ORIGINAL PAPER

HOLISTIC MODEL OF PALLIATIVE CARE IN HOSPITAL AND COMMUNITY NURSING:
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Abstract

Aim: In our research we wanted to propose a holistic model of palliative care from the perspective of nurses. Additionally, we compared the presence of specific aspects of palliative care (psychological, physical, social and spiritual) in hospitals and the community/home environment. **Design:** A quantitative cross-sectional study was used. **Methods:** The sample consisted of 127 nurses (92 hospital nurses, 35 community nurses). The proposed model was tested using a specific method of structural equation modeling (SEM) known as partial least squares (PLS). **Results:** Our research confirmed that physical aspects are influenced both by psychological and spiritual aspects, whereas social aspects have only an indirect influence. We detected a statistically significant difference between the hospital and the community environment regarding the impact of psychological aspects on social aspects, and of psychological aspects on physical aspects. **Conclusion:** Our research highlighted the professional shortcomings of the holistic approach in palliative care as it stands, especially in the community care setting, where it is necessary to ensure in-depth knowledge and skills, and practice within each holistic domain to provide quality treatment to palliative patients.

Keywords: holistic model, home environment, hospital setting, palliative care.

Introduction

Each individual is well aware of the fact that one day their life will come to an end due to old age, and for many, unfortunately, even much sooner due to incurable disease. Everyone would prefer a peaceful, painless, and dignified death. The development of healthcare has improved the quality of our lives; many illnesses can be prevented or healed; yet dying itself has become more difficult. Care at the end of a person's life is very important, and palliative care services strive to allow people to live and die well in their chosen environment (Healy et al., 2013). The World Health Organization (2005) defines palliative care as an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness through the prevention and relief of suffering by means of early identification, impeccable assessment, and the treatment of pain and other problems.

In Slovenia, palliative care is not yet legally regulated. However, on the recommendation of the European Council, the Ministry of Health has appointed two working groups to develop a national program of palliative care. With the concept of establishing an objective baseline for the implementation of palliative care in mind, they have set out the actions necessary to take for the establishment of the national plan (Krčevski Škvarč, 2008). Nevertheless, to date, the national program has still not been adopted.

Indirect indicators of the development of palliative care, such as consumption of morphine, the number of beds on palliative wards, existence of a home palliative care network, education in undergraduate studies, and all research carried out in this field place Slovenia as one of the least developed in Europe. The reasons for this are likely to be complex: historical, cultural, and also financial (Lunder, Logar, 2003).

The philosophy of palliative care is holistic, paying attention to the multidimensional aspects of individuals as a whole (Mok, Wong, Wong, 2010). Palliative care focuses on the uniqueness of each individual, and satisfies the physical, psychological,

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social, cultural, and spiritual needs of patients (Wu, Volker, 2012). However, patients are, in most cases, still treated as the sum of their symptoms – as walking diagnoses (Filej, 2011), and, therefore, it is extremely difficult to speak of the holistic treatment of patients in palliative care. Lunder (2011) states that the majority of healthcare professionals tend to be predominantly focused on technical challenges and solutions; little time is left for them to listen to the holistic needs of patients or their families.

Holistic treatment is a complex, integrated process that depends on many elements (McIlfatrick, Hasson, 2014). Selman et al. (2014) state that spiritual models are considered only after biopsychosocial models, and as “luxury” components. They are the least-mentioned, least well-developed, and least evidence-based domain of care. Spirituality has been defined as a human quality derived from social and cultural environments. Spiritual needs are much broader and more personal than adherence to any religious persuasion (Touhy, Jett, 2010). Mok, Wong, Wong, (2010) echo the opinion of many authors that spirituality is one of the dimensions upon which holism is based, and that the resources for spirituality are within the self and beyond the self, and include religion, God, heaven, nature and relationships with people, especially one’s family.

Nursing care should be “holistic” by nature, as it regards the person as a whole, taking into account the interconnection of the body, mind and spirit. It emphasizes the importance of physical and psychological well-being, as well as sociocultural influences in a perpetually changing environment (McEvoy, Duffy, 2008).

Each individual has unique life experiences, and due to this fact must be seen holistically, through the lens of their time, place, culture, gender, and personal history (Touhy, Jett, 2010). Yet in spite of this fact, the treatment of patients is not always systematic; professionals frequently do not fully comprehend what patients are trying to say (McIlfatrick, Hasson, 2014). As Burt et al. (2010) state, there are different reasons for this, for example, lack of time, lack of job integration, insufficient training, and failure to understand patients’ needs.

A human being should be in equilibrium, as all aspects (physical, psychological, social, spiritual) are interrelated, and, as stated by Disler, Jones (2010), loss of social role, and physical restriction often cause psychological distress and other health problems. A holistic approach looks much more widely for the reasons for breakdowns in health, not only as the recognition of bio-physical symptoms, but also as the study of lifestyle, eating habits, living environment, families and partners, mental health, abilities, amount of physical exercise, etc. (Filej, Kaučič, 2013). Holistic nursing is a way of being, a way of living, and a way of practicing care that can transform life and work (Thornton, 2008).

Aim

The aim of our study was to propose a holistic model of palliative care (Figure 1), including all four aspects of the holistic approach (physical, psychological, social, and spiritual). In addition, we wanted to determine the differences in the model in hospitals and the community/home environment.

Figure 1 Proposed theoretical holistic model of palliative care

Methods

Design

A quantitative cross-sectional study was used.

Sample

A total of 127 valid questionnaires were collected, completed by 92 nurses in a hospital setting (72.5%), and 35 nurses in a community setting (27.5%). Among the nurses surveyed, 90.5% were female and 9.5% were male nurses. The majority of the respondents had been employed for up to 10 years (34.8% in hospitals and 40% in community nursing). 32.6% of nurses who work in hospitals, and 11.4% who work as community nurses treat palliative patients on a daily basis.

Data collection

The survey was conducted in 2014 in the Dolenjska region, in the southeast of Slovenia. The data were collected by means of a closed questionnaire

designed for this study. Participation in the survey was voluntary and anonymous; all the participants had the right to withdraw from the study before or during questionnaire completion. In the first part of the questionnaire, we collected general demographic information about the respondents, and data on the frequency of treatment of palliative patients, whereas in the second part we collected data on the opinion of respondents about the holistic treatment of patients in palliative care. The statements were grouped into four categories: physical aspects, consisting of eleven statements; psychological aspects – eight statements; social aspects – three statements; and spiritual aspects – four statements, on the basis of the literature (Table 1). The respondents were asked to assess the statements on a five-point Likert scale of agreement for each single statement (1 – I do not agree at all; 2 – I partially agree; 3 – I neither agree nor disagree; 4 – I partially agree; 5 – I totally agree).

Table 1 List of statements in the survey

Item			
S1	I respect the importance of the family.	P7	I feel helpless when nursing the dying.
S2	The release of a palliative patient to the home environment is planned and organized.	P8	When working with the dying I often face ethical dilemmas.
S3	The patient and relatives receive sufficient information for the implementation of palliative care in the home environment.	F1	I implement the care of a palliative patient holistically.
D1	When informing the patient I take into consideration his medical condition.	F2	I recognize the most frequent symptoms in palliative care.
D2	I cultivate a respectful relationship and communication with the patients.	F3	I know the side-effects of opioids.
D3	I respect the right of the patient to decide for himself/herself.	F4	I know how to act appropriately or advise relatives regarding constipation as a side-effect of opioids.
D4	I explain in a comprehensible manner the processes and procedures that will be implemented.	F5	Dyspnea is a frequent symptom.
P1	I respect the right of the patient to decide for himself/herself.	F6	Delirium is an unrecognized companion in the terminal phase.
P2	I explain in a comprehensible manner the processes and procedures that will be implemented.	F7	More food in cachexia patients prevents further loss of weight.
P3	I understand the periods of anger and aggression in a patient in palliative care.	F8	It is necessary to prevent pressure ulcers even in a dying patient.
P4	I recognize the feelings of fear in a dying patient.	F9	At high doses, opioid addiction occurs.
P5	If a patient expresses thoughts of suicide, I provide professional help.	F10	With longer pain therapy involving opioids, tolerance develops.
P6	I understand patients' pleas for a merciful death.	F11	Palliative care is a synonym for terminal phase.

S – social aspect; D – spiritual aspect; P – psychological aspect; F – physical aspect

Data analysis

The proposed theoretical model was tested by using a specific method of structural equation modeling (SEM) called partial least squares (PLS). This method offers a specific approach to SEM, and uses principal component and canonical correlation analysis (Henseler, Sarstedt, 2013). Fornell, Bookstein (1982) argue that when applying the PLS,

no assumptions about the population or scale measurement is required. However, the PLS method also has some drawbacks. For instance, it is criticized for lacking global validation of the model. Recently, Tenenhaus, Amato, Esposito Vinzi (2004) have proposed a global criterion: the goodness-of-fit index (GoF) to validate a PLS path model globally. As reported by Henseler, Sarstedt (2013), GoF takes

both the measurement and structural models' performance into account.

In this study, the PLS method was applied using the *plspm* package (Sanchez, Trinchera, 2012), in the statistical program R (R Core Team, 2016). Statistical characteristics were checked at a 5% level of risk ($p = 0.05$).

Reliability and Validity Tests

Preliminary tests included checking the unidimensionality of all four blocks of constructs (Social aspect – S; Spiritual aspect – D; Psychological aspect – P; Physical aspect – F). Communalities which represent the amount of variability explained by a latent variable should be greater than 0.5 (Sanchez, 2013). After applying the PLS method, some variables did not satisfy loadings and communalities conditions, and were therefore

removed from the initially proposed model. These excluded variables were: S3 and D3, P6 and F6, F7, and F9–F11.

After excluding the unsuitable manifest variables, the unidimensionality for each of five constructs was checked again applying Cronbach's alpha and Dillon-Goldstein's rho. The reliability and validity results presented in Table 2 indicate internal consistency (all Cronbach's alpha and Dillon-Goldstein's rho-values are higher than $\sqrt{2/2}$). The results indicate that the items respectively converged into their relevant factors with loadings exceeding 0.5. In addition, regarding the eigen-analysis, the first eigenvalue is much larger than 1, while the second eigenvalue is smaller than 1. Therefore, on the basis of Hair, Black, Babin (2006), we conclude that the construct validity of the measurements used in this paper was achieved.

Table 2 Unidimensionality of blocks

Latent variable	MVs	Cronbach's alpha	Dillon-Goldstein's rho	Eig. 1 st	Eig. 2 nd
Social aspect (S)	2	0.725	0.859	1.28	0.759
Spiritual aspect (D)	3	0.734	0.850	1.96	0.607
Psychological aspect (P)	5	0.793	0.858	2.74	0.761
Physical aspect (F)	6	0.824	0.873	3.21	0.819

MVs – Number of manifest variables; Eig.1st – First Eigenvector; Eig.2nd – Second Eigenvector

The set of information provided in Table 3 demonstrates how each item relates to each construct. According to Chin (2010), not only should each measure be strongly connected to the construct it attempts to reflect, but it should not have a stronger connection with any other construct. The latter would imply a discriminant validity problem, i.e., it is not possible to discriminate whether the measure

in question relates to the construct it was intended to measure or another. In Table 4 we can observe that each item loads significantly more on its own construct than on other constructs. Consequently, all constructs share more variance with their measures compared to other constructs. Discriminant validity is thus supported.

Table 3 Loadings and cross-loadings for the measurement (outer) model

Item	Social aspect	Spiritual aspect	Psychological aspect	Physical aspect
Social aspect 1	0.863	0.625	0.587	0.585
Social aspect 2	0.698	0.281	0.414	0.306
Spiritual aspect 1	0.398	0.788	0.697	0.646
Spiritual aspect 2	0.537	0.855	0.730	0.688
Spiritual aspect 4	0.538	0.780	0.643	0.595
Psychological aspect 1	0.354	0.608	0.727	0.592
Psychological aspect 2	0.529	0.801	0.745	0.644
Psychological aspect 3	0.537	0.656	0.813	0.653
Psychological aspect 4	0.566	0.537	0.741	0.660
Psychological aspect 5	0.735	0.490	0.665	0.462
Physical aspect 1	0.463	0.624	0.621	0.725
Physical aspect 2	0.451	0.521	0.611	0.679
Physical aspect 3	0.346	0.415	0.458	0.670
Physical aspect 4	0.437	0.641	0.701	0.825
Physical aspect 5	0.518	0.667	0.694	0.776
Physical aspect 8	0.353	0.575	0.563	0.695

Results

General holistic model results

The results of the PLS approach are shown in Figure 2. All path coefficients between latent variables in the model are positive. This kind of relationship indicates that an increase (decrease) in the value of an independent latent variable will also cause an increase (decrease) in the value of the related dependent latent variable.

The variability of the parameter estimates were checked using re-sampling procedures. More

specifically, we estimated the significance of path coefficients (re-estimated in each of the 200 re-samples) by applying a bootstrap method. This method is recommended for estimating the significance of path coefficients (Lohmöller, 1989). Since no bootstrap interval for the path coefficients in Table 5 contain a zero, it can be concluded that these coefficients are significant at 5% confidence level.

Figure 2 Final holistic model of palliative care

Table 4 The outer model estimation

Latent variable	Original	Mean. Boot	Std. Error	Perc. 0.025	Perc. 0.975
S ≥ P	0.212	0.220	0.054	0.106	0.313
D ≥ P	0.719	0.706	0.055	0.596	0.815
D ≥ F	0.357	0.357	0.068	0.266	0.459
P ≥ F	0.520	0.514	0.071	0.413	0.603

S – social aspect; D – spiritual aspect; P – psychological aspect; F – physical aspect; Mean. Boot – Mean value after re-sampling procedures; Std. Error – Standard Error; Perc. 0.025 – Lower limit for 95% confidence interval; Perc. 0.975 – Upper limit for 95% confidence interval

The quality of each structural equation in the model is measured with an evaluation of the r-square fit index. A value of the GoF (Goodness of Fit Index) which equals or is higher than 0.70 speaks in favor of the model (Tenenhaus, Amato, Esposito Vinzi, 2004; Sanchez, Trinchera, 2012). The value of GoF index was found to be 0.775. This confirms model performance as satisfactory.

The correlation between the variables was checked as shown in Table 5. The attitudes towards social ($p < 0.05$), spiritual, and psychological aspects ($p < 0.01$) are all positively and significantly related to physical aspect. Spiritual aspect was significantly positively related to social and psychological aspects ($p < 0.01$). In addition, social aspect positively correlated to psychological aspect.

Table 5 Correlations among the variables

	Social aspect	Spiritual aspect	Psychological aspect	Physical aspect
Social aspect	1	0.61**	0.65**	0.29*
Spiritual aspect	0.61**	1	0.85**	0.79**
Psychological aspect	0.65**	0.85**	1	0.82**
Physical aspect	0.29*	0.79**	0.82**	1

*Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

Group comparison between hospital and community nursing

Model results were compared for different groups, i.e., for nurses from different settings (hospital versus community setting). For this purpose, the research model was examined for hospital and community nursing settings separately. Differences between hospital and community nursing in a model were tested using a t-test for unpaired samples. The level of significance was set at 0.05. The results are presented in Table 6.

Table 6 Model results for hospital and community nursing

Latent variable	Global	Hospital	Community	Abs. diff.	p-value	Sig.05
$S \geq P$	0.212	0.297	0.081	0.216	0.026	Yes
$D \geq P$	0.719	0.755	0.705	0.050	0.607	No
$D \geq F$	0.357	0.349	0.298	0.051	0.489	No
$P \geq F$	0.520	0.562	0.441	0.121	0.031	Yes

S – social aspect; D – spiritual aspect; P – psychological aspect; F – physical aspect; Abs. diff. – Absolute difference between Hospital and Community value; Sig.05 – Significant at $\alpha=0.05$

Discussion

Our research confirmed that physical aspects are influenced by both psychological and spiritual aspects, whereas social aspects have only an indirect influence. Rose and Glass (2006) also observe that in end-of-life care nurses were often more focused on routine physical tasks than on psychological aspects. McIlfatrick, Hasson (2014) have established that, especially in palliative care, interventions are channeled into the easing of physical suffering, and that palliative patients express fewer social and psychological needs. On the other hand, based on a sample of eight semi-structured interviews, Bradley, Frizelle, Johnson (2011) have established that it depends on each individual which aspect of the treatment they give priority to – social or physical. However, clinical judgment remains a valuable part of the decision-making process, allowing the placing of focus on the changing needs of a patient and their caregivers. Loss of social role and physical restrictions often cause psychological distress, depression, anxiety and frustration, and overall poor quality of life (Disler, Jones, 2010). The goal of palliative care, as stated by Freeman, Price (2006), is, irrespective of the disease, management of the end-of-life situation, and increased comfort and quality of life.

On the basis of their survey, McIlfatrick, Hasson (2014) have developed a holistic assessment tool for palliative care practice, taking only the physical aspects of palliative care practice into account, which does not always suffice: psychological, social, emotional and spiritual needs should also be addressed. Therefore healthcare workers should

Results of the t-test in Table 6 revealed statistically significant differences between hospital and community settings regarding the impact of social aspect on psychological aspect ($S \geq P$; p-value < 0.05), and regarding the impact of psychological aspect on physical aspect ($P \geq F$; p-value < 0.05). Differences were not significant regarding the impacts of spiritual aspect on psychological aspect ($D \geq P$; p-value > 0.05), and on physical aspect ($D \geq F$; p-value > 0.05).

develop a sense of trust and understanding between themselves and individuals through sensitive conversations that promote psychological and spiritual well-being. Roche-Fahy, Dowling (2009) have studied social aspects on the basis of communication between nurses and patients, and, in interviews with 12 nurses who had experience with palliative patients in a hospital setting, established that talking to patients or being with patients is historically not considered to be “real work”.

Mok, Wong, Wong, (2010) conducted interviews with 15 terminally ill Chinese patients, and established that, from the perspective of healthcare providers, spiritual care is a series of highly fluid interpersonal processes in the context of mutually-recognized human values and experiences. Hunstad, Foelsvik Svindseth (2011) state that the majority of studies report increased quality of life when spiritual needs are met, and that providers of home-based care should be aware of the importance of, not only physical care, but also psychological, spiritual, and psychosocial care of all family members.

The second important finding of our research is that statistically important differences exist between the hospital and community settings in the influence of social aspects on psychological aspects, as well as of psychological aspects on physical aspects. In both cases, the influence is greater in the hospital setting. The influence of spiritual aspects on both psychological and physical aspects is also greater in the hospital setting. The latter finding was surprising, as we had expected that the possibility of satisfying spiritual aspects would be greater in the

home environment, as indicated by Pocock et al. (2016), predominantly because of the presence of the family. Roche-Fahy, Dowling (2009) also established that it is more difficult to provide comfort and privacy to palliative patients in the hospital environment, which often causes additional distress to patients and relatives.

McIlpatrick, Hasson (2014) found that the majority of people would prefer to die at home; and as many as 50% of patients surveyed expressed problems with the fulfillment of spiritual well-being. Witham and Hockley (2016) state that in the UK 62% of people above the age of 85 die in hospitals, although they do not choose to do so. The remainder, who die at home, need to be provided with sufficient resources for the implementation of holistic treatment.

Greysen et al. (2014), have conducted 24 interviews with people, with an average age of 63, who were discharged from hospital, and established that physical aspects for these people were extremely limited, as they experienced problems with mobility and in the performance of daily activities. Social aspects of the patients suffered as well, as interactions with their relatives and friends were not possible. Similar findings were reported by McKeown (2007). Eleven elderly people involved in her study described their loneliness as very traumatic, since they were not able to enjoy the most basic social aspects of life that usually provide a link to society.

The subject of our research has not been studied previously, and, therefore, our research was limited to a certain region in order to test our research approach both methodologically, and in terms of its contents. However, the model proposed in this paper could be used for similar research, regardless of institutional and/or national extent. In addition, the questionnaire was validated and could also be utilized.

Limitations of study

We have established the following limitations to our research: the difference in numbers of claims for respective aspects of the holistic approach, the difference in number of nurses from hospital and community settings, and the regional limitations of the research. Due to the aforementioned limitations, it is not possible to extrapolate the results onto a wider national area (the whole of Slovenia). Our research, however, provides a solid base for further research on the holistic approach in palliative nursing care.

Conclusion

In Slovenia, patients are often treated from a medical point of view, emphasizing the importance of the disease and physical aspects of treatment. Patients are often branded with medical diagnoses, as used by the healthcare system, ignoring the fact that man is an integrated being, with psychological, physical, social and spiritual needs. If we do not detect all of a patient's needs, we cannot take care of the patient appropriately, and, therefore, in such a case, we cannot speak of holistic palliative treatment.

A dying person does not require active treatment of their illness. What they require is effective relief from the symptoms of the disease, and the presence of their nearest and dearest, to offer them comprehensive help and support.

Ethical aspects and conflict of interest

The study received ethical approval from the Faculty of Health Sciences Novo Mesto (number: VŠZ-129/2012) and was carried out with the agreement of the regional hospital and community nursing departments.

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Author contribution

Conception and design (BF, BMK, MS), data analysis and interpretation (KB, BF, BMK, MS), drafting the manuscript (BF, BMK), critical revision of the manuscript (BF, KB, BMK, MS), finalization of the manuscript (BF, KB).

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