Arabic version of the Palliative Care Self-Efficacy Scale: Translation, adaptation, and validation

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Abstract

Objectives. A lack of confidence among oncology nurses might be problematic when providing palliative care. No valid and reliable tool is currently available in Saudi Arabia to assess oncology nurses' confidence in providing palliative care. This study aims to explain the process of translation, adaptation, and validation of the Palliative Care Self-Efficacy Scale (PCSS) to support its use in the Saudi context.

Methods. This was a methodological study of translation, cultural adaptation, and content validation of PCSS. The process of translation and adaptation was conducted according to the World Health Organization guidelines, including forward and backward translations, an expert panel review, and pretesting and cognitive interviewing, resulting in a final version. Two independent bilingual oncology nurses familiar with palliative care terminology translated the PCSS from English to Modern Standard Arabic. Next, the concise PCSS translation developed from the 2 translations was back-translated to English by 2 English-speaking translators and then compared to the original PCSS. The Arabic version PCSS was evaluated by Saudi professionals ($N = 5$) in oncology and palliative care nursing using a Likert scale for essentiality, relevance, clarity, and appropriateness. The content validity was examined using the calculation of the content validity ratio, item-level content validity index (I-CVI), and modified kappa statistics. The thinking aloud method was also used to interview Saudi oncology nurses ($N = 8$) who had palliative care experience.

Results. The relevance, clarity, and appropriateness of the first Arabic version PCSS were validated. It had a level of content validity index of 1.00 for all items after improvements were made based on the recommendations of experts and oncology nurses.

Significance of results. The PCSS demonstrated face and content validity in the assessment of oncology nurses' confidence in providing palliative care. The PCSS is suitable for use in palliative cancer care units in Saudi Arabia to identify the educational needs of nurses to promote their confidence and improve the quality of care. Additional reliable and valid language versions of the PCSS allow for international and national comparisons, which may be useful for oncology nursing administrators or managers who are accountable for the quality of palliative care during the strategic health-care planning process in cancer services.

Introduction

The Saudi Cancer Registry reported 16,210 total cancer cases in 2015 (SCR 2015), of which 15,542 cases received treatment. Due to ongoing changes in the population's demographics, especially among older and middle-aged individuals, Saudi Arabia's (SA) cancer burden is predicted to increase by 5–10 times from the current statistics by 2030 (Alshammaray et al. 2019). In countries such as SA, the majority of cancer deaths are predictable and most frequently happen in hospitals. End-of-life care for patients with cancer is also a complex process that challenges oncology nurses, patients, and their family caregivers (Clark 2017). Therefore, programs in palliative care (PC) have been integrated into the Saudi systems, with a focus on health-care organizations (Alshammary et al. 2014). Twelve PC centers are currently spread around SA, and only 6 centers have received accreditation (Alshammaray et al. 2019). PC is a powerful approach to improving the quality of life (QoL) for patients with advanced diseases such as cancer (American Cancer Society 2022). It aims to decrease suffering by identifying, assessing, and treating physical, psychological, functional, and spiritual problems of patients with cancer, as well as supporting families by addressing their needs (Levy et al. 2016). Although hospice and end-of-life care are generally provided by PC nurses to patients with cancer in their last months of life, the fundamental principles and expanding role of palliative nursing are essential and ought to be incorporated during the cancer trajectory (Mason et al. 2021). Therefore, providing the best care for dying patients with cancer requires oncology nurses to become more confident in providing specific PC domains that are significant for both patients and their families to meet their needs (Mason et al. 2021).

As patients with cancer live longer, oncology nurses' confidence in providing PC is increasingly recommended (Parajuli et al. 2021; Phillips et al. 2011). International studies show that a lack of confidence in providing the domains of PC among oncology nurses is a serious problem that causes poor QoL and increased distress and suffering in patients with cancer and their families (Kim et al. 2020; Mason et al. 2021; Parajuli et al. 2021). Researchers have also found significant associations between patient satisfaction, nurse–patient interaction, QoL, and nurses' confidence (Abu Sharour et al. 2021; De Simone et al. 2018). Moreover, studies in PC have demonstrated that confident nurses are more comfortable and provide high-quality patient care (Barnett et al. 2021; Dehghani et al. 2020). According to the Oncology Nursing Society (2015), oncology nurses should be confident in their skills and knowledge to meet the National Consensus Project (De Simone et al. 2018) guidelines in all PC domains. Therefore, assessing oncology nurses' confidence in providing PC is vital to carry out these recommendations. Previous studies in the health-care field have demonstrated that assessing PC confidence is possible using the theoretical underpinnings of self-efficacy (Phillips et al. 2011; Serpentini et al. 2019). Self-efficacy is confidence and belief in the individual's ability to successfully take health actions or perform behaviors to achieve the desired outcomes (Bandura 1997). Self-efficacy is a predictor of individual and professional behaviors since it influences the commitment and effort required to accomplish a specific behavior that can be positively affected by training (Bandura 2006). In addition, Desbiens et al. (2012) indicated that self-efficacy, as a study instrument, could be used to assess health-care providers' confidence in providing PC and can be used to plan and measure quality improvements in training and education as well as clinical settings.

In SA, PC is still in its early stages, with numerous difficulties and challenges such as a large number of patients with advanced cancer, insufficient PC infrastructure and facilities, and a lack of knowledge among nurses to apply PC principles due to the lack of training and education programs (Almulla and Hassouneh 2022; Alshammaray et al. 2019). According to the 2015 Quality of Death Index, SA ranked 60th out of 80 countries, lagging far behind many other countries, reflecting the poor quality of PC and limited availability (The Economist Intelligence Unit 2015). The absence of PC-related content in the undergraduate nursing degree curricula and structured PC programs for oncology nurses is also a well-known fact in SA (Khraisat et al. 2017). Alshaikh et al. (2015) found that most Saudi nurses learned about PC primarily through their own experiences and reflections, which is supported by the fundamental classification of nursing knowledge, and feel stressed when providing PC. Traditionally, there is also a reluctance to discuss death in SA, and it is avoided when in direct contact with patients (Wazqar et al. 2017). Cultural beliefs and values influence health-care providers' attitudes toward death and dying, and their levels of self-efficacy vary across countries (Henoch et al. 2013; Wang et al. 2018). As a result, assessing PC self-efficacy among oncology nurses is critical for developing culturally appropriate educational programs that respond to the need for PC development in SA while also ensuring the quality of PC. However, while self-efficacy is considered a universal construct (Moshki et al. 2017), cross-cultural differences and similarities cannot be investigated in the absence of validated instruments.

Three instruments have been used internationally to measure confidence or self-efficacy in providing PC in nurses: Expertise and Insight Test and Self-efficacy (Adriaansen and van Achterberg 2004), the Palliative Care Self-Efficacy Scale (PCSS) (Phillips et al. 2011), and the Palliative Care Nursing

Self-Competence Scale (Desbiens and Fillion 2011). Despite the extensive international research about self-efficacy and its outcomes for patients with cancer and their families, studies on oncology nurses' confidence or self-efficacy in Saudi PC settings are limited. When reviewing available instruments for assessing confidence in providing PC, the PCSS was selected for the following reasons: it has been psychometrically tested and translated into diverse languages and cultural settings, which supports international comparisons (Andersson et al. 2022; Dehghani et al. 2020; Kim et al. 2020); it covers most of the PC domains listed in the National Consensus Project for Quality Palliative Care (2018) guidelines; it has been tested before and after educational interventions for nurses (Dehghani et al. 2020; El-Sayad and Shaala 2021); and it is much shorter and easier to use than other scales. Additionally, when the PCSS domains were compared to the Saudi PC National Clinical Guidelines for Oncology (The National Cancer Centre 2019), the results showed that, despite cultural differences, the PCSS domains covered the majority of practices or core areas required to standardize practice among oncology health-care providers to provide the best-quality PC for Saudi patients and their families. When selecting appropriate instruments for validation studies, national guidelines that may have influenced the content and development of the instruments must be considered (Soikkeli-Jalonen et al. 2020). This is a significant finding because it supports the possible use of PCSS, as a recently Arabic-translated and validated instrument, to assess nurses' confidence in providing PC to patients with cancer in SA. The PCSS has also not been used yet in any studies in SA or Middle East countries to assess nurses' confidence in providing PC and has not been validated in oncology nurses. However, to the best of the researcher's knowledge, no instruments exist to evaluate oncology nurses' confidence in PC in the Saudi context or Arabic-speaking regions.

The PCSS was developed in Australia through a quantitative method–based PC intervention project that aimed to strengthen symptom assessment, communication, and teamwork (Phillips et al. 2011). It was created following Bandura's (1997) self-efficacy theory and includes 2 theoretical domains to assess health-care professionals' level of confidence in providing PC for patients and their families. The first section of the survey has some background questions about gender, age, discipline, PC training (qualification, job training only, short courses, or other formal training), and ethnic origin or cultural background. The second section is composed of 12 self-report items under 2 subscales: management of symptoms (6 items) and psychosocial support (6 items). These are answered on a 4-point Likert scale, with 4 indicating "confident to perform independently," 3 indicating "confident to perform with minimal consultation," 2 indicating "confident to perform with close supervision/coaching," and 1 indicating "needs further basic instructions" (Phillips et al. 2011). The possible score range is 12–48 points, with higher scores indicating a higher level of confidence in providing PC. Phillips et al. (2011) found that the PCSS is a reliable and valid assessment scale, with Cronbach's alpha ranging from 0.87 to 0.91 in their initial study among 402 nurses providing PC. Moreover, the principal component analysis for the 2 domains revealed that 65.3% explained a cumulative total variance, demonstrating the coverage of domains by the survey items (Phillips et al. 2011). The PCSS has also proven to be useful in other countries. For example, it was translated and culturally adapted into Mongolian, Persian, and Swedish versions, with the findings indicating that the scale is appropriate for use in these regions (Andersson et al. 2022; Dehghani et al. 2020; Kim et al. 2020). Generally, confirmatory factor analysis confirmed an adequate model fit, and Cronbach's

alpha values were found to be satisfactory. Overall, an instrument that assesses oncology nurses' confidence in providing PC to patients with cancer and their families in SA would be useful in identifying and comprehending areas that require training and development, not least for oncology nursing administrators who are accountable for the quality of care.

This study aimed to explain the process of translation, cultural adaptation, and validation of the PCSS to support its use in the Saudi context. With such a tool available, it is possible to establish a baseline estimate before training, investigate the effects of PC educational interventions, conduct ongoing education, and assess quality improvements in Saudi cancer care organizations.

Methods

This methodological study with qualitative and quantitative approaches was conducted. The World Health Organization (WHO) (WHO 2020) guidelines were followed during the instrument translation and validation process. Forward and backward translations, an expert panel review, pretesting and cognitive interviewing, and the final version were all part of the process. This process is designed to provide various language translations of the English tool in specific nations and cultures that are conceptually equivalent (WHO 2020).

Translation process

The PCSS developers gave their permission before the translation process had started for this scale to be translated, adapted, and validated. The scale was translated by 2 separate oncology nurses (familiar with the terminology of the PC covered by the scale and have experience in instrument translation and development) whose native language was Arabic using the forward-translation approach. The Arabic language and context required a few terms to be changed, making a direct translation impossible. The researcher combined the 2 oncology nurses' translated versions into a single translated version of the PCSS. When 2 dissimilar terms were selected throughout the compilation procedure, both oncology nurses were consulted through a group chat, with discussions continuing until an agreement on the appropriate term was reached.

The translated version of the PCSS was then subjected to blind back-translation by a different team of 2 translators. Both of these translators had English as their first language and were proficient in Arabic, but neither was aware of the original scale. The first back-translator was a licensed schoolteacher who had spent nearly 10 years in SA instructing in both Arabic and English. The second back-translator was an English linguist with more than 15 years of experience using both English and Arabic in his research work. The researcher then compared the back-translated versions with the PCSS's original version. This comparison ensured that the original and back-translated versions did not differ in wording. All of the items' meanings were determined to be equivalent. The PCSS's initial Arabic version was then developed.

Cultural adaptation

The researcher worked to adapt the instructions and items from the original version of the PCSS. The researcher invited 5 oncology and PC nursing researchers (3 female assistant professors, 1 female associate professor, and 1 male full professor; aged between 38 and 55 years) to join this process of cultural adaptation in February 2022. Each had 5–10 years of oncology and PC nursing experience and had participated in the instrument development and data collection of at least 4 research projects. To have adequate control over the chance agreement, at least 5 experts are recommended to assess the translated scale (Zamanzadeh et al. 2015). Written information about the study's objective and responsibilities was provided to expert reviewers (content validity [CV] survey). Using Davis's (1992) CV 4-point Likert scale, the professionals were requested to rate the 12 items of the Arabic version scale in terms of relevance (1 = not relevant to 4 = highly relevant), clarity (1 = not clear to 4 = very clear), and appropriateness (1 = not appropriate to 4 = highly appropriate). A 3-point Likert scale was also used for the essentiality (1 = not necessary, 2 = useful but not essential, and 3 = essential) since answers can only be trichotomous (Zamanzadeh et al. 2015). In addition, the professionals were asked to rate and respond to the overall scale. They were also instructed to consider the alternate wordings for each response to each item. Generally, the completed questionnaires showed that the professionals had no difficulties rating the items. Each item was also carefully reviewed during a meeting. The professionals were asked to share their insights and suggestions based on their understanding of the area and Saudi context, and they agreed on the Arabic version of the PCSS.

In this study, the calculation method of the content validity ratio (CVR), scale-level content validity index (S-CVI), and item-level content validity index (I-CVI) were used to examine the CV of the Arabic version of the PCSS. The CVR, S-CVI, and I-CVI, which are based on expert assessments of essentiality and relevance, are the most common quantitative techniques used to measure CV for the scales (Zamanzadeh et al. 2015). CVR has a score range of −1 to 1, with a higher value indicating greater agreement among experts. This formula ($[N_e – N/2]/[N/2]$, where the total number of experts is N and the number of experts who indicated an item as "essential" is N_e) (Zamanzadeh et al. 2015) was used to calculate CVR in this study. By dichotomizing the 4-point scale (items with a score of 1 or 2 were classified as "not relevant" and received 0 points, and items scoring 3 or 4 were classified as "relevant" and received 1 point each), calculation of each item was performed. The number of items on a scale that have received the very relevant rating is used to calculate S-CVI and I-CVI. The S-CVI was determined by the sum of the I-CVIs divided by the entire number of items, whereas the I-CVI was computed by taking the experts' number, evaluating each item as very relevant divided by the total experts' number (Zamanzadeh et al. 2015). The kappa statistics, based on the items' relevance, were also conducted. To assess the CV and supplement I-CVI, the kappa statistic has been proposed as one of the consensus measurements of inter-rater reliability that modifies for chance agreement (Polit et al. 2007). Kappa values ranging from 0.4 to 0.59 are considered fair, 0.6 to 0.74 good, and greater than 0.74 excellent (Polit et al. 2007).

Cognitive interviewing

A method called cognitive interviewing examines how participants understand, interpret, and respond to survey items (Miller et al. 2014). This method's objective is to learn more about how respondents respond to survey items, spot potential issues that could result in incorrect responses, and have a better understanding of how participants view the survey items (Miller et al. 2014). The model of question-and-answer has been suggested as a valuable exemplification of how participants respond to questionnaire items (Collins 2003). Four interdependent components

Table 1. Demographic and work characteristics of participants ($N = 8$)

Characteristics	
Age (years), mean, range	38.5, 31–47
Sex, N (%)	
Male	3 (37.5)
Female	5 (62.5)
Education, N (%)	
University degree	6 (75.0)
Master degree	2 (25.0)
Palliative care training, N (%)	
Yes	5 (62.5)
No	3 (37.5)
Palliative care experience (years), mean, range	10.2, 3–21

Table 2. Calculating CVR for PCSS items ($N = 5$)

Items (12)	N_e	CVR	Interpretation
PS			
1	5	1.00	Remained
2	5	1.00	Remained
3	5	1.00	Remained
4	5	1.00	Remained
5	4	0.60	Eliminated
6	5	1.00	Remained
SM			
7	5	1.00	Remained
8	5	1.00	Remained
9	5	1.00	Remained
10	5	1.00	Remained
11	5	1.00	Remained
12	4	0.60	Eliminated
Average		0.80	

N_e, number of experts who evaluated the item as essential; PS, psychosocial support; SM, symptoms management; CVR, content validity ratio = $(N_e - N/2)/(N/2)$ with 5 experts ($N = 5$); the items with the CVR of 0.99 remained at the instrument and the rest eliminated.

(memory retrieval, understanding of the information, making the decision, and selection of the response) are included in this model that interrelates and predicts how participants evaluate the level of detail required to respond to survey items (Daugherty et al. 2001). Oncology nurses underwent cognitive testing primarily to assess the cognitive process when responding to survey items and to spot poorly understood issues. A technique used to determine oncology nurses' understanding of survey items was thinking aloud. This approach was used to assess how well the items of the scale were understood and how various responses were achieved (Daugherty et al. 2001). Thinking aloud questions in this study were as follows: (1) As you respond to this survey item, please share your thoughts with me. (2) What steps are you contemplating as you choose an answer to this survey item? The question of whether the survey items were appropriate for Saudi cancer care hospitals was also asked of the oncology nurses.

The interviews were conducted online through Zoom (due to the COVID-19 blanket measures) with 8 Saudi oncology nurses working in PC units, who had a minimum of 3-year experience in cancer PC. The researcher began by asking about the participants' demographic and work information (sex, age, level of education, training, and experience in cancer PC) (Table 1). The interviews were taped with notes and ranged in length from 22 to 40 min. Based on notes and recordings, analytical memos were produced. Memos were classified as "having no issues with the items" and "having minor issues with the items." The researcher reworded scale items identified as "having minor issues with the items."

Results

Forward and backward translations

In section one, questions identifying the respondents' cultural and ethnic background and Aboriginality were eliminated in the forward translation for cultural adaptation, because most citizens of SA are ethnically Arabs, and asking such questions in the context of Saudi health care is inappropriate. The terms "people" in item 3 and "terminal" in items 8 and 9 were changed to the terms "patient and family member" and "end-of-life" to better fit the context of the PC research. Although some debate existed over the term "reacting to" in the translation of items 8–12, the researcher chose to keep it because it best suited the Saudi context. Reacting/reaction are common words used by nurses in Saudi health-care settings to

assess and respond to a patient's symptoms. They have the same meaning in the Arabic dialect and have Arabic synonyms. In addition, the term "environmental" was changed to "healthcare" and the term "family" was replaced with "long-term care center" in the translation of item 4 "Discussing different environmental options (e.g., hospital, home, and family)" to best suit the Saudi context. Long-term care is one of the primary focal points for diversifying and improving SA's health-care system (Colliers International 2020). Long-term care services have also become culturally and socially acceptable in SA (an Islamic country), particularly for individuals in need of medical and nursing supervision, as the number of Saudi working women has increased and sociocultural conditions have rapidly changed (Al-Shammari et al. 1997; Colliers International 2020). Additionally, Muslims are obliged to seek help whenever they can and should not put their family members at risk (Chamsi-Pasha and Albar 2017). Therefore, long-term care centers are available now in SA, and patients and their families are encouraged to use them by health-care providers. No significant changes were made during the translation process, so the translated Arabic version matched the original PCSS.

Pretesting and cognitive interviewing

The 5 experts rated each PCSS item's essentiality, relevance, clarity, and appropriateness and provided their comments on the overall PCSS. Eight items received a CVR of 1.00, while 2 received a score of 0.60. The average CVR value was 0.80 (Table 2). Items marked as not essential had a CVR of 0.99 (based on the numerical values of the Lawshe (1975) table and the total number of experts, $N = 5$). Non-essential items can be removed, but they were not in this case. A CVR value of 0.58 is appropriate to consider an item acceptable, according to Tristán-López's (2008) modification of the Lawshe model, regardless of the number of evaluators involved. The average I-CVI values for all items were 0.93, 0.87, and 0.77

Table 3. The PCSS relevance, clarity, and appropriateness: items and expert panel's agreement ($N = 5$)

Items (12)	Relevance					Clarity			Appropriateness		
	N_e	I-CVI	PC	Kappa	Evaluation	N_e	I-CVI	Evaluation	N_e	I-CVI	Evaluation
PS											
1	4	0.80	0.156	0.76	Excellent	4	0.80	Approved	4	0.80	Approved
2	5	1.00	0.031	1.00	Excellent	4	0.80	Approved	4	0.80	Approved
3	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	5	1.00	Approved
4	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	4	0.80	Approved
5	3	0.60	0.313	0.42	Fair	3	0.60		2	0.40	
6	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	3	0.60	
SM											
7	5	1.00	0.031	1.00	Excellent	4	0.80	Approved	4	0.80	Approved
8	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	5	1.00	Approved
9	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	5	1.00	Approved
10	5	1.00	0.031	1.00	Excellent	5	1.00	Approved	4	0.80	Approved
11	5	1.00	0.031	1.00	Excellent	4	0.80	Approved	4	0.80	Approved
12	4	0.80	0.156	0.76	Excellent	3	0.60		2	0.40	
Average		0.93		0.91	Excellent		0.87	Approved		0.77	

N_e, number of experts giving a rating of 3–4; I-CVI, item-level content validity index <0.78 not approved; PC, probability of chance agreement; PS, psychosocial support; SM, symptoms management. Kappa designating agreement on relevance; (I-CVI − PC)/(1 − PC): Kappa excellent > 0.74, good = 0.60–0.74, and fair = 0.40–0.59.

for relevance, clarity, and appropriateness, respectively (Table 3). Regarding item relevance, 9 of 12 items established an I-CVI value of 1.00, demonstrating a high CV. Items 1 and 12 had an I-CVI value of 0.80, demonstrating an acceptable CV. Except for 1 item (5) in the psychosocial support domain received an I-CVI value of 0.60. The excellent kappa value (0.91) indicates that the professionals' agreement on relevance was not accidental. Based on the I-CVI values, 10 of the 12 items were approved for clarity, and 9 items were approved for appropriateness.

The PCSS contained significant and necessary items, according to the content validation of the experts' comments and ratings. The items, which included many crucial aspects of PC for patients with cancer and their families, were also determined to be relevant in the Saudi health-care system. In addition, the participants found the translated PCSS to be straightforward, rational, and clear. The PCSS set of items, according to both experts and nurse participants, is appropriate for oncology nurses during PC training and educational interventions. The participants also spontaneously stated that the items about symptom management (7–12) were very important. Most believed that the PCSS could be a valuable tool because its items allow oncology nurses to reflect on their performance and information across the various PC domains. However, the professionals expressed concern about items 5, 6, and 12 with low I-CVI values. Some participants also believed that item 5 required more clarification on how and with whom oncology nurses should discuss the wishes of patients after death. There is a common belief among Saudi citizens that open discussion of end-of-life care and death wishes may cause undue distress to the patients (Baharoon et al. 2019). Because of the strong family bonds in the Saudi community, close family members act as advocates and decision-makers for seriously ill relatives; traditionally, family members represent patients in the decision-making process (Baharoon et al. 2019; Salama et al. 2021). Furthermore, as a family issue/decision-making responsibility, discussing patients'

wishes after death is uncommon with patients, and it is not a common practice for nurses in the Saudi health-care system. Due to this cultural norm, revising items 5 and 12 and involving family members in such discussions and care were important. Some difficulties developed when it was unclear how to respond to some items due to a lack of specificity or examples, such as in items 6 and 12. Participants suggested that item 6 should include examples of essential PC medications distributed in Saudi cancer care settings, and item 12 should be revised because it is described as unclear text in this context that could be difficult for oncology nurses to answer.

Some quotes from oncology nurses' interviews and expert comments are as follows:

"The scale is useful, in my opinion, and the items are relevant to PC in cancer and won't arouse any strong emotions." (Expert 2)

"Both intriguing and self-discovering. When these crucial questions are posed to you, you can discover where your knowledge is lacking." (Oncology nurse 8)

"I thought this item was too broad; how and with whom should an oncology nurse discuss wishes after deaths? There is something unclear." (Expert 5)

"What kind of coping is meant here? How can an oncology nurse cope with limited patient decision-making capacity as symptom management; this item is vague and unclear to me." (Oncology nurse 1)

Final version

Experts and nurse participants offered recommendations to make some items clearer and more appropriate; 3 items were revised in the management of symptoms (item 12) and psychosocial support (items 5 and 6) subscales. Item 6, "Answering queries about the effects of certain medications," was also provided with examples (e.g., opioids, metoclopramide, haloperidol, zolpidem, and disacodyl) to clarify what common medications could be used in Saudi hospitals, and some examples of different cancer care settings

(e.g., long-term care settings) were provided in item 4, "Discussing different healthcare options." Regarding response options, the term "close" was excluded in option 2. The term "upset" was replaced with "distressed" in item 2. In item 12, the term "coping" was replaced by "dealing," and the term "reacting to" in item 8 was changed to "monitoring." The term "coping" was replaced by "evaluate" in items 9–11. The final revised Arabic version received CVR, S-CVI, and I-CVI scores of 1.00 after considering all experts' and oncology nurse participants' recommendations. The final Arabic version of the PCSS included all original version items.

Discussion

In recent years, PC services in SA have expanded quickly, despite challenges and difficulties (Alshammaray et al. 2019). In response to the need for PC development, this study translated, adapted, and validated the first Arabic PCSS version that assesses oncology nurses' level of confidence in providing PC for patients with cancer and their families in the Saudi context. Staying as close to the original instrument as possible is critical when translating and culturally adapting an instrument. The WHO (2020) guidelines were followed during the process of translation and adaptation, which recommended using a multidisciplinary committee (health-care professionals, methodologists/researchers, and translators) to compare the back-translated version with the forward-translated and original versions. This study's committee comprised PC researchers with experience in instrument translation and development, oncology nurses, and official expert translators. The detected differences were all discussed and resolved without changing the original items' meaning. Because the PCSS was developed in Australia around 11 years ago, finding equivalent terms in Arabic proved to be a challenge during the translation and adaptation process. Translation can be a semantic challenge when 2 languages have nonequivalent idiomatic or terms of expressions, as has been addressed in earlier translation research. However, the role of a team that frequently communicated throughout the translation process, offering various perspectives to resolve inconsistencies, is a unique contribution to this work. Methodological research in the future should focus on developing systematic procedures to ensure culturally accurate and relevant translations. According to Toma et al. (2017), there is a growing demand for these procedures due to increased research in Arabic countries where tools are unavailable, as well as increased awareness of issues relating to simple forward or backward translation processes.

Cultural research suggests that when adapting the instrument from one culture to another, culture and language are 2 fundamental characteristics (Epstein et al. 2015; Geisinger and McCormick 2013). Changing formulations for some items was essential, as well as removing and replacing some terms and adding examples, in order for the PCSS to be more suitable for those administering it. Language and culture are inextricably related, as demonstrated in this study (Geisinger and McCormick 2013). No item was removed during the process of translation and cultural adaptation. The number of items is consistent with the validation studies in the original, Persian, and Swedish versions (Andersson et al. 2022; Dehghani et al. 2020; Phillips et al. 2011). After the rounds of expert assessments, the amended Arabic items received S-CVI and I-CVI scores of 1.00, and the items were improved in accordance with the experts' and oncology nurse participants' recommendations. Content and face validity confirmed the essentiality, relevance, clarity, and appropriateness of the 12 items of the scale. The PCSS is considered appropriate and usable in the Saudi cancer PC

context, according to the agreement among experts and oncology nurses. The PCSS is the first instrument to assess oncology nurses' confidence in providing PC in the Arabic-speaking population.

Assessing oncology nurses' confidence in providing PC listed in the National Consensus Project for Quality Palliative Care (2018) guidelines may help in the development of directed interventions that could improve the delivery and quality of PC to patients with cancer and their families. Nurses trained in PC were more likely to have a high level of confidence in managing symptoms and discussing end-of-life concerns with patients and families in healthcare settings (Evenblij et al. 2019). In addition, previous research has indicated that oncology nurses' confidence can be increased if they receive PC education and training (Dehghani et al. 2020; Sommerbakk et al. 2016). The PCSS has potential applications in oncology nursing education, practice, and research settings as one of the valid indicators to measure PC service quality. Many nursing studies for pre- and post-PC designing and comparing control and intervention groups for PC education have used this instrument (Dehghani et al. 2020; Joy 2015). The PCSS was evaluated for internal consistency, face, construct, and CVs in these studies. The findings indicated that the instrument was reliable and valid, with high internal consistency. In addition, Phillips et al. (2011) found that the PCSS could discriminate between nurses with different levels of education while remaining sensitive to changes over time. Given the wide range of oncology providers in health-care settings, the PCSS's ability to make this distinction was important because existing PC self-efficacy or confidence instruments were insufficiently sensitive to do so (Andersson et al. 2022).

The PCSS was translated in this study into Modern Standard Arabic, allowing Arabic speakers all over the world to understand it. It also provides an important instrument for comparison with other Arabic cultural/language groups, since the scale items, including the core PC domains, are commonly used in PC research. Although PCSS was validated in the Saudi context, it may be applicable to other Arabic-speaking countries; however, more research is needed to confirm this hypothesis because such countries have different accents, as well as cultural and linguistic differences. The limited comparability with other similarly specific instruments influenced the evaluation of this work. It should be noted that the PCSS has no other translations or adaptations in Arabic-speaking countries or Eastern Mediterranean Regions. Furthermore, the Saudi context makes it difficult to compare, albeit linguistically and culturally, the Arabic version of PCSS with instruments that assess oncology nurses' confidence in providing PC in other contexts. The instrument can be better evaluated by implementing it on a large scale to assess more specific psychometric properties (Epstein et al. 2015; Geisinger and McCormick 2013). Moreover, there were differences in the PCSS's validity and reliability as reported in previous studies, particularly when the PCSS was used in non-Arabic cultures and countries. Additional research is necessary to evaluate the PCSS in relation to other validation and psychometric tests with PC health-care professionals in various Arabic contexts to justify its use.

Study limitations

Translating a tool into a different language and culturally adapting it to a new setting takes time and necessitates a significant amount of effort from the researcher and experts or nurses who are asked to help. Nevertheless, the researcher adhered to the WHO (2020) guidelines for the translation and adaptation of instruments and did not hesitate to go deeper into issues where the context

and content required more explanation. The researcher also invited professionals who were familiar with Arabic and English, as well as the terminology of the PC in cancer, for cultural adaptation, which further ensured the process's quality. In this study, qualitative (cognitive interviewing) and quantitative (CV) methods were used to validate the PCSS. Calculating the CVR, S-CVI, I-CVI, and kappa statistics is important for the early evaluation process of a scale (Polit et al. 2007). The generalizability of the PCSS to other health-care professions is unknown and needs to be tested, although it was developed for nurses who provide PC. Another limitation is that without psychometric analysis, the PCSS cannot be accurately validated. The researcher has conducted psychometric analyses of the PCSS Arabic version among a larger sample of Saudi oncology nurses, and the results will be published.

Conclusions

In this study, the researcher found the PCSS Arabic version to be valid and suitable for assessing the confidence of oncology nurses in providing PC to patients and their families in cancer care settings in the Saudi context. Therefore, the study advances the scientific understanding of the assessment of confidence in providing PC, including symptom management and psychosocial support. Assessing oncology nurses' confidence in providing PC and developing educational interventions to increase their confidence is a critical step to expanding the utilization of PC cancer services in SA.

Additional reliable and valid language versions of the PCSS allow for international and national comparisons, which may be useful for oncology nursing administrators or managers who are accountable for the quality of PC during the strategic health-care planning process in cancer services.

Conflicts of interests. The author declares that she has no conflict of interest. The author alone is responsible for the content and writing of this article.

Ethical standards. The selected hospital provided ethical approval (Approval No. 174-22/2022). All participants provided informed consent. The study process was fully disclosed to the participants, who were free to leave the study at any time. They were also assured that the researcher would be the only one with access to their personal information and that it would be kept private.

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