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ORIGINAL ARTICLE

Evaluation of an online communication skills training programme for oncology nurses working with patients from minority backgrounds

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Abstract

Objective This study aimed to develop and assess the feasibility of an online communication skills training intervention to increase cultural competence amongst oncology nurses working with individuals from minority backgrounds.

Methods The intervention provided examples of communication strategies using vignette-based, professionally produced videos, developed through an iterative process with input from a large multidisciplinary team. Fifty-three oncology nurses completed all three questionnaires at baseline, within 2 weeks and then 3 months after accessing the programme.

Results The online intervention was well received by the majority of participants, and was endorsed as clearly presented, informative, relevant and useful by more than 90% of participants. Eighty-seven percent of participants reported increased confidence in communicating with patients via an interpreter, and 93% agreed that skills they gained would be useful in providing better patient care. Participants reported significant improvements in practice while interacting with people with limited English proficiency 2 weeks and 3 months after accessing the website ($X^2 = 13.66$, $P < 0.001$).

Conclusion This online communication training programme can now be tested for its utility in improving patient care for oncology nurses working with patients from minority backgrounds.

Keywords Oncology · Communication skills · Online training · Minority backgrounds · Oncology nurses

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Introduction

Patients from minority backgrounds have poor cancer outcomes including lower survival rates, higher rates of reported side-effects and poorer patient quality of life [1–4]. The term 'Culturally and Linguistically Diverse' (CALD) is the term currently used in Australia to refer to 'minority' groups in this context. Through the Australian policy of multiculturalism, the term 'Culturally and Linguistically Diverse' (CALD) has replaced the term 'Non-English-Speaking Background' (NESB). In research and practice, CALD "is mostly used to distinguish the mainstream community from those in which *English* is not the main language and/or cultural norms and values differ" [5]. Government-funded professional interpreting services are provided for members of CALD groups who may have low English proficiency. The disparities in cancer outcomes in patients from minority backgrounds may arise because of language and communication barriers, culturally divergent beliefs and attitudes about cancer and treatment, and a range of service/systems barriers such as lack of culturally competent healthcare providers and/or lack of familiarity with healthcare processes [6–10]. In view of these barriers, the potential for misunderstanding, distress and difficulty accessing care for patients from minority backgrounds is likely to be even more acute than for the general cancer population. Thus, sensitive and effective health professional communication is particularly vital for this population.

Effective communication increases health professionals' ability to assess and manage patients' physical symptoms and psychological distress [11], thereby increasing patient satisfaction, compliance with medications and improving clinical and psychosocial outcomes. Culturally competent health professionals communicate effectively with patients from minority groups because they use a set of attitudes and behaviours which enable this, regardless of race, ethnic or cultural background [12, 13]. The key elements of becoming a culturally competent health professional include: awareness of the importance and impact of one's own and the patient's culture, positive attitudes toward cultural differences, having knowledge of a patient's cultural context and developing the skills to elicit and meet the culturally unique needs of the patient and work effectively with interpreters [14]. Regarding interpreters, oncology health professionals [15, 16] need to effectively communicate with an interpreter present, and to negotiate patient expectations in relation to interpreters, such as when patients refuse a qualified interpreter in the presence of a family member to help with communication during the consultation.

Currently, communication with patients from minority backgrounds appears non-ideal. Audits of audiotaped consultations with patients from minority backgrounds, and interviews with interpreters, have indicated that health professionals often fail to check on interpreters'/patients' language or dialect compatibility, do not use lay language and short utterances and speak in the third person about the patient, instead of speaking directly to their patient [17, 18]. In addition, interpreters, cancer patients and their families describe mismatches of expectations about the interpreter's role, with some patients expecting interpreters to overstep their professional role and offer emotional support, advice and advocacy [17–19], which is clearly outside their professional Code of Ethics [20]. Thus, oncology nurses are likely to benefit from specific training both to improve their interactions with patients and their families as well as to effectively engage interpreters and to clarify patient expectations regarding interpreters [17, 21].

Health professionals' communication skills do not improve naturally with time and experience [22]. However, there is substantial evidence that communication skills can be taught [11, 14, 23]. There is a strong evidence-base that communication skills training is effective in changing physicians' and nurses' attitudes regarding psychosocial issues, and subjective and objective ratings of their communication skills [24] in both simulated and actual consultations following training [25].

Despite the need for communication skills training specifically focusing on cultural competence, only three to four published studies describe such training [21, 26, 27]. In one of these studies, a workshop including didactic instruction and roleplay practice improved medical students' understanding of the meaning of accuracy and role of the interpreter and increased student awareness of the linguistic complexities involved in interpreting and importance of need to work with trained interpreters [27]. However, the few existing programmes focused on cultural competence employ a face-to-face workshop model, which is costly and accessible only to a few. Online training overcomes these barriers, as it can be accessed at any time or place at low cost, by many. Some video and *online* communication skills training programmes aimed at health professionals are available which focus on medical interns [15, 28], primary care physicians [29–32], senior clinicians [33] and gastroenterologists [34].

To address this gap, we developed and pilot-tested an online communication skills training intervention, which specifically addresses the unique and specific training needs that arise for oncology nurses in relation to patients from minority backgrounds, including communicating with patients who have limited English proficiency. Specifically, this prospective pilot study aimed to: (i) develop an interactive online communication skills training intervention targeting the training needs of oncology nurses and (ii) assess the feasibility, uptake, acceptability and impact on perceived competence in communication skills of the 'online intervention' with a 'before' and 'after' assessment.

Methods

Development of website content

Our previous qualitative study guided the development of the content of the website [35]. In addition, a comprehensive literature review was undertaken to understand cultural competence and interventions targeted at improving communication and cultural competence. The initial prototype of the website was paper-based. The first draft of the prototype of the Effective Cultural Communication in Oncology (ECCO) website was written by an expert in patient education, reviewed iteratively by a multidisciplinary committee who provided their feedback, including researchers and clinicians with expertise in medical oncology, adult education, interpreting and translating, multicultural health and applied linguistics. In addition, a small working group comprised experts in multicultural health and the project officer met on a weekly basis to draft the scripts for the video-based vignettes and review the contents of the module.

Content of the intervention

The content of the intervention is not culture- or language-specific. Instead, it includes: (i) components that promote awareness of factors influencing communication about cancer care in some minority groupings based on language spoken (e.g., issues faced by refugees, length of stay in Australia, broad sociological categories, rural/urban differences and cultural distance relative to patient's culture of origin) and (ii) principles and schemas to assist oncology nurses in managing interactions with patients from minority backgrounds. These principles and schemas include: recognising one's own cultural bias and separating clinicians' values and beliefs from their patients', accessing and acquiring culturally relevant knowledge, learning how to elicit patients' illness explanatory models and how to use relevant resources (translated resources, the services of interpreters) effectively [36]. The online intervention is available for viewing at the following URL: https://education.eviq.org.au/courses/effective-cultural-communication-in-oncology

Format of the intervention

The website was developed to meet the needs and demands of oncology nurses. They could complete the training in short 30-min segments, rather than in one large block, and through an online platform well known to oncology nurses in Australia. The total time commitment of the oncology nurse is typically 2 h. The website consists of four modules.

Module 1 is text-based and covers basic communication skills and information related to cultural competence. Using video-based patient vignettes, modules 2, 3 and 4 each illustrate exemplary culturally competent behaviours. Module 2 portrays Maha, a female Arabic-speaking patient with lymphoma who spoke no English; module 3 portrays Li, a male Mandarin-speaking patient with colorectal cancer who spoke no English and module 4 portrays Helen, a Greek patient with advanced breast cancer, who was able to communicate in English. Professional actors portrayed the roles of these hypothetical patients, their family members and oncology nurses. Modules 2 and 3 also included interpreters who were portrayed by professional interpreters, rather than actors, to maximise authenticity. Figure 1 shows an example of a reflective question with potential answers from the second module. Contents of these modules are provided in the supplementary section.

Evaluation of the communication skills training intervention

Participants Participants were deemed eligible to participate if they were medical oncologists, radiation oncologists or oncology nurses providing clinical care to cancer patients in Australia. This study was approved by the University of New South Wales (UNSW) Medical and Community Human Research Ethics Advisory Panel.

Recruitment An email invitation with a link to the study website was sent to all individuals included in the email distribution list of the Cancer Institute New South Wales and to facilitators of clinical nursing education of all Australian hospitals. The study investigators also sent email invitations to heads and nurse unit managers of oncology departments and clinics in their contact lists. The 'snowballing technique' was also used for recruitment whereby participants were asked to forward the invitation email to colleagues who might be interested in this area. Interested health professionals were directed to click on a link to access the secure study modules and were asked to provide informed consent online and complete the baseline questionnaire. Following that, they were given access to the website. Participants were asked to complete the first post-intervention questionnaires within 2 weeks of accessing the website and then again 3 months post-intervention. The online survey software KeySurvey was used to administer these surveys. Reminder emails were sent to non-respondents for up to 8 weeks after each survey.

Measures The following topics about the participants were measured for baseline data: socio-demographic details, professional background including working with minority patients and previous communication skills training. Fourteen items in the baseline survey collected information on age, language spoken at home; qualifications and professional background; years of clinical oncology experience and number of hours worked, including face-to-face patient contact.

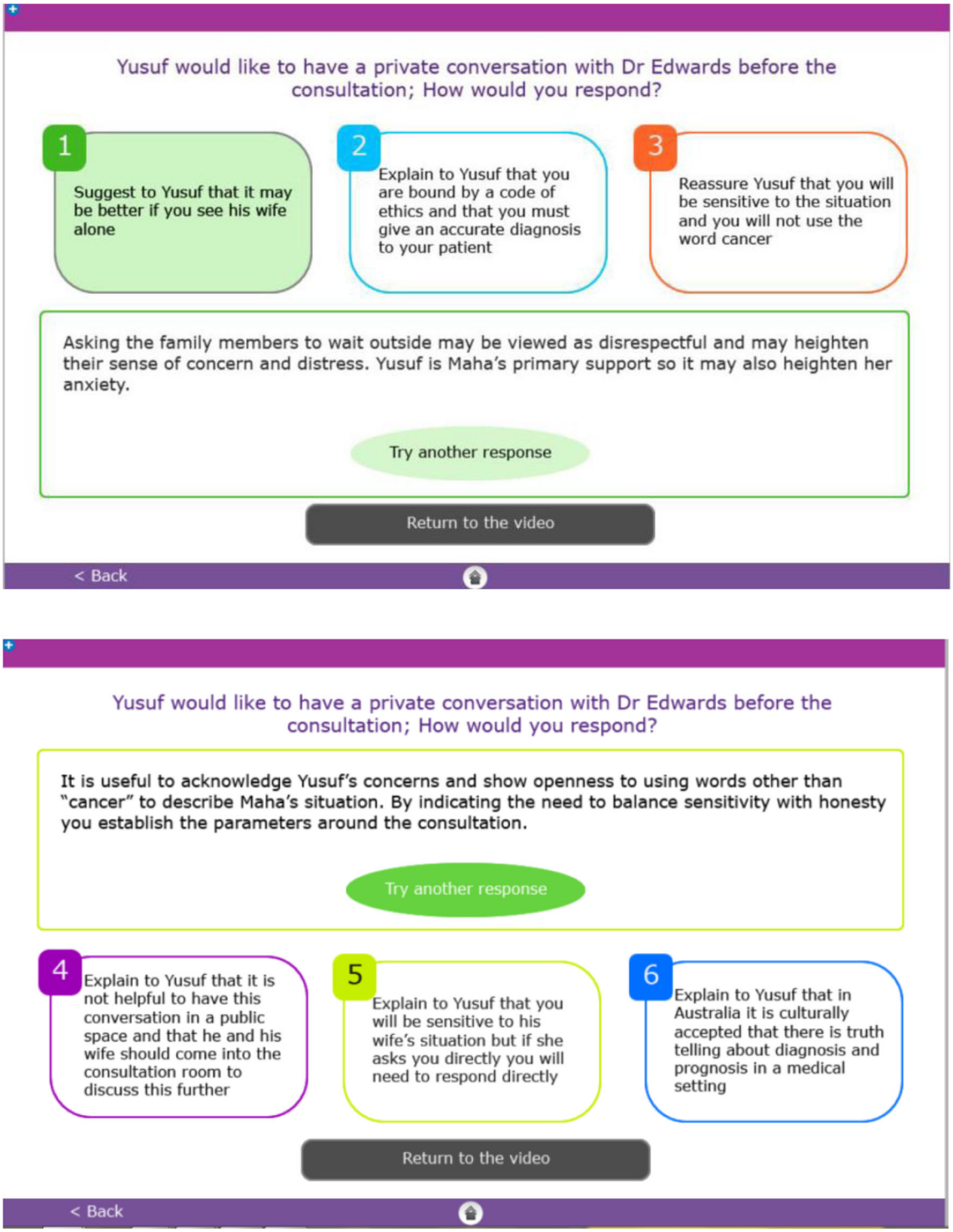

Fig. 1 Example reflective question with potential answers from module 2 where Yusuf (Maha's husband) wants to have a private conversation with Dr. Edwards (Maha's oncologist)

Four of these items assessed approximate proportions of minority patients seen and of consultations where interpreters are involved, previous training in working with professional interpreters and previous communication skills training experience, if any, as well as type of communication skills training and its frequency.

In the post-intervention questionnaires, measures of experience and satisfaction with the intervention, and perceived impact on acquisition of skills and knowledge, were administered.

Experience of using and satisfaction with the online programme. Eight items with Likert-type response options

assessed satisfaction with different components of the interventions including: perceived relevance, usefulness, acceptability and relevance of cultural scenarios, 2-week post-intervention. Eight questions elicited preferences for the process, length and content of the online modules.

Self-rated competence in communicating with minority patients. Five items, adapted from two previous communication skills training studies [21, 22], assessed self-rated competence in communicating with patients from minority backgrounds, using Likert-type response options anchored from 'Strongly disagree' to 'Strongly agree', for example, 'Now that I have completed the ECCO programme, I feel confident communicating with patients via an interpreter', were administered 2 weeks and 3 months post-intervention.

The following measures were administered at all time points:

Practices and attitudes while interacting with people with limited English proficiency. Five items assessed this aspect, using a four-point Likert scale ranging from 'frequently' to 'never'. These five items were: (1) I identify the primary language spoken by them. (2) Their limited ability to speak the language of the adopted country has no bearing on their ability to communicate effectively in the primary language. (3) I use trained medical interpreters for treatment, interventions, meetings or other events for individuals and families who need or prefer this level of assistance. (4) When possible, I ensure that all notices and communications to individuals and families are written in their language of origin. (5) I understand that it may be necessary to use alternatives to written communications for some individuals and families.

Relative responsibility of health professionals and hospitals to adapt to needs of people from minority backgrounds. Five items adapted from a previous communication skills training study [37] assessed if it was health professionals/hospitals or the patients who should adapt when: (1) patients' values and habits differ from those of the adopted country, (2) the patient does not speak the language of the adopted country, (3) the patient expresses the wish to be treated by a male or a female doctor, (4) the patient cannot read the language of the adopted country and (5) the patient's health beliefs contradict medical knowledge. Seven-point Likert scale items were used, with 1 indicating that it was the responsibility of people from minority backgrounds to adapt to the adopted country and 7 indicating that it was the adopted country's responsibility to adapt to needs of people from minority backgrounds.

Power calculations It was calculated that a sample size of 35 health professionals who completed all three questionnaires would detect changes across time in the self-rated measure 'Practices while interacting with people with limited English proficiency' of 0.5 of a standard deviation with 80% power at a 5% significance level (two-sided), which we considered a clinically significant change. [38]. Changes of a similar magnitude in self-rated competence in communicating with cancer patients have been found in previous communication skills training studies, [22, 25, 39, 40] indicating that an effect size of this magnitude could be anticipated in our study population.

Data analysis Data were analysed using SPSS (Statistical Programme for the Social Sciences) version 25. Basic descriptive statistics, including means, medians, percentages, ranges and standard deviations were calculated to describe the sample in terms of socio-demographic characteristics. The continuous outcomes assessed in all three surveys were not normally distributed and were analysed by comparing the summary scores using non-parametric Friedman's tests. The required degree of significance for these tests was 5%.

Results

Although 108 health professionals completed the first questionnaire, only 54 (53 oncology nurses) completed the first and second follow up surveys despite several reminders. There were no significant differences in socio-demographic characteristics of the 108 health professionals who completed the baseline questionnaire to those who completed the first and second follow up questionnaires. Since 53 of the 54 respondents to the three sets of questionnaires were oncology nurses, only their data were analysed and reported in this paper, thereby allowing feasibility testing of the communication skills training programme on this more homogeneous, untrained sample.

Socio-demographic and professional characteristics and experience working with patients from minority backgrounds

The demographic characteristics of 53 participants are listed in Table 1. All 53 (100%) participants were oncology nurses, and all were female. Fifty-eight were born in Australia and only 25% spoke a language other than English. Sixty-six percent practised in metropolitan areas and 62% in public hospitals. All oncology nurses indicated that they saw patients from minority backgrounds; 64% stating that more than 20% of their patients were from minority backgrounds. Only 11% of oncology nurses had received training on how to work with professional interpreters. When all were asked how often they would use the service of professional interpreters when working with patients from minority backgrounds, only 51% stated that they mostly or always would call an interpreter. Only 32%

Table 1 Baseline characteristics of oncology nurses

Characteristics	(*N* = 53) *N* (%)
Age	
25–44	27 (51)
45–64	25 (47)
65+	1 (2)
Gender	
Female	53 (100)
Country of birth	
Australia	31 (58)
Others	22 (42)
With which ethnic or cultural group participant identifies with	
Australian	44 (83)
Other	9 (17)
Language other than English spoken at home	
Yes	13 (25)
No	40 (75)
Current occupation	
Oncology nurse	53 (100)
Years of practice	
≤ 5 years	9 (17)
6–10 years	16 (30)
11–20 years	15 (28)
≥ 21 years	13 (25)
Place of practice	
Metropolitan	35 (66)
Regional and rural	18 (34)
Public/private sector practice	
Public	33 (62)
Private	11 (21)
Both	9 (17)
Hours of face-to-face patient contact each week	
0–20	19 (36)
21–40	31 (58)
> 40	3 (6)
Percentage of patients from minority backgrounds	
1–20%	19 (36)
21–40%	17 (32)
> 40%	17 (32)
Frequency of use of interpreters when working with patients from minority backgrounds requiring language support	
Never	4 (7)
Mostly	20 (38)
Rarely	22 (42)
Always	7 (13)
Received training in working with professional interpreters	6 (11)
Received training in cross-cultural communication	17 (32)

of oncology nurses had received some cross-cultural training, and they specified it as unstructured and random training sessions during their studies or oncology nursing education (Table 1).

Experience of using and opinions about the online programme

Ninety percent of oncology nurses completed all sections of the ECCO programme and 68% completed it in one sitting. The time taken to complete the ECCO programme varied, with 37% taking less than an hour and 39% taking between 60 and 90 min, 15% took between 90 min to 2 h and the remaining 9% took 2 h to 2.5 h. Ninety-two percent believed that the length of the online training programme was about right, and 89% were satisfied with the information contained in the ECCO programme. Similarly, 81% of the participants thought that the ECCO programme was 'extremely helpful' to 'very helpful' in giving them an understanding of issues relating to working with patients from minority backgrounds. Eighty-three percent stated that they gained new skills from the ECCO programme relating to working with patients from minority backgrounds. Ninety-four percent believed that the videos in the ECCO programme were useful in describing the cultural issues experienced by oncology nurses and that the additional resources contained in the online programme were easily accessible. All participants considered that the online format was appropriate for the programme, and 91% thought the programme was easy to use and they would recommend it to their professional colleagues. Figure 2 displays the satisfaction with the modules of the online programme. More than 90% of the participants thought that all four modules were clearly presented, informative and adequate. Similarly, between 72 and 94% of the participants considered the online modules appropriate, relevant and useful for their work.

Table 2 shows the responses to five items which assessed self-rated competence in communicating with minority patients from minority backgrounds 2 weeks post-intervention. For example, while 50% participants 'agreed' or 'strongly agreed' they were confident in communicating with minority patients before the ECCO programme, 87% of participants believed that their confidence had increased after completing the programme.

Relative responsibility of oncology nurses and hospitals to adapt to needs of people from minority backgrounds

Table 3 shows the response of participants to five items which assessed their relative responsibility to adapt to needs of people from minority background. A statistically significant increase in mean scores in the 'Relative responsibility of and hospitals to adapt to needs of people from minority

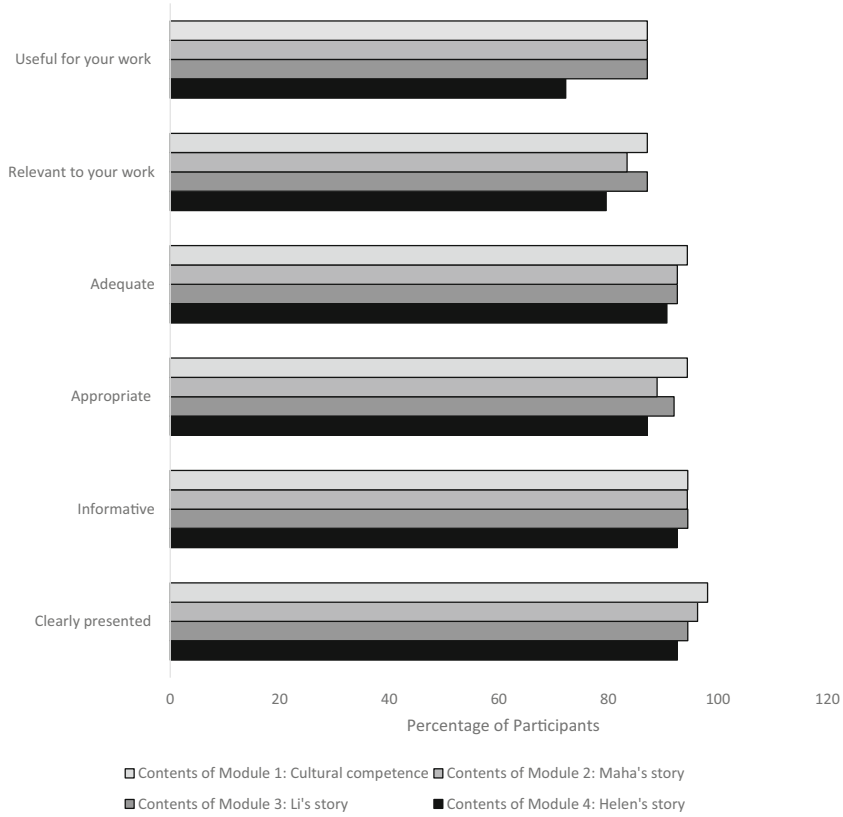

Fig. 2 Percentage of participants satisfied with the modules of the ECCO programme

backgrounds' measure was observed from baseline (mean = 22.3, SD = 3.6) to the second follow up (mean = 25.4, SD = 2.3, $X^2 = 8.75$, $P = 0.01$), indicating an increase in the perception that it was the adopted country's responsibility to adapt to needs of people from minority backgrounds. The mean scores of the first follow up (mean = 22.5, SD = 3.2) were not significantly different from the baseline.

Practice while interacting with people with limited English proficiency

Five items explored oncology nurses' practices while interacting with people with limited English proficiency. Figure 3 shows these items and the percentage of participants who rated these as 'frequently' practised at each of the three assessment stages.

The items comprising this measure were scored from 0 to 6, with N/A given a score of 0 and 'frequently' a score of 6 (range 0 to 30). As shown in Fig. 3, there was a sustained increase in the percentage of participants who reported improvement in their practices when interacting with people with limited proficiency in the first and second follow up surveys compared to the baseline survey. The mean score increased significantly ($X^2 = 13.29$, $P < 0.001$) from 25.5 (SD = 2.3) at baseline to 27.9 (SD = 1.3) and 28.3 (SD = 1.4) at first and second follow up.

Table 2 Self-rated competence in communicating with patients from minority backgrounds

Statement	Strongly disagree *N* (%)	Disagree *N* (%)	Unsure *N* (%)	Agree *N* (%)	Strongly agree *N* (%)
Before the ECCO programme, I felt confident communicating with patients via an interpreter.	1 (2)	13 (25)	12 (22)	23 (43)	4 (7)
Now that I have completed the ECCO programme, I feel confident in communicating with patients via an interpreter.	1 (2)	0 (0)	6 (11)	31 (59)	15 (28)
I feel confident that I will use the skills I learned in the ECCO programme.	0 (0)	0 (0)	4 (7)	33 (62)	16 (30)
The skills I learned in the ECCO programme will allow me to provide better patient care.	0 (0)	0 (0)	3 (6)	32 (60)	18 (34)
The ECCO programme prompted me to critically evaluate my own communication skills.	0 (0)	1 (2)	1 (2)	38 (72)	13 (24)

Table 3 Relative responsibility of oncology nurses and hospitals to adapt to needs of people from minority backgrounds

Statement	Baseline survey Mean (SD)	First follow up survey (2 weeks) Mean (SD)	Second follow up survey (3 months) Mean (SD)
When immigrants' values and habits differ from those of the host country			
Adopted country institutions should adapt to the immigrants' values and habits.	4.1(1.2)	4.0 (1.4)	4.5 (1.3)
When the patient does not speak the language of the host country			
The doctor should always provide a professional interpreter for the patient.	5.2 (1.3)	5.1 (0.7)	5.9 (1.2)
When the patient expresses the wish to be treated by a male or a female doctor			
Hospitals should allow patients who request it, to choose their doctor's sex.	5.1 (1.4)	5.2 (1.6)	5.7 (1)
When the patient cannot read the language of the host country			
Hospitals should provide written information in the patient's language.	5.0 (1.4)	5.1 (1.1)	5.5 (0.7)
When the patient's health beliefs contradict medical knowledge			
The doctor should adapt to the patient's beliefs regarding the disease and the treatment.	3.1 (1.5)	3.0 (1.2)	3.5 (1.1)

Discussion

The design of the ECCO programme was tailored to the needs of oncology nurses based on a needs assessment carried through earlier qualitative research [35]. The programme was considered highly satisfactory and participants reported increases in self-rated competence while communicating with patients from minority backgrounds after having used the programme. Many reported that the skills gained through completion of this programme would allow them to provide better patient care to patients from minority backgrounds. There were also significant improvements in self-report of increased utilisation of helpful practices while interacting with people with limited English proficiency.

In addition, the findings of our study demonstrate that after completion of the online programme, oncology nurses were more likely to think that they and hospitals should adapt to the needs of patients from minority backgrounds. These findings are consistent with those of Hudelson et al. (2010) [37] who reported that a majority of the participants in their study (conducted at Geneva University Hospital) put the onus on the hospital and doctors to provide resources such as professional interpreters

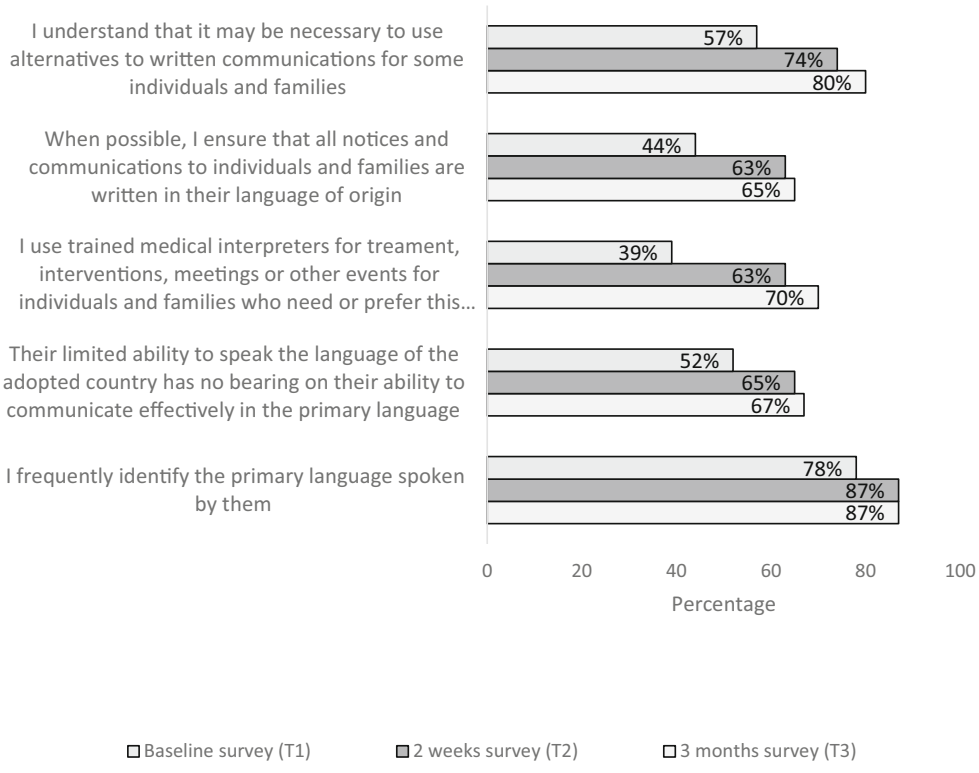

Fig. 3 Percentage of participants who rated practices while interacting with people with limited English proficiency as 'frequently' practiced

and translated information to patients and most expected the doctor to make an effort to adapt to patients' belief systems.

In a study conducted with oncology fellows, Back et al. (2003) [11] used actors as patients in simulated situations for practising communication skills. They reported that actors were able to present convincing degrees of emotions and can provide feedback to oncologists and reinforce learners' communication skills. Research has also demonstrated that teaching by videos had a positive impact on doctors' performance [41] and web-based telehealth programmes are useful tools in teaching communication skills [41, 42]. Our study underscores these findings and demonstrates this approach was positively received by oncology nurses and should be tested to train health professionals in cultural competence.

Although the positive feedback received for this programme is encouraging, the study has limitations. Only one oncologist completed all three questionnaires, so the study findings can only be generalised to oncology nurses. It was particularly challenging to recruit oncologists for this study, despite several reminders being sent, and we were not able to identify the reasons for non-participation by oncologists. A qualitative study can be undertaken in the future to understand their reasons for non-participation. Also, all but one participant were females, so it was not possible to ascertain the effectiveness of the intervention amongst male health professionals. It is unknown how many health professionals received the invitation and hence generalisability is difficult to assess. In addition, the small sample size prevented us from controlling for potential confounders and assessing the role of moderators of the impact of the intervention, in particular health professional group and gender. An important shortcoming of this pilot evaluation was that only self-rated, rather than objectively measured, competence was assessed, and cultural competence was not assessed before the intervention. Moreover, the translation of skills learned through e-learning to practice is less obvious [33]. Future studies should measure competence objectively, for example by recording actual consultations pre- and post-intervention to demonstrate increases in cultural competence as well as assess the impact of training on patients through direct assessments of patient outcomes. Given this was a pilot evaluation of the programme, a randomised controlled trial may inform the effectiveness of this programme over a longer period of follow up.

Despite these limitations, this online programme provides an opportunity for health professionals to understand the issues and potential strategies required to improve communication with minority patients. It lays the foundations for the translation of teachable communication skills into clinical practice such that the quality of interactions between oncology nurses and their patients from minority backgrounds is likely to improve. Improved communication between health professionals and their patients from minority backgrounds may also improve the quality of patients' cancer care, and cultural competence has been found to improve patient satisfaction.

The website also provides a framework for the development of culturally competent communication skills training programmes applicable to other health settings (e.g. cardiology and respiratory medicine). Furthermore, the modules can be readily adapted for training of undergraduate and postgraduate medical students and allied health professionals from both oncology and other medical disciplines.

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Compliance with ethical standards

This study was approved by the University of New South Wales (UNSW) Medical and Community Human Research Ethics Advisory Panel.

Conflict of interest Bettina Meiser has a remunerated consultant role with the company Astrazeneca with respect to a study unrelated to this article. The other authors declare that they have no conflict of interest.

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