.62)	1.392 (0.174)

N = 32

Note. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

incorporated, including ongoing staff development and orientation of new staff with the training interventions as outlined earlier. Central to this was ensuring that all new staff members received the combined tutorial and workshop training and that regular updates were provided regarding decision coaching as a specific area of professional expertise. In addition, decision support was added to the Cancer Helpline's Tiered Model of Psychosocial Intervention as a level II intervention (Hutchison et al., 2006). This overtly acknowledged that not all callers will require decision support and that decision support is a more in-depth skill compared to provision of information.

Limitations of the study included the potential for response bias on the surveys, which may have influenced participants' reported perceptions of barriers influencing their provision of decision support. However, triangulation of findings from the knowledge test and standardized patient calls indicated concordance with participants' perceptions of their improved knowledge and skills. The study also may be limited by the lack of a control group and the potential for a Hawthorne effect given that participants were aware that their performances were being monitored with standardized callers. As well, the researchers do not know whether significant differences existed in the demographic characteristics of the seven staff members who were ineligible to participate. Nevertheless, the change in per-

ceived barriers was consistent with the hypotheses underlying the Ottawa Model of Research Use, and participants' changes in knowledge and skills were similar to those reported by a randomized, controlled trial evaluating the same interventions at a Canadian call center (Stacey, O'Connor, et al., 2006).

Implications for Nursing

International surveys have shown that patients wish to be more involved in healthcare decision making. Most prefer that their practitioners provide them with options that are suitable for their consideration and then let them, as patients, make the decisions themselves (Magee, 2003). Although patient education is a key element of nursing practice, information alone is not adequate for patients participating in cancer-related decisions (O'Connor, Bennett, et al., 2007; Steginga, Ferguson, Clutton, Gardiner, & Nicol, 2007). When facing multiple options, patients need to be able to weigh the pros and cons across options to clarify the personal value they place on the outcomes of each option.

This study demonstrated that, after training in decision support, nurses and other allied healthcare professionals were able to build on their expertise in addressing patients' information needs and develop skills to support patients through

Table 4. Change in Attitudes About Patient and Call Center Staff Involvement in Decision Making Pre- and Postintervention

Variable	\bar{X} Before the Intervention	\bar{X} After the Intervention	Change (95% Confidence Interval)	T Statistic (p)
Call center staff supporting patients facing more complex preference-sensitive decisions will increase patients' involvement in making these decisions.	4.16	4.63	0.47 (0.25, 0.69)	4.267 (< 0.001)
A patient-doctor discussion about cancer-related decisions is improved when a patient comes prepared.	4.56	4.53	-0.03 (-0.31, 0.25)	-0.226 (0.823)
Most patients should be referred to the call center in preparation for making cancer-related decisions.	3.59	4.28	0.69 (0.46, 0.92)	6.035 (< 0.001)
Most call center staff are able to support patients facing cancer-related decisions most of the time (> 66%).	3.91	4.34	0.44 (0.21, 0.66)	3.999 (< 0.001)

N = 32

Note. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

the process of decision making. This included providing information about treatment options and their benefits and risks, using value clarification to assist patients in identifying the benefits that were important to achieve and the risks that were important to avoid, and coaching patients in strategies to manage support issues and pressure from others regarding their decision making.

The ability to provide high-quality decision support to patients and the public facing decisions about cancer care is consistent with nursing practice guidelines for client-centered care (Registered Nurses' Association of Ontario, 2006). Telephone-delivered psychosocial care for patients with cancer and their families is well established internationally in community-based call centers, services which are driven and delivered predominantly by oncology nurses. Such call centers that already are disseminating cancer information and psychosocial support might also provide accessible and evidence-based decision support services. However, healthcare professionals require targeted education and organizational interventions to reduce their perceived barriers to providing decision support to callers.

Conclusions

Implementation of decision support training and tools produced a significant reduction in perceived barriers interfering with call center nurses and other allied healthcare professionals providing decision support to standardized callers. As well, significant improvement occurred in the quality of decision support provided. Participants were very positive about using their expanded skills as part of everyday telephone-based practice. Future research should focus on measuring the effects of decision support on "real" patient calls, preferably in situations where healthcare professionals are blinded as to which calls are monitored for quality control. Finally, smooth transition of healthcare professionals' new skills into practice could be facilitated by the availability of an electronic decision coaching protocol and further skill development using continuing education and performance feedback.

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