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Development and psychometric properties of the Person-centered Palliative Care Nursing Instrument (PPCNI) in the Philippines

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Abstract

Background: Over the years, a few tools and instruments have been developed to assist in the assessment within a palliative care setting. However, many of these tools and instruments do not reflect a person-centered palliative care model.

Objective: This study aims to develop a Person-centered Palliative Care Nursing Instrument (PPCNI) in the Philippines.

Methods: An exhaustive search of the literature was conducted to develop a pool of items for the instrument. The validity of the instrument was evaluated using the content validity index (CVI), while the factor structure was assessed using exploratory factor analysis (EFA) using maximum likelihood estimation with Promax rotation. Also, the internal reliability was evaluated using Cronbach's alpha.

Results: EFA yielded three factors: 1) Caring as maintaining person's dignity (13 items), 2) caring as empowerment of person's autonomy (14 items), and 3) caring as understanding person's momentary concerns (10 items). Whereas the internal consistency reliability of these subscales appeared excellent (i.e., 0.95, 0.96, and 0.93, respectively), the Cronbach's alpha for the overall scale was 0.98. The item-total correlation coefficients were >0.30 for all items, ranging from 0.310 to 0.726.

Conclusion: Findings support a three-factor, 37-item PPCNI that can be used in clinical practice to ensure that nurses provide palliative care based on patient needs and preferences.

Background

The World Health Organization (WHO) defined palliative care as the prevention and relief of suffering of adult and pediatric patients and their families facing the problems associated with life-threatening illnesses (WHO, 2020). Palliative care is a crucial part of integrated, people-centered health services. Relieving serious health-related suffering, be it physical, psychological, social, or spiritual, is a global ethical responsibility (WHO, 2018).

Over the years, several tools and instruments have been developed to assess the competencies of nurses in providing palliative care (Arahata et al., 2018; Desbiens & Fillion, 2011; M Ross et al., 1996; Slåtten et al., 2014). The Agency for Healthcare Research and Quality (2016) acknowledges how these tools can aid in understanding physical symptoms, mental health conditions, caregiver outcomes, and caregiving processes for both patients and healthcare providers.

In addition, several studies surrounding palliative care and/or the instruments being used focus more on either improving the application of palliative care in the country through education or improvement of legislation and models or mostly the insufficient resources for palliative care in a country. This was the case with Silbermann (2021), who looked into community-based palliative care for chronic patients in the Philippines and identified the aforementioned improvements that needed to be made. He also discussed several programs developed over the years in the country regarding palliative care (such as the Madre de Amor Hospice Foundation).

There is also the study by Doorenbos et al. (2011) in which they explored the support of dignified dying in the country where they identified the International Classification for Nursing Practice (ICNP) had a catalog for dignified dying in palliative care that followed the dignity-conserving care model. Although countries like the Philippines are following the model, there are still many needed studies on interventions in both

developed and developing countries, as dignified dying is not and cannot be standardized based on only one culture/country (Doorenbos et al., 2011).

These studies, out of many others outside of the Philippines, concern themselves with the effectiveness of their interventions, which can cause a form of separation from the person being cared for in the realm of holism. For example, a study revealed that patients with physical illnesses or disabilities receive care focused on their compromised physical condition rather than their unique needs (Ellis, 1999). Furthermore, many of these tools and instruments are borrowed from other disciplines/professions and do not focus on person-centered palliative care.

Person-centered palliative care assumes that the patient and healthcare staff take part in a dialogue during which the patient is free to express any ideas that might help them find meaning, dignity, relief from distress, and confirmation of their values and beliefs (Österlind & Henoch, 2021). Giving the patient a chance to co-create their care increases the likelihood that the care will be person-centered and tailored to their values, beliefs, and preferences. However, there seems to be a lack of instrument that measures person-centered palliative care nursing. Hence, the development of an instrument that will focus on assessing the delivery of person-centered palliative care is imperative. This study aims to develop an instrument that will measure person-centered palliative care nursing in the Philippines.

Theoretical Framework

The 6S model for person-centered palliative care guided the development of the PPCNI (Österlind & Henoch, 2021). Österlind and Henoch (2021) identified the six concepts pivotal to their model. These included: 1) Self-image is the core concept, reflecting one's identity and related to the idea that, despite disease and death, a person should be able to maintain as positive a perspective of themselves as possible; 2) Symptom relief primarily addresses physical agony. Symptoms are a major factor in why persons with illness seek medical attention, so it makes sense that they discuss their symptom experiences with healthcare providers; 3) Social needs, such as the need for companionship, are reflected in their social relationships; 4) The Synthesis and selection of; 5) Strategies reflect existential and spiritual requirements. This may include decisions about how to die where such options are available; 6) Self-determination represents an individual's psychological demands, including actively participating in life and shaping their own course for the afterlife. This model allowed the investigators to focus on healthcare providers/members and their competency in palliative care as the 6S model aims to maximize a person's chances of living out their remaining days, however brief or protracted, as fully as possible while being person-centered palliative care.

Methods

The instrument development study consisted of two phases: Phase 1 involved the development of the scale items and evaluation by an expert panel, and Phase 2 involved the psychometric evaluation of the instrument (DeVellis, 1991).

Phase 1: Instrument Development

Step 1. Determination of the construct

The researchers used the 6S model for person-centered palliative care (Österlind & Henoch, 2021) as the framework for the instrument. Thus, the 6S model was used to organize the items that were pulled from the literature in Step 2, including 1) Self-image, 2) Symptom relief, 3) Social relations, 4) Synthesis, 5) Strategies, and 6) Self-determination.

Step 2. Item generation

To generate items for the instrument, a comprehensive search of published literature was conducted using online resources like ScienceDirect, ProQuest, EBSCO, Google Scholar, and PubMed. Keywords used included "palliative care," individualized care," "person-centered care," "patient-centered care," "knowledge," "skills," "practice," and "competencies." Delimiting the review to works published between 2015 and 2022 produced 62 items, the first version of the scale.

Step 3. Content validity

A panel of ten experts from the Philippines, United States, and Sweden with doctoral degrees in nursing, education, and psychology were consulted to provide data on the face and content validity of the 62-item PPCNI. For face validity, the first version of the scale was emailed to the expert, who was asked to rate the instrument for clarity and comprehension. A total of three rounds of review were conducted. The items that were vague to understand, as well as items that conveyed similar meanings, were deleted. Also, the wording of each item was checked and revised accordingly to increase clarity. This step reduced the PPCNI to 46 items, which reflected the 6S model as follows: self-image (9 items), synthesis (8 items), strategies (7 items), social relations (8 items), symptom relief (6 items), and self-determination (8 items). To establish content validity, the panel was simultaneously asked to rate the relevance of each item (62 items) on a scale of 1 (*not relevant at all*) to 4 (*very relevant*). Then, the Item-content validity index (I-CVI) and the scale-content validity index (S-CVI) were calculated. The I-CVI of the items (0.8 to 1.0) was higher than the recommended value of higher than 0.70 (Davis, 1992). Similarly, the S-CVI was 0.98, also considered within the acceptable value of higher than 0.80 (Polit & Beck, 2010).

Step 4. Pilot-testing (pretesting)

Pilot testing was conducted to assess the scale under circumstances corresponding to those expected during later trials (DeVellis, 1991). According to Burns and Grove (2005), the scale should be given to between 15 and 30 subjects. Thus, 40 nurses employed in Filipino medical-surgical and critical care units were requested to answer an anonymous online survey that comprised 46 items; 34 returned completed surveys were then analyzed. The respondents completed the survey within 15 minutes and found the items easy to understand. The sample for the pilot test was made up of 59% females and 41% males, with a mean age of 33 and a mean experience in hospitals of 6 years. Seven respondents worked in an intensive care unit, whereas 27 respondents worked in a medical-surgical unit (79%).

Phase 2: Psychometric Evaluation

A cross-sectional survey with a larger sample of nurses was conducted to evaluate the psychometric properties of the refined (46-item) PPCNI. Descriptive analyses of each item and its distribution among the dimensions of the 6S model were examined. Next, the exploratory factor analysis (EFA) was conducted, and Cronbach's alpha coefficient of the factors identified in the EFA was calculated.

Population and setting

A sample of nurses was recruited to complete the PPCNI and demographic questions. The desired sample size was based on the recommendations for the item-to-response ratio ranging from 1:4 (Rummel, 1988) to 1:10 (Nunnally, 1978). Thus, 400 participants were the minimum sample size sought. The sample included critical care and medical-surgical nurses working in selected hospitals in the Philippines. The inclusion criteria for these nurses were: a) employment in a medical-surgical unit or critical care unit in a Philippine hospital; b) at least one year of hospital experience; c) willingness to participate in the study; d) eligibility to complete the questionnaire. Exclusion criteria included those without direct patient contact or less than one year of hospital experience.

Procedure for data collection

The 46-item PPCNI was administered to the participants, which included questions on the demographic characteristics (age, marital status, religion, years of experience as a registered nurse, experience caring for terminally ill patients, educational background, palliative care training, and areas of assignment). Data collection was conducted from February to April 2023. A letter of permission to collect survey data was submitted to the Critical Care Nurses Association of the Philippines, Inc. (CCNAPi), a national organization of nurses in the Philippines that is one of the pioneers in Palliative and End-of-Life Care nursing practice in the country. After securing permission to conduct the research, the researchers coordinated with the organization regarding the data collection process for the participants. The Survey Monkey© platform was used for data collection. The data were gathered at the annual conference of the said organization, in which a QR code and a shortened link were shown on the screen, and nurses were invited to take the survey. Pertinent information regarding the study was presented on the first page of the survey. Afterward, a section asking for participants' consent to participate in the study was shown. If the participants decided not to participate in the study, the anonymous survey automatically ended, whereas if the participants decided to participate, they were asked to provide their demographic data as well as answer the items in the instrument. The next step was to ask participants to rate each item on a 5-point Likert scale, with 1 denoting "strongly disagree," 2 "disagree," 3 "neither agree nor disagree," 4 "agree," and 5 denoting "strongly agree."

Ethical consideration

The study was granted an ethical clearance from San Beda University- Research Ethics Board (SBU-REB-2022-018). The purpose of the study, inclusion criteria, and benefits and risks were explained in the informed consent.

Data analysis

IBM SPSS version 27 was used to analyze the data. The Kaiser-Meyer-Olkin (KMO) test was used to assess sampling adequacy prior to EFA, with values >0.6 regarded as favorable (Li & Lopez, 2007). The null hypothesis that the variables were not associated with the population (p <0.05) was investigated using Bartlett's sphericity test (Tabachnick & Fidell, 2007). For EFA, the factors were examined using maximum likelihood estimation with Promax rotation, and factors with eigenvalues greater than 1.0 were considered. Factor loading coefficients of 0.40 and higher were recognized as the criterion for retention. Cronbach's alpha coefficient and the item-total correlations were used to evaluate the internal consistency.

Results

Demographic Characteristics of the Participants

In the actual survey, 686 nurses answered the survey; however, only 414 nurses completed filled-up the online survey (completed response rate = 60.35%). The participant's demographic details are shown in **Table 1**. The participants' average age was 35.72 (7.38); they were predominantly women (71.3%), unmarried (50.2%), Catholic (75.6%), and 75% had bachelor's degrees. Most of the nurses (55.8%) work in private hospitals. Furthermore, the mean years of hospital experience was 9.86 (±6.39), and the mean years of caring for patients with terminally ill was 5.50 (±5.38). About 81.6% had no palliative care experience, and the majority were assigned to the intensive care unit (47.3%).

Table 1 Respondents' demographic characteristics (*n* = 414)

Characteristics	f	%	Mean (SD)
Age (Years)			35.72 (±7.38)
Gender			
Male	119	28.7	
Female	295	71.3	
Civil Status			
Single	208	50.2	
Married	206	49.8	
Religion			
Catholic	321	75.6	
Christian	93	24.4	
Education Attainment			
Bachelor's level	313	75.6	
Master's level	101	24.4	
Years of Hospital Experience			9.86 (±6.39)
1 to 5 years	116	28.0	
6 to 10 years	137	33.1	
11 to 15 years	161	38.9	
Years of Caring for Terminally Ill			5.50 (±5.38)
1 to 5 years	260	62.8	
6 to 10 years	99	23.9	
11 to 15 years	55	13.3	
With Palliative Care Training			
Yes	76	18.4	
No	338	81.6	
Type of Hospital			
Public	183	44.2	
Private	231	55.8	
Area of Assignment			
Medical-Surgical Ward	96	23.2	
ICU	196	47.3	
Other Special Areas (NICU, PICU)	122	29.5	

*NICU- Neonatal Intensive Care Units; PICU-Pediatric Intensive Care Unit

Results of EFA of the PPCNI
Before performing EFA, assumption testing was performed. First, the dataset is suitable for the reduction technique as the Bartlett test of sphericity was highly significant (p <0.001). Second, factor analysis was appropriate for these data, with a KMO value of 0.980.

The result of EFA using maximum likelihood estimation with Promax rotation is shown in **Table 2.** A Promax rotation was used as the factor correlation matrix yielded a correlation value of 0.728 to 0.791, which exceeded the value of <0.32 needed for orthogonal rotation (Tabachnick & Fidell, 2007). A total of three factors with eigenvalues greater than 1 were extracted. These factors explained 63.19% of the total cumulative variance in 37 of the 46 items. The extracted factors were as follows: Factor 1- Caring as maintaining person's dignity (13 items); Factor 2- Caring as empowerment of person's autonomy (14 items); and Factor 3- Caring as understanding person's momentary concerns (10 items).

Six items were deleted for having a factor loading of <0.40 (Items 20, 22, 23, 26, 28, and 30). The choice of an acceptable value to assess whether an item has "loaded" on a factor is a crucial component in EFA. The "rule of thumb" threshold for this judgment is commonly believed to be loadings of 0.30 or 0.40 and higher (Portney & Watkins, 2000). Choosing the right cutoff point could result in various evaluations of the instrument. More items that load on at least one component would result in a value of 0.30, but there would also be more items that cross-load. Therefore, a value of 0.40 was used in this study. Overall, the factor loadings of the instruments ranged from 0.41 to 0.96. On the other hand, three items (Items 31, 35, and 46) were deleted for loading in more than one factor. Costello and Osborne (2005) recommended deleting problematic items, such as those that load in more than one factor. The item-total correlation coefficients were >0.30 (Ferketich, 1991) for all items, from 0.310 to 0.726.

Reliability Results of the PPCNI
The Cronbach's alpha coefficient for the total scale was 0.977, and the coefficients for each of the corresponding factors were 0.953 for Factor 1, 0.961 for Factor 2, and 0.932 for Factor 3.

Distribution of Items based on 6S Model with PPCNI
Table 2 shows the distribution of the items based on the 6S model with the three factors in PPCNI. The first factor, Caring as maintaining person's dignity, has nine items from Self-image and three from Synthesis. The second factor, Caring as empowerment of person's autonomy, contains seven items from Self-determination, four from Symptom Relief, and three from Social Relations. The last factor, Caring as understanding person's momentary concerns, has eight items from Synthesis, one from Strategies, and one from Social Relations.

Discussion

The study was conducted to develop a valid and reliable instrument that measured the delivery of person-centered palliative care nursing. The methodology conforms to the standards found in the literature. For instance, the KMO value was 0.980; Li and Lopez (2007) suggested an acceptable value of 0.60; hence, the sample size for this factor analysis is deemed sufficient. In addition, the value of Bartlett's test of sphericity was p <0.001 (Tabachnick & Fidell, 2007), which denotes that a significant correlation exists among the items.

The study found that three factors supported the provision of person-centered palliative using Promax rotation, explaining 65.64% of the variance. Factors that explained variances of 40% to 80% in multifactorial patterns are considered sufficient (Chan & Idris, 2017). Factor 1 includes nursing actions that promote and maintain the patient's dignity as a person. In vulnerable circumstances, due to serious illness or frailty, the patient becomes dependent on others (Barclay, 2016), such as healthcare professionals. Being reliant on others can lead to a loss of self-respect and guilt, which impact how one views themselves and choose to live their lives. This can also have an impact on the likelihood of having a good death (Österlind & Henoch, 2021). Hence, it is important that dignity-conserving actions should be observed by providing palliative care, as this can mitigate suffering in end-of-life illness and death (Staats et al., 2020). The items in this factor capture dignity-conserving practices. As dignity is subjectively experienced and each patient is unique, it is important that healthcare professionals use a holistic approach to assess each of the person's concerns and aim to meet these accordingly, using discretion as to what is appropriate when providing care for patients of various ages, cultures, and religions (Kennedy, 2016).

Factor 2 involves nursing actions that promote the other person's sense of autonomy and in the process foster their empowerment. It focuses on making the person an active participant in their care and the central agent in their meaning-making within their own experience. According to Houska and Loučka (2019), preserving autonomy involves more than just making decisions about the patient's treatment and care; instead, a focus should be made on helping the patient with daily tasks, making a contribution to society, and actively preparing for death. However, it appears that this autonomy is constrained to various elements, including their state of health and their capacity for decision-making. As a result, there is evidence to support the idea that patient autonomy is a shared responsibility between the patient, caregivers, and professionals (Gaspar et al., 2019). Thus, nurses are crucial in fostering communication to identify situations endangering a person's autonomy and act to inform them so they can become active agents in their treatment. They also mediate and enable team care planning (Hahlweg et al., 2017; Wilson et al., 2014).

Factor 3 involves nursing actions that answer the other person's various momentary concerns (needs). These concerns are ever-changing and are prioritized by the other person. Actions within this factor ensure that the encounter between the nurse and the other person is appreciated as a caring moment. Physical, spiritual, and psychosocial suffering are among the extreme symptoms that patients who are near death may experience. One of the objectives of palliative care is to control these symptoms while enhancing the quality of life throughout the dying process (Kuebler et al., 2007). Effective pain and symptom management, avoiding prolongation of the dying process, achieving self-control, discovering meaning in life, and reducing the caregiving burden on family and loved ones while enhancing and completing those same relationships are all essential for seriously ill patients (Singer et al., 1999). Hence, it is important that nurses prioritize primary palliative care interventions at this time, and restorative care should be decreased.

Table 2 Distribution of items based on the 6S model with factor names of PPCNI and rotated factor loadings (*n* = 414)

6S	Item No	Item Statements	Mean	SD	Factor Loading
		Factor 1: Caring as maintaining person's dignity			
A	5	The nurse sees the person as a unique and individual person.	4.68	0.66	0.889
A	4	The nurse collaborates with the person, their significant other, and other members of the healthcare team on matters relevant to the optimum care and wellbeing of the person.	4.60	0.71	0.846
A	6	The nurse ensures the person's wishes are respected and maintained.	4.58	0.68	0.828
C	21	The nurse respects family members' thoughts and feelings.	4.58	0.68	0.802
A	2	The nurse uses appropriate communication skills to better understand the person's thoughts and feelings about being dependent on others.	4.55	0.80	0.759
A	8	The nurse encourages the person to communicate and be understood in their preferred language.	4.51	0.71	0.692
A	3	The nurse expresses their authentic presence when there is perceived suffering from the other person.	4.34	0.77	0.690
E	34	The nurse provides comfort measures as needed by the person.	4.57	0.68	0.678
A	9	The nurse's comportment conveys a sense of empathy.	4.44	0.71	0.677
A	7	The nurse is perceptive to the other person's concerns.	4.43	0.71	0.546
C	24	The nurse provides time to allow for the spiritual needs and expressions of the person.	4.45	0.68	0.551
A	1	The nurse adjusts the activities of the person based on the person's momentary capacity and priorities.	4.27	0.84	0.427
C	18	The nurse considers the concern of person in planning care.	4.49	0.71	0.417
		Initial eigenvalue of variance = 26.38%; Cumulative proportion of variance = 56.539%			
		Cronbach's alpha coefficient = 0.953			
		Factor 2: Caring as empowerment of person's autonomy			
F	41	The nurse empowers the person to choose who can decide in their place if they cannot decide for themselves anymore.	4.33	0.76	0.961
F	42	The nurse ensures the active participation of the other person in their end-of-life discussion.	4.35	0.74	0.846
F	39	The nurse allows the other person to choose freely the care that they deem appropriate for them.	4.33	0.77	0.761
F	44	The nurse ensures that the other person is involved in all decision-making process at the level of involvement they want to.	4.40	0.70	0.742
F	43	The nurse presents all possible care options and respects the person's choice or non-acceptance of these.	4.43	0.72	0.696
F	45	The nurse ensures that the other person is competent, fully informed, and voluntarily gives their consent for their care.	4.56	0.69	0.680
E	37	The nurse understands that the other person might refuse symptom management plans because of personal, social, or cultural beliefs and preferences.	4.42	0.71	0.628
F	40	The nurse supports the person's choices of both traditional and alternative therapies (e.g., acupuncture, relaxation, hypnosis, etc.).	4.20	0.83	0.623
D	32	The nurse provides the person and significant others the necessary information about End-of-Life care and plans.	4.33	0.78	0.579
E	36	The nurse perceives non-verbal cues, which might suggest that the other person is experiencing pain.	4.49	0.71	0.577
E	38	The nurse educates the other person about the treatment modalities benefits and risks, including common side effects and possible adverse reactions.	4.48	0.66	0.551
E	33	The nurse continuously assesses the other person's condition	4.49	0.73	0.477
D	29	The nurse promotes spending time between the person and their significant others.	4.43	0.70	0.466
D	25	The nurse provides assistance to the person's family or friends with his/her care when needed.	4.44	0.72	0.414
		Initial eigenvalue of variance = 2.17%; Cumulative proportion of variance = 3.902%			
		Cronbach's alpha coefficient = 0.961			
		Factor 3: Caring as understanding person's momentary concerns			
B	13	The nurse discusses how the other person's beliefs and practices affect their views on death.	4.08	0.88	0.864
B	17	The nurse provides dialogue with the person's family on how they feel that day in order to get them to think about life.	4.18	0.77	0.795
B	12	The nurse offers a conversation with the other person regarding what spiritual practices are meaningful to them at this time.	4.17	0.87	0.779
B	11	The nurse clarifies with the other person if their religious or spiritual beliefs have been stronger during times of their illness.	4.17	0.83	0.706
B	16	The nurse dialogues with the other person on topics that the other person deemed necessary for self-reflection about the meaning of life.	4.21	0.77	0.704
B	10	The nurse provides an avenue for dialogue with the other persons on how their life has been so far.	4.27	0.76	0.667
D	27	The nurse facilitates the transition of the person's significant others toward a life without the person.	3.97	0.91	0.637
C	19	The nurse discusses with the person the benefits of talking to people who share their religious or spiritual beliefs.	4.21	0.80	0.578
B	14	The nurse enables the person to express their feelings regarding their significant other's acceptance of the situation.	4.37	0.70	0.531
B	15	The nurse uses compassionate language that allows the person and their significant others discussion on death and dying.	4.43	0.73	0.408
		Initial eigenvalue of variance =1.65%; Cumulative proportion of variance = 2.751%			
		Cronbach's alpha coefficient = 0.932			
		Overall Cronbach's alpha coefficient = 0.977			

*Promax with maximum likelihood estimation
6s model items: A- Self-image; B- Synthesis; C- Strategies; D- Social Relations; E- Symptom Relief; F- Self-determination

Relationship between the 6s Model and PPCNI

The 6s model (Österlind & Henoch, 2021) served as the primary source of concepts from where the initial questions were developed and later validated and tested. The 6S model was chosen because it represents a model based on the person, the philosophy of palliative care, and the WHO definition of palliative care, which is not present in other frameworks available in the literature.

In Factor 1, most of the items were from Self-image, which is the central concept of the 6S model. However, at the end of life, Self-image is threatened (Andershed & Ternestedt, 2001). Dying persons often expressed their fear of losing their identity as a result of the illness (Gillies & Johnston, 2004). Therefore, if nurses are to adopt the idea of self-image in their context of caring, it should be more verbalized and considered. There would be greater potential to support person-centered care and make identity-promoting strategies visible if the multifaceted facets of the concept of self-image could be explored. This is crucial in palliative care because the foundation of self-image can be destroyed (Jeppsson & Thomé, 2015). Furthermore, after learning about the patient's key characteristics, beliefs, and requirements for how everyday life can be preserved, healthcare providers can personalize the care to help the person in order to keep their self-image and identity (Österlind & Henoch, 2021).

Factor 2 contains items from Self-determination, Symptom Relief, and Social Relations of the 6S model. When there is an imbalance, and the patient requires more assistance than they can provide for their immediate family, they may feel like a burden. Being a burden to others can result in a diminished sense of dignity and guilt that affect one's self-image and self-determination and, consequently, the likelihood of a good death (Österlind & Henoch, 2021). Therefore, it is crucial that the individual is seen as both a recipient of care and an active, capable partner with capacities and wishes (Schenell et al., 2020). Since, it has been found that self-reliance and having control over daily activities are crucial for a person's feelings of independence and self-determination (Nakrem et al., 2011).

Most of the items in the last factor are taken from the Synthesis of the 6S model. The existential issue is addressed by both Synthesis and Strategies, which may become more apparent as one approaches death. These ideas are intertwined, with synthesis involving summarizing one's own life in the past and considering events and experiences, and strategies involving looking ahead and considering the life still to come (Österlind & Henoch, 2021). However, spiritual and existential needs are frequently overlooked in palliative care (Nolan et al., 2011). This is worrisome because it can have a significant impact on the well-being of family members, causing them to become aware of the loss, which can lead to grief, depression, and anxiety (Kristjanson & Aoun, 2004; Tanyi, 2006). Hence, it is essential to provide spiritual and existential support to alleviate the dying patient's death anxiety and distress, which in turn can lead to a peaceful and harmonious death (Tornøe et al., 2015).

The three factors of the PPCNI align themselves with the original two implied assumptions of the 6S model: that caring is perceived as gestalt, that is, it is seen as a combination of professional and human caring (Martinez, 2023), and that person-centered care involves responding to both predictive needs based on the progression of patient's condition and unpredictable, unique momentary concerns of the person and their significant others (Rogers, 1992). For this reason, the concept originally present in the 6S model is subsumed as a unified system of the three factors of the PPCNI rather than fragmented to fit into specific categories.

Implications for Nursing Education and Practice

The development of PPCNI provides evidentiary support to the continued global trend in nursing education of making person-centered care explicit in the curriculum (Hagelin et al., 2016; Hagelin et al., 2022; Österlind & Henoch, 2021). Further, PPCNI serves as an essential tool as palliative care becomes one of the essential spheres of care for nurses (American Association of Colleges of Nursing, 2021) and is gaining importance in the contemporary post-COVID era. For nursing practice, the scale can be used for in-service education in person-centered palliative care in countries with limited palliative care experience. Also, it can be used as a checklist for clinical nurses to objectively evaluate their own behavior in providing person-centered palliative care.

Limitations and Recommendations

Although this study offers a novel means for describing person-centered palliative care nursing, it has some limitations. First, since the study was carried out in the Philippines, it is uncertain whether the conclusions may be applied to other countries. Next, the study employed medical-surgical and critical care nurses connected in a nursing organization in the Philippines; hence, it is possible that selection bias affected the results. Third, the participants were mostly Catholic and Christian, and perspectives from other religious groups may not have been captured. Future studies may be conducted to measure the provision of person-centered palliative care nursing in other healthcare settings.

Conclusion

Based on the results of the EFA, the study confirmed that the 37-item PPCNI demonstrates adequate psychometric properties by showing acceptable values for its validity and reliability, which can be used in measuring nurses' perceptions of person-centered palliative care. This is helpful in the clinical setting, especially in ensuring that nurses base the patient's care on those needs and preferences.

Declaration of Conflicting Interest

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Authors' Contributions

All the authors have contributed substantially to the conceptualization, data collection, and interpretation. The final version of the manuscript was read and approved by all authors, who agreed to be accountable for all aspects of the work and ensure that any concerns about the accuracy or integrity of any part of the work are appropriately addressed. All authors drafted the manuscript and critically revised it for intellectual content.

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Data Availability

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and ethical restrictions.

Declaration of Use of AI in Scientific Writing

Nothing to declare.

References

Agency for Healthcare Research and Quality. (2016). *Assessment tools for palliative care*. https://effectivehealthcare.ahrq.gov/products/palliative-care-tools/research-protocol

American Association of Colleges of Nursing. (2021). *The essentials: Core competencies for professional nursing education*. https://www.aacnnursing.org/Portals/0/PDFs/Publications/Essentials-2021.pdf

Andershed, B., & Ternestedt, B. M. (2001). Development of a theoretical framework describing relatives' involvement in palliative care. *Journal of Advanced Nursing*, *34*(4), 554-562. https://doi.org/10.1046/j.1365-2648.2001.01785.x

Arahata, T., Miyashita, M., Takenouchi, S., Tamura, K., & Kizawa, Y. (2018). Development of an instrument for evaluating nurses' knowledge and attitude toward end-of-life care: End-of-Life Nursing Education Consortium--Japan Core Quiz. *Journal of Hospice & Palliative Nursing*, *20*(1), 55-62. https://doi.org/10.1097/NJH.0000000000000393

Barclay, L. (2016). In sickness and in dignity: A philosophical account of the meaning of dignity in health care. *International Journal of Nursing Studies*, *61*, 136-141. https://doi.org/10.1016/j.ijnurstu.2016.06.010

Burns, N., & Grove, S. K. (2005). *The practice of nursing research: Conduct, critique and utilization* (5th ed.). Missouri: Elsevier Saunders.

Chan, L. L., & Idris, N. (2017). Validity and reliability of the instrument using exploratory factor analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences*, *7*(10), 400-410. http://dx.doi.org/10.6007/IJARBSS/v7-i10/3387

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, *10*(1), 7. https://doi.org/10.7275/jyj1-4868

Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, *5*(4), 194-197. https://doi.org/10.1016/S0897-1897(05)80008-4

Desbiens, J.-F., & Fillion, L. (2011). Development of the palliative care nursing self-competence scale. *Journal of Hospice & Palliative Nursing*, *13*(4), 230-241. https://doi.org/10.1097/NJH.0b013e318213d300

DeVellis, R. F. (1991). *Scale development: Theory and applications*. Newbury Park, CA: Sage.

Doorenbos, A. Z., Perrin, M. E., Eaton, L., Abaquin, C., Balabagno, A. O., Rue, T., & Ramos, R. (2011). Supporting dignified dying in the Philippines. *International Journal of Palliative Nursing*, *17*(3), 125-130. https://doi.org/10.12968/ijpn.2011.17.3.125

Ellis, S. (1999). The patient-centred care model: Holistic/multiprofessional/reflective. *British Journal of Nursing*, *8*(5), 296-301. https://doi.org/10.12968/bjon.1999.8.5.6677

Ferketich, S. (1991). Focus on psychometrics. Aspects of item analysis. *Research in Nursing & Health*, *14*(2), 165-168. https://doi.org/10.1002/nur.4770140211

Gaspar, R. B., Silva, M. M. d., Zepeda, K. G. M., & Silva, Í. R. (2019). Nurses defending the autonomy of the elderly at the end of life. *Revista Brasileira de Enfermagem*, *72*, 1639-1645. https://doi.org/10.1590/0034-7167-2018-0768

Gillies, B., & Johnston, G. (2004). Identity loss and maintenance: Commonality of experience in cancer and dementia. *European Journal of Cancer Care*, *13*(5), 436-442. https://doi.org/10.1111/j.1365-2354.2004.00550.x

Hagelin, C. L., Melin-Johansson, C., Henoch, I., Bergh, I., Ek, K., Hammarlund, K., Prahl, C., Strang, S., Westin, L., & Österlind, J. (2016). Factors influencing attitude toward care of dying patients in first-year nursing students. *International Journal of Palliative Nursing*, *22*(1), 28-36. https://doi.org/10.12968/ijpn.2016.22.1.28

Hagelin, C. L., Melin-Johansson, C., Ek, K., Henoch, I., Österlind, J., & Browall, M. (2022). Teaching about death and dying—A national mixed-methods survey of palliative care education provision in Swedish undergraduate nursing programmes. *Scandinavian Journal of Caring Sciences*, *36*(2), 545-557. https://doi.org/10.1111/scs.13061

Hahlweg, P., Didi, S., Kriston, L., Härter, M., Nestoriuc, Y., & Scholl, I. (2017). Process quality of decision-making in multidisciplinary cancer team meetings: A structured observational study. *BMC Cancer*, *17*(1), 1-11. https://doi.org/10.1186/s12885-017-3768-5

Houska, A., & Loučka, M. (2019). Patients' autonomy at the end of life: A critical review. *Journal of Pain and Symptom Management*, *57*(4), 835-845. https://doi.org/10.1016/j.jpainsymman.2018.12.339

Jeppsson, M., & Thomé, B. (2015). How do nurses in palliative care perceive the concept of self-image? *Scandinavian Journal of Caring Sciences*, *29*(3), 454-461. https://doi.org/10.1111/scs.12151

Kennedy, G. (2016). The importance of patient dignity in care at the end of life. *The Ulster Medical Journal*, *85*(1), 45-48.

Kristjanson, L. J., & Aoun, S. (2004). Palliative care for families: Remembering the hidden patients. *The Canadian Journal of Psychiatry*, *49*(6), 359-365. https://doi.org/10.1177/070674370404900604

Kuebler, K. K., Heidrich, D. E., & Esper, P. (2007). *Palliative & end-of-life care: Clinical practice guidelines*. St. Louis, MO: Saunders/Elsevier.

Li, H. C. W., & Lopez, V. (2007). Development and validation of a short form of the Chinese version of the State Anxiety Scale for Children. *International Journal of Nursing Studies*, *44*(4), 566-573. https://doi.org/10.1016/j.ijnurstu.2005.12.004

M Ross, M., McDonald, B., & McGuinness, J. (1996). The palliative care quiz for nursing (PCQN): The development of an instrument to measure nurses' knowledge of palliative care. *Journal of Advanced Nursing*, *23*(1), 126-137. https://doi.org/10.1111/j.1365-2648.1996.tb03106.x

Martinez, R. C. K. (2023). Caring-based curriculum design in helping & healing profession and discipline: Theoretical integration and pedagogical innovation in an undergraduate nursing curriculum. *OSF Preprints*. https://doi.org/10.31219/osf.io/543wr

Nakrem, S., Vinsnes, A. G., & Seim, A. (2011). Residents' experiences of interpersonal factors in nursing home care: A qualitative study. *International Journal of Nursing Studies*, *48*(11), 1357-1366. https://doi.org/10.1016/j.ijnurstu.2011.05.012

Nolan, S., Saltmarsh, P., & Leget, C. (2011). Spiritual care in palliative care: Working towards an EAPC Task Force. *European Journal of Palliative Care*, *18*(2), 86-89.

Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.

Österlind, J., & Henoch, I. (2021). The 6S-model for person-centred palliative care: A theoretical framework. *Nursing Philosophy*, *22*(2), e12334. https://doi.org/10.1111/nup.12334

Polit, D. F., & Beck, C. T. (2010). *Essentials of nursing research: Appraising evidence for nursing practice* (7th ed.). Philadelphia: Lippincott Williams & Wilkins.

Portney, L. G., & Watkins, M. P. (2000). *Foundations of clinical research: Applications to research* (2nd ed.). Upper Saddle River: Prentice Hall Health.

Rogers, M. E. (1992). Nursing science and the space age. *Nursing Science Quarterly*, *5*(1), 27-34. https://doi.org/10.1177/089431849200500108

Rummel, R. J. (1988). *Applied factor analysis*. USA: Northwestern University Press.

Schenell, R., Ozanne, A., Strang, S., & Henoch, I. (2020). To make and execute decisions throughout life: A person-centred model that facilitates self-determination in residential care, developed through participatory research. *Applied Nursing Research*, *55*, 151318. https://doi.org/10.1016/j.apnr.2020.151318

Silbermann, M. (2021). *Palliative care for chronic cancer patients in the community: global approaches and future applications*. Switzerland Springer. https://doi.org/https://doi.org/10.1007/978-3-030-54526-0

Singer, P. A., Martin, D. K., & Kelner, M. (1999). Quality end-of-life care: Patients' perspectives. *JAMA*, *281*(2), 163-168. https://doi.org/10.1001/jama.281.2.163

Slåtten, K., Hatlevik, O., & Fagerström, L. (2014). Validation of a new instrument for self-assessment of nurses' core competencies in palliative care. *Nursing Research and Practice*, 615498. https://doi.org/10.1155/2014/615498

Staats, K., Grov, E. K., Husebø, B. S., & Tranvåg, O. (2020). Dignity and loss of dignity: Experiences of older women living with incurable cancer at home. *Health Care for Women International*, *41*(9), 1036-1058. https://doi.org/10.1080/07399332.2020.1797035

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (7th ed.). New York: Allyn & Bacon/Pearson Education.

Tanyi, R. A. (2006). Spirituality and family nursing: Spiritual assessment and interventions for families. *Journal of Advanced Nursing*, *53*(3), 287-294. https://doi.org/10.1111/j.1365-2648.2006.03731.x

Tornøe, K. A., Danbolt, L. J., Kvigne, K., & Sørlie, V. (2015). The challenge of consolation: Nurses' experiences with spiritual and existential care for the dying-a phenomenological hermeneutical study. *BMC Nursing*, *14*(1), 1-12. https://doi.org/10.1186/s12912-015-0114-6

WHO. (2018). *Integrating palliative care and symptom relief into primary health care: A WHO guide for planners, implementers, and managers*. https://www.who.int/publications/i/item/integrating-palliative-care-and-symptom-relief-into-primary-health-care

WHO. (2020). *Definition of palliative care/WHO Definition of palliative care for children*. WHO. http://www.who.int/cancer/palliative/definition/en/

Wilson, F., Ingleton, C., Gott, M., & Gardiner, C. (2014). Autonomy and choice in palliative care: Time for a new model? *Journal of Advanced Nursing*, *70*(5), 1020-1029. https://doi.org/10.1111/jan.12267