

Effectiveness of Transformative Learning on Spirituality in Palliative Care among Nursing Students: A Mixed Methods Study

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This study aimed to investigate the impact of transformative learning on spirituality in palliative care among nursing students in Thailand by applying an embedded mixed methods research design. The experimental group ($n = 24$) received the intervention based on the transformative learning to enhance spirituality in palliative care which was conducted group discussion after completing each transformative learning session. Meanwhile, the control group ($n = 24$) received a regular instructional model. The instrument's reliability (Cronbach's alpha) was .80. From the main quantitative analysis, the two-way repeated measures ANCOVA revealed that the level of spirituality in palliative care of the experimental group was higher than the control group after the experiment, and also two months after the experiment ($p < .05$). From the qualitative analysis, three themes of learning experience that emerged were- ability to develop awareness and faith, acceptance and compassion for fellow human beings, and spiritual nursing behavior. The outcome of the study was a model of transformative learning to enhance spirituality in palliative care, associated with the experience of nursing students. These findings could be applied to develop an instructional model of palliative care for nursing students.

Keywords: nursing education, psychological transformation, meaning of life, experiential learning, self-awareness

A nursing education system comprises of nursing students and nursing instructors as the providers of knowledge and nursing skills (Kear, 2013; Lin et al., 2015). Learning management by nursing instructors is an important factor enabling nursing students to become competent members of a healthcare team that delivers humanistic care (Lin et al., 2015) especially for chronically ill patients, elderly patients and terminal patients with incurable diseases. This study highlights the importance of palliative and terminal care as well as emphasizing the learning process that enables nursing students to provide better care for terminal patients.

However, the majority of the nursing students have a fear of patient death; they feel discouraged, distressed, unhappy and also have low confidence in delivering care to terminal patients (Gillan et al., 2014; Paganini & Bouso, 2015; Tishelman et al., 2008). Besides, perceived hardship in the provision of palliative care leading to negative attitudes towards terminal patients, they also may lack sympathy and show negligence in communicating with

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patients and their families (Ballesterosa et al., 2014). Nursing students should understand their own spirituality, feeling and emotion while taking care of terminal patients to connect with holistic care for terminal patients (Gilliland, 2015; Hold et al., 2015).

Spirituality is essential for the learning, particularly during adulthood (Tisdell, 2008). It also cultivates the quality of willingness to help others. However, the environmental factors such as nursing instructors, performance assessment, registered nurses, patients and their families, etc., lead to weaken the spirituality and humanity among nursing students, which may be associated with the lack of spirituality in palliative care (Ozveren & Kirca, 2018). Therefore, nursing instructors need to know how to facilitate the learning process that enable nursing students to understand their own cognition, emotions, and spirituality while taking care of terminal patients and able to provide terminal patients with spirituality (Dimoula et al., 2019; Jiang et al., 2019; Ozveren & Kirca, 2018).

The transformative learning concept is an approach that assists in the promotion of learning process among nursing students to increase self-understanding and one's own spirituality (Kear, 2013). This concept towards change consists of three components, including disorienting dilemmas, critical reflection and changed the meanings and perspectives related to new events or situations which differed from their past experiences (Kear, 2013), especially with regard to the issues of death and the end-of-life phase to assist in self-discovery process and increase respect for human dignity among nursing students while providing care for terminal patients (Dimoula et al., 2019; Jiang et al., 2019; Wallace et al., 2009).

Moreover, the transformative learning concept has been found to be suitable and can be integrated with the palliative care concept to create a learning model for spiritual change in palliative care (Rattanamongkol, 2014). Also, the transformative learning concept can be applied in the learning management of clinical practice in a medical ward, which provides care for terminal patients with the aims of enhancing the spirituality of nursing students in palliative care and enabling them to provide care for the terminal patients with spirituality of caregiving (Ozveren & Kirca, 2018).

Regarding the existing literature related to spirituality and terminal care among nursing students, most studies solely focused on improving the knowledge, attitudes, and the behaviors of nursing students related to terminal patients (Dimoula et al., 2019; Gilliland, 2015; Jiang et al., 2019; Ozveren & Kirca, 2018; Wallace et al., 2009). The improvement of spirituality in palliative care and the application of transformative learning to enhance the spirituality in palliative care among nursing students have not been investigated. The previous studies only examined the effects of transformative learning on improving good thinking, self-esteem, and positive attitudes towards terminal patients (Doyle, 2008).

Moreover, the previous findings generally focused on the investigations of learning outcomes applying quantitative research (Gilliland, 2015; Tishelman et al., 2008; Wallace et al., 2009), which reported a lack of depth in an explanation of learners' experience such as how their thoughts, emotions and behaviors develop. There is also a lack of studies related to knowledge of palliative care and spirituality in palliative care among nursing students.

These are the main reasons that the current study needs to investigate the impact of transformative learning on spirituality in palliative care among nursing students and learning outcomes in depth of nursing learning process regarding received of transformative learning model while taking care of terminal patients.

Theoretical Perspectives and Studies on Spirituality in Palliative Care

Transformative Learning

The transformative learning concept based on facilitating an individual to understand their own learning experience (Mezirow, 1991) and to better understand their own affective attributes (Piercy, 2013). This concept brought about psychological transformation and increased feelings of empathy (i.e. ability to put oneself in the shoes of another) (Kear, 2013). There are two purposes of transformative learning: focusing on the self-development of the learners by means of critical reflection with an aim of increasing self-awareness and focusing on inner growth and positive changes in the perceptions and practices of learners (Kear, 2013).

Additionally, the transformative learning concept can be applied in the learning management of clinical practice in a medical ward that provides care for terminal patients. This model brings psychological transformation to nursing students and increases feelings of empathy (Kear, 2013). The students can also better understand the meaning of life, their own spirituality (Piercy, 2013) and able to provide spiritual care for terminal patients (Ozveren & Kirca, 2018; Wallace et al., 2009).

Palliative Care

The palliative care concept based on the holistic care which involved physical, mental, social, and spiritual care to alleviate the suffering of terminal patients (Emanuel & Librach, 2007; Ozveren & Kirca, 2018). Palliative care can improve the quality of life among patients and their families facing the problems with terminal illness through the prevention, relief suffering and treatment of pain as well as psychological and spiritual problems. (Ozveren & Kirca, 2018; Sierra et al., 2017). Palliative care is delivered by a multidisciplinary team to relieve the symptoms during the end-of-life phase, as well as providing care for the families after the deaths of patients (Arisanti et al., 2019).

Additionally, the palliative care concept is an important aspect for improving the quality of life of terminal patients and provided for dying patients (Sierra et al., 2017). As a result, terminal patients with chronic and terminal diseases are managed in a timely (Arisanti et al., 2019).

Spirituality in Palliative Care

According to the philosophy of spirituality, it is essential for learning, particularly during adulthood (Tisdell, 2008). Spirituality is important for humans and based on religious beliefs and the value given to life (Sukcharoen et al., 2020). It is an internal element which reflects the values of an individual (Amann & Stachowicz, 2013; Tisdell, 2008). Spirituality is the breath of life, as well as the center of ideas, hopes and will-power (Klobucar, 2016). It stimulates an individual to seek for values or the true meaning of life experience through

spiritual beliefs and acts on the experience (Lewinson et al., 2015). Spirituality facilitates an individual to realize their own duties, responsibilities and improve themselves (Klobucar, 2016; Sakunpong et al., 2016; Tisdell, 2008). It also cultivates the quality of willingness to help others and terminal patients (Sukcharoen et al., 2020). This patient group experiences suffering at the end of life. Therefore, the provision of specific care such as palliative care is needed to alleviate their suffering and promote better quality of life.

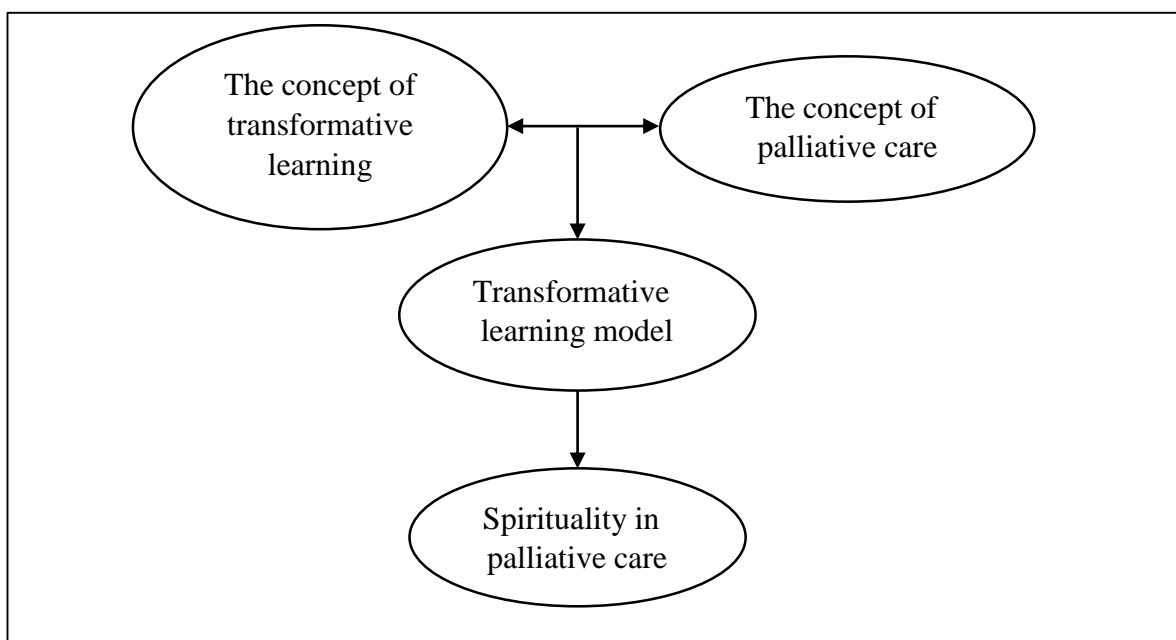
The objectives of the palliative care are to increase the acceptance of reality and death, to reduce the fear of death and provide opportunities to prepare for death aiming for an increase of the quality of life of terminal patients (Emanuel & Librach, 2007; Gillan et al., 2014; Wallace et al., 2009). When the concept of spirituality and palliative care integrate to each other, it can be assumed that spirituality in palliative care is the provision of spiritual care and holistic care for terminal patients to alleviate the suffering of patients and death with dignity (Ozveren&Kirca, 2018; Sukcharoen et al., 2020; Wallace et al., 2009).

Conceptual Framework

The conceptual framework of this study based on the following: 1) the concept about spirituality which values the meaning and awareness of life experience (Amann & Stachowicz, 2013; Klobucar, 2016; Sukcharoen et al., 2020; Tisdell, 2008); 2) the concept about palliative care, the care that highlights responsiveness to the desires and good experiences of patients in their end-of-life state (Arisanti et al., 2019; Emanuel & Librach, 2007), and 3) the concept of transformative learning that focuses on the transformation of cognition, feelings and spirituality (Kear, 2013; Mezirow, 1991).

It is conceptualized that nursing students received the transformative learning model, created by the transformative learning concept and the palliative care concept, can enhance spirituality in palliative care, as illustrated in Figure 1.

Figure 1
Conceptual Framework

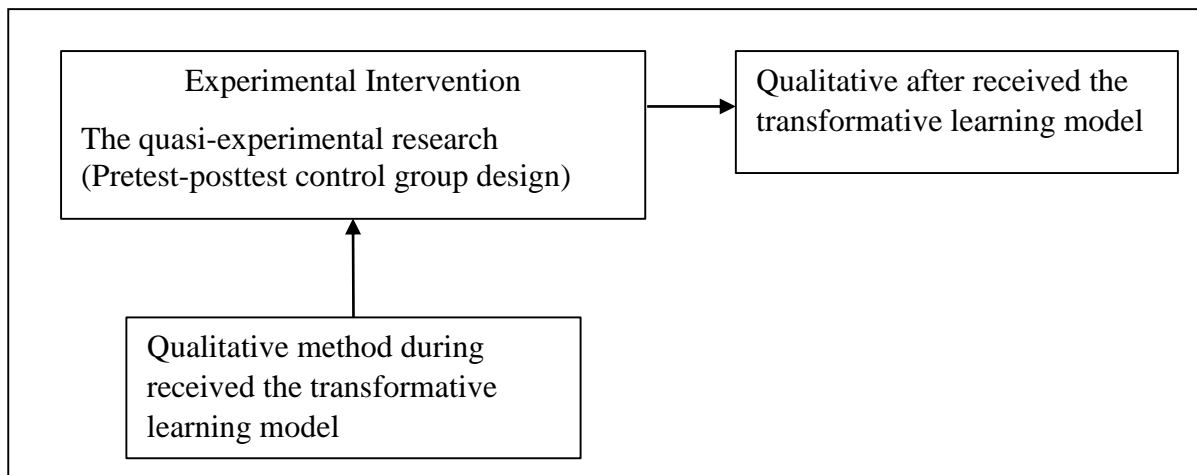


Methodology

Research Design

This study is the embedded design which combines the collection and analysis of qualitative data within a quantitative data. (Creswell & Clark, 2011). It involved a quasi-experimental, pretest-posttest control group design together with a qualitative research conducted between and after each transformative learning session to support the data from of the experimental design, as illustrated in Figure 2.

Figure 2
Research Design



Quantitative Method Phase

The study population consisted of 100 second-year nursing students registered for the 2018 academic year at a private university in Thailand. The subjects were selected through the purposive sampling technique, from second-year nursing students who never experienced palliative care and trained nursing practice at the male ward. They were studying clinical practice in the Adult nursing practicum 1 course and received transformative learning model. A total of 48 nursing students were selected and assigned into the experimental and control groups ($n = 24$ for each group). The study was conducted over two months from April to May 2018.

Research Instruments

The research instruments in quantitative method phase comprised of the spirituality in palliative care scale and the transformative learning model which were described in further details.

The Spirituality in Palliative Care Scale. It was developed from the review of literature and research studies related to spirituality and palliative care (Sukcharoen et al., 2020). It consisted of 25 items measured on a 5-point Likert scale. The validation of the instrument was performed by three experts. The pilot test was carried out with a sample of 124 nursing students, who had similar characteristics to the study subjects. The Cronbach's

Alpha was used to estimate the reliability, the value was .80 and all 25 items were found to have a corrected item-total correlation greater than or equal to .20.

The Transformative Learning Model. It was created by the transformative learning concept and the palliative care concept to enhance spirituality in palliative care. This model was developed in the following steps: 1) reviewing literature related to transformative learning in order to draft the transformative learning model; 2) evaluating the model in terms of applicability by three experts, and 3) conducting a pilot study to assess the feasibility of the model. The transformative learning model consisted of 13 steps, with a total of 39 hours. The process consisted of:

1) Three sessions of learning activities prior to meeting terminal patients in real-life situation and each session lasted 3 hours, for a total of 9 hours. The activities included: (a) session 1 – “Road of Life”, a life card game was used as the learning media, the cards asked about death and terminal patients to encourage nursing students to gain positive viewpoints on life and better understand issues related to life and death; (b) session 2 – “Retell an old experience: When I was a patient”, a book about the experience of providing care for terminal patients was used as the learning media. It was the experience of a professional nurse who was widely accepted domestically as having expertise in palliative care. This activity aimed to promote the students’ understanding about terminal patients’ suffering to induce the feeling of empathy with the patients and their families. Eventually, the students were expected to be willing to provide care for terminal patients with spirituality to alleviate the patients’ suffering, and (c) session 3 – “When I was a patient”, the participants were divided into subgroups (one subgroup comprised of four students). Each subgroup created a scenario involving a terminal patient, family and registered nurse providing care for the patient to take on a role-play activity. This activity aimed to promote nursing students’ understanding about the suffering that terminal patients and their families endure as well as the roles of professional nurses in providing care for this patient group. Also, when providing care to the patients in real-life situation, nursing students would better understand their roles and be able to provide holistic care to terminal patients with true spirit of caregiving.

2) Ten sessions of learning activities while providing care for terminal patients in real-life situations, each session lasted three hours, for a total of 30 hours. The activities included assigning nursing students to provide care for terminal patients and their families in a medical ward for two weeks, totaling 10 days. The activities consisted of: (a) week 1 Activity “How do I feel?” – Session 4 to 8 (five times), each nursing student was assigned to provide care for terminal patients in a medical ward. After providing care for the patient each day, questions were asked to stimulate critical reflection among nursing students regarding their feelings about experiences in providing care for terminal patients. These activities aimed to encourage nursing students to understand their own feelings and emotions towards terminal patients as well as to better understand their own spirituality while providing care for these patients, and (b) week 2 – Session 9 to 13, consisted of two sub activities: “Beautiful growth” (4 times) and the last activity “The summary of my learning” (last session). The “Beautiful growth” activity, nursing students were encouraged to explain their psychological levels through revealing experience in providing care for terminal patients. The activity “The summary of my learning”, nursing students were assigned to present their experiences and learning outcomes gained from two types of situations were before and after providing care for terminal patients and the transformative learning process. These activities aimed to encourage nursing students to understand their own learning process that involved the holistic aspect

such as the understanding of their own feelings and emotions towards terminal patients and their own behaviors while providing care for these patients. This prepares nursing students to get ready for behavior change to provide better care for their patients.

Research Procedure and Data Collection

The Experimental Group. 1) Before the experimental group received the transformative learning model, spirituality in palliative care was measured and collected as pretest scores; 2) The transformative learning model was implemented during the nursing students took care of terminal patients in the Adult nursing practicum 1 course, and the nursing students in the experimental group were divided into 3 subgroups (one subgroup consisted of eight students) which easily understood their feelings and emotions; 3) The nursing students in each subgroup received 13 steps of the transformative learning model. The learning process emphasized critical reflection related to the experience of providing care for terminal patients, involving emotions and behavior in providing care for terminal patients, and 4) After completing all 13 steps of the transformative learning model, spirituality in palliative care was measured using the same research instrument and re-measured two months later during the follow-up phase.

The Control Group. 1) Before the control group received a regular instructional in the Adult nursing practicum 1 course, spirituality in palliative care was measured and collected as pretest scores; 2) A regular instructional was used in the Adult nursing practicum 1, and 3) After completion of the Adult nursing practicum 1 course, the same instrument was used to measure spirituality in palliative care and collected as post-test scores and re-measured two months later during the follow-up phase.

Data Analysis

Before the participants received the transformative learning model, spirituality in palliative care was measured and the result was collected as pretest scores. After the experimental phase, the spirituality in palliative care scores were collected from both the experimental and control groups. Also, the posttest and the follow-up mean scores of the experimental and control groups were compared and two-way repeated measures ANCOVA were applied.

Qualitative Method Phase

The subjects were selected through the purposive sampling (criterion sampling type) technique, from the participants, who were all in the experimental group and received the transformative learning models in the Adult nursing practicum 1 course.

Research Instruments

The research instruments in qualitative method phase comprised of the semi-structured questions, a daily log book and questions for e-learning lessons which were described in further details.

Semi structured questions. They were used in group discussion after nursing students received the transformative learning model. Group discussion was conducted after

completing each transformative learning session. The sample questions of group discussion were: “How do you feel about your experiences when taking care of terminal patients” and “Is this learning model important to you and why?”

A daily log book and questions for e-learning lessons. They were used as a qualitative data. The nursing students wrote a log book on their learning as well as study e-learning lesson and answer the questions. The sample questions in a log book: Please describe your feelings towards the terminal patient that you took care of him/her today. What have you learned from taking care of a terminal patient today? How will you improve yourself? The sample questions in e-learning lessons: As a nursing student, do you think that you are able to alleviate a terminal patient’s suffering and how will you do that? If you have to provide care for a terminal patient tomorrow, how will you take care of the patient and why do you do that?

Research Procedure and Data Collection

During the period of received transformative learning model, nursing students were assigned to write a daily log book on their learning, as well as daily additional study via e-learning after participating in each transformative learning session. After received the transformative learning in each session, the steps taken in this study included: 1) group discussion was conducted to gain understanding about feelings, emotions, and behaviors of nursing students. It lasted 30 – 45 minutes/session. This group discussion was conducted when each transformative learning activity was completed, and 2) assigning nursing students to write a log book on their learning. Also, within 30 minutes after received the transformative learning, nursing students were assigned to answer e-learning lessons.

Data Analysis

After group discussion and nursing students answered on e-learning lessons. The qualitative data were analyzed by content analysis towards two sources of qualitative data to ensure that the results from this qualitative study were reliable and valid. Section 1 consisted of subgroup discussions after providing daily care for terminal patients and during received each of the transformational learning sessions. Section 2 included a daily log book and the answers to e-learning during received the transformational learning.

The content analysis was employed to generate themes. Firstly, the researcher transcribed the voice recording of group discussion word for word. Then, read the data on word of group discussion, a daily log book and answered on e-learning lessons several times to identify and emerging themes. Later, codes and categories were generated to support each theme (Creswell & Poth, 2018; Sakunpong, 2018). Eventually, the summarization of nursing students’ learning outcomes obtained from the transformative learning to enhance spirituality in palliative care was constructed.

Ethical Considerations

This study was approved by the Institutional Review Board of Suratthani Rajabhat University, Thailand (SRU. 2019_014) and the Institutional Review Board of Suratthani hospital, Thailand (29/2561). Informed consent was obtained from all the participants.

Results

Quantitative Research Results

The mean of spirituality in palliative care in the experimental group and the control group are outlined in Table 1.

Table 1

Mean Scores of Spirituality in Palliative Care

Item	Experimental group ($n = 24$)		Control group ($n = 24$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Ability to develop awareness and faith				
• Before the experiment	35.62	2.42	36.29	2.44
• After the experiment	37.66	1.49	36.12	1.80
• Follow-up	37.08	1.66	31.70	1.96
2. Acceptance and compassion for fellow human beings				
• Before the experiment	38.83	3.18	40.75	2.13
• After the experiment	42.25	1.98	40.08	1.83
• Follow-up	41.70	2.27	36.33	2.21
3. Spiritual nursing behavior				
• Before the experiment	33.50	3.28	34.87	3.23
• After the experiment	35.95	2.86	35.41	2.94
• Follow-up	34.62	2.69	32.70	3.22
4. Spirituality in palliative care (overall)				
• Before the experiment	107.95	6.71	111.91	5.86
• After the experiment	115.87	4.55	111.62	4.57
• Follow-up	113.41	5.38	100.75	5.91

However, before receiving the transformative learning model to enhance spirituality in palliative care, a t-test was performed and found that the experimental group had significantly higher scores in spirituality and palliative care, than the control group ($M = 115.87$, $SD = 4.55$), $t(48) = 2.17$, $p = .03$; therefore, a two-way repeated measure ANCOVA were performed afterwards.

Based on the multivariate normality test applying a measure of skewness and kurtosis, the values obtained were ranging from -1.96 to + 1.96; together with the assessment of normal q-q plots, and no statistical significance was found. Moreover, Levene's test of homogeneity of variance revealed that the aspect of spirituality in palliative care among the experimental and control groups were not significant and consistent with the assumption of homogeneity of variance. Besides, the results showed that there was a two-way interaction between the experimental phases (posttest/follow-up) and the condition of receiving the transformative learning model or not, $F(1,45) = 16.11$, $p < .05$. The results are outlined in Table 2.

Table 2
The Results for Spirituality in Palliative Care by Two-Way Repeated Measures ANCOVA

Sources of variation	SS	df	MS	F	p	η ²
Within group						
• Experimental phase	4.44	1	4.44	.18	.67	.00
• Error	1085.21	45	24.11			
Between group						
• To receive in the transformative leaning model to enhance spirituality in palliative care	1779.20	1	1779.20	63.25	.00*	.58
• Error	1265.76	45	28.12			
Two-way interaction						
• Experiment phase X To receive in the transformative leaning model to enhance spirituality in palliative care	388.71	1	388.71	16.11	.00*	.26

Note. *p < .05

Later, the LSD method (Least significant difference) was employed to compare the mean scores of spirituality in palliative care between the experimental group and control group. The results showed that the level of spirituality in palliative care of the experimental group was higher than the control group at after the experiment and follow up, with a statistical significance at the level of .05. The results are outlined in Table 3.

Table 3
Mean Scores of Spirituality in Palliative Care by LSD Method

Experimental phases (Spirituality in palliative care)	M	SD	Mean Difference
Before the experiment			
• Experimental group	107.95	6.71	-3.95
• Control group	111.91	5.86	
After the experiment			
• Experimental group	115.15	4.55	4.25*
• Control group	111.62	4.57	
Follow up			
• Experimental group	113.41	5.38	12.66*
• Control group	100.75	5.91	

Note. *p < .05

Qualitative Research Results

The results of qualitative study showed learning outcomes in depth of nursing learning process regarding receiving the transformative learning model among nursing students while taking care of terminal patients. The knowledge and information were integrated to establish conclusions about learning experience on three themes from a subgroup discussion, a daily log book and the answers to e-learning as follows:

Ability to Develop Awareness and Faith

The learners accepted and understood changes and declination of body that occurs over time. Moreover, they accepted and were ready to face death and life-after-death. These learners considered death and life-after-death as important life principles and normal phenomena that everyone had to face – it is unavoidable.

It's like telling us that birth, aging, sickness, and death is natural phenomena and human physical does not stay the same... We human, once were young and strong, and then gradually decline. When time goes by, die then. (Student 1)

The learners gained new perspectives and positive ideas about themselves, which led to positive attitudes towards themselves and others as well as better acceptance of the realities of life. Besides, the learners realized that one was valuable for oneself, other people and families; they were willing to do their duties purposefully.

We thought that we were valuable and realize it... Our lives were worthwhile since we were born...never thought that we were not valuable... One thing is that we thought we were important to mom and dad. (Student 2)

The learners understood their own feelings and managed them appropriately, specifically when providing care for terminal patients and relatives with mental health problems resulting from severe illnesses.

We've learned to understand the relatives... like... sometimes they couldn't help themselves, they couldn't accept the patient's conditions... When the relatives complained, we shouldn't be upset... Sometimes they were stressful. (Student 7)

Acceptance and Compassion for Fellow Human Beings

The learners understood and accepted the characteristics, identity and individuality of other people, particularly the individuality of terminal patients. These patients were in suffering and could not communicate; nevertheless, they did not completely lose their consciousness. Thus, the individuality of terminal patients should be accepted.

Patients could not move from the waist down, bed sores were very big, couldn't help themselves... It must be very painful; we had to frequently turn the patients. (Student 14)

The learners understood and were attentive to the feelings of other people. Also, the learners expressed their feelings to let others know that they acknowledged the desires of other people and were willing to be with them.

We must think that the dying patients were our relatives... We must understand them, like...how we would feel if we were about to lose our loved one? (Student 16)

Spiritual Nursing Behavior

The learners wished terminal patients well. They would like to help relieve their pain and suffering and provide the best care to make the end-of-life phase more valuable.

Wanted them to accept it, have peace of mind, not suffer, and say what they need to say so they could leave without unresolved issues (Student 11)

The learners were able to communicate with others, especially in conversing and building a good relationship with terminal patients to create trust. Furthermore, they could help foster hope to let terminal patients be able to accept their illnesses and conditions.

We must understand patients' conditions and needs... At the terminal state, they suffered and were in great pain ... We must be there for them. (Student 19)

The learners believed in religious principles and respected the cultural beliefs and values of terminal patients, which allowed them to understand the desires of the patients.

The patient already mentioned about his last wish... families and relatives decided to bring him home for religious rituals... to die at home. (Student 4)

From the results after the experiment, the quantitative results indicated that the experimental group had higher scores of spirituality in palliative care higher than scores of the control group. The qualitative results also revealed the three themes of learning experience, which are considered to be the components of transformative learning experience.

Discussion

The results of this study found that the transformative learning model affected spirituality in palliative care among nursing students as found by this mixed methods research design. The results from quantitative phase showed that the transformative learning model can enhance the spirituality in palliative care. The results from qualitative phase revealed three themes that emerged from the nursing students, including: 1) ability to develop awareness and faith; 2) acceptance and compassion for fellow human beings, and 3) spiritual nursing behavior; all supported the components of spirituality in palliative care (Sukcharoen et al., 2020). Therefore, it can be assumed that the results from quantitative phase were confirmed with the results from qualitative phase. It can be explained that the transformative learning model was created by transformative learning concept which based on life-long-learning, facilitates learners to participate in experiential learning through critical reflection and expression (Mezirow, 1991). This learning model enabled individuals to understand themselves, accept both strengths and weaknesses of their own, respect the opinions of others (Kear, 2013), and increases of willingness to help others, especially terminal patients (Sukcharoen et al., 2020). Therefore, the transformative learning model assisted in the enhancement of spirituality in palliative care among nursing students.

In addition, the learning activities before and after nursing students provided care for terminal patients in real-life situations (e.g. writing a daily log book, e-learning) added more experience in palliative care, enhanced positive attitudes towards death and reduced their fear of death (Doyle, 2008). These findings confirmed the findings of Rattanamongkol (2014) and Meesuaisint et al. (2017), which explained that transformative learning was linked to experience; thus, it fostered deeper self-understanding, respect for human dignity and a deeper understanding about meaning of life. Transformative learning also assisted in a deeper understanding of inner transformation and spirituality (Piercy, 2013).

Furthermore, there were similar findings on the effects of transformative learning which emphasized experiential learning related to palliative care, which enhanced self-understanding among nursing students (Klobucar, 2016). In addition, the transformative learning model helped to increase feelings of empathy (Kear, 2013). The nursing students also better understood the meaning of life and their own spirituality and were able to provide spiritual care for terminal patients to alleviate the suffering of terminal patients (Arisanti et al., 2019; Emanuel & Librach, 2007; Ozveren & Kirca, 2018).

To this knowledge, this is the first mixed methods evaluation focusing on transformative learning model change spirituality in palliative care. The qualitative results provided additional depth of understanding to the quantitative outcomes after nursing students received the transformative learning model. Benefits of adopting mixed method designs in this context include identifying the critical reason why nursing students had increase spirituality in palliative care and why transformative learning model work. In the current study, these data revealed the transformative learning model assisted in the development of nursing students in terms of spirituality in palliative care and providing learning experiences related to providing care for terminal patients and are capable of providing holistic care for terminal patients.

Conclusion

The results of this study found that the experimental group had higher scores of spirituality in palliative care than the control group after the experiment phase and in the follow-up phase. This indicates that spirituality in palliative care increased after receiving the transformative learning session. The qualitative result also supports this quantitative result: three themes of learning experiences gained after receiving the transformative learning model. Three themes of learning experience were discovered, including ability to develop awareness and faith; acceptance and compassion for fellow human beings; and spiritual nursing behavior. These results show that the transformative learning model conducted in the current study is applicable to promote nursing students' spirituality in palliative care in the context of Thai culture.

Nursing instructors can apply this transformative learning model in regular teaching provided for nursing students during the period of practicum to promote spirituality in palliative care. The transformative learning model can be applied in training nursing students to provide care for terminal patients and can also be applied to foster spirituality in palliative care among registered nurse working in hospitals to encourage them to provide care for terminal patients with spirituality of caregiving.

References

- Amann, W., & Stachowicz, A. (2013). *Integrity in organizations: Building the foundations for humanistic management*. Palgrave Macmillan.
- Arisanti, N., Sasongko, E., Pandia, V., & Hilmanto, D. (2019). Implementation of palliative care for patients with terminal diseases from the viewpoint of healthcare personnel. *BMC Research Notes*, *12*(1), 1-5. <https://doi.org/10.1186/s13104-019-4260-x>
- Ballesterosa, M., Centeno, C., & Arantzamendi, M. (2014). A qualitative exploratory study of nursing students' assessment of the contribution of palliative care learning. *Nurse Education Today*, *34*(6), 1–6. <https://doi.org/10.1016/j.nedt.2013.12.010>
- Creswell, W. J., & Clark, P. V. (2011). *Designing and conducting mixed methods research*. SAGE Publication, Inc.
- Creswell, W. J., & Poth, N. C. (2018). *Qualitative inquiry research design: Choosing among five approaches*. SAGE Publication, Inc.
- Dimoula, M., Kotronoulas, G., Katsaragakis, S., Christou, M., Sgourou, S., & Patiraki, E. (2019). Undergraduate nursing students' knowledge about palliative care and attitudes towards end-of-life care: A three-cohort, cross-sectional survey. *Nurse Education Today*, *74*(1), 7-14. <https://doi.org/10.1016/j.nedt.2018.11.025>.
- Doyle, M. (2008). *Transformation of nursing students' attitudes, assumptions, and beliefs on death and dying: A mixed methods study* (Doctoral dissertation). Capella University, Minnesota.
- Emanuel, L., & Librach, L. S. (2007). *Palliative care core skills and clinical competencies*. Saunders Elsevier.
- Gillan, C. P., Van, D. P., & Jeong, S. (2014). End of life care education, past and present: A review of the literature. *Nurse Education Today*, *34*(3), 331–342. <https://doi.org/10.1016/j.nedt.2013.06.009>
- Gilliland, I. (2015). Effects of a community-based hospice, experience on attitudes and self-perceived, and competencies of baccalaureate senior nursing students. *Journal of Nursing Education*, *54*(6), 335-338. <https://doi.org/10.3928/01484834-20150515-04>
- Hold, L. J., Blake, J. B., & Ward, N. E. (2015). Perceptions and experiences of nursing students enrolled in a palliative and end-of-life nursing elective: A qualitative study. *Nurse Education Today*, *35*(6), 777–781. <https://doi.org/10.1016/j.nedt.2015.02.011>
- Jiang, Q., Lu, Y., Ying, Y., & Zhao, H. (2019). Attitudes and knowledge of undergraduate nursing students about palliative care: an analysis of influencing factors. *Nurse Education Today*, *80*(1), 15-21. <https://doi.org/10.1016/j.nedt.2019.05.040>
- Kear, M.T. (2013). Transformative learning during nursing education: A model of interconnectivity. *Nurse Education Today*, *33*(9), 1083–1087. <https://doi.org/10.1016/j.nedt.2012.03.016>
- Klobucar, R. N. (2016). The role of Spirituality in transition to parenthood: Qualitative research using transformative learning theory. *Journal of Religion and Health*, *55*(1), 1345–1358. <https://doi.org/10.1007/s10943-015-0088-4>
- Lewinson, P.L., Mcsherry, W., & Kevern, P. (2015). Spirituality in pre-registration nurse education and practice: A review of the literature. *Nurse Education Today*, *35*(6), 806–814. <https://doi.org/10.1016/j.nedt.2015.01.011>
- Lin, C. C., Han, C. Y., Pan, I. J., & Chen, L. C. (2015). The teaching learning approach and critical thinking development: A qualitative exploration of Taiwanese nursing students. *Journal of Professional Nursing*, *31*(2), 149–157. <https://doi.org/10.1016/j.profnurs.2014.07.001>

- Meesuaisint, M., Pathumcharoenwattana, W., & Boonprakob, P. (2017). Krabūankān plīanplāeng parithat phūa sēmsāng kān hen khunkhā thāe nai ton'ēng khōng yaowachon chāi thī kratham phit khadī khwāmrunrāng [The process of perspective transformation for enhancing authentic self-esteem among violent male juvenile delinquent]. *Warasan Phuettikammasat*, 23(1), 1-20.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass Inc., Publishers.
- Ozveren, H., & Kirca, K. (2018). Influence of palliative care training on last-year nursing department students' perception on regarding spirituality and spiritual care: A Single group pretest–posttest intervention study. *Journal of Religion and Health*, 58(1), 860–869. <https://doi.org/10.1007/s10943-018-0701-4>
- Paganini, C. M., & Bousso, S. R. (2015). Nurses' autonomy in end-of-life situations in intensive care units. *Nursing Ethics*, 22(7), 803–814. <https://doi.org/10.1177/0969733014547970>
- Piercy, G. (2013). Transformative learning theory and spirituality: a whole-person approach. *Journal of Instructional Research*, 2(1), 30-42. <https://doi.org/10.9743/JIR.2013.2.14>
- Rattanamongkol, S. (2014). Transformative Learning chāk prasopkān lāekplīan rīanrū kap khrūakhāi kānrīanrū phūa kān plīanplāeng phūa phāethaya sāttra suksā nai prathēt Thai [Transformative learning from learning experiences with learning community for transformation in Thailand]. *Thammasat Medical Journal*, 14(4), 489-491.
- Sakunpong, N., Choochom, O., & Taephant, N. (2016). Development of a resilience scale for Thai substance-dependent woman: A mixed methods approach. *Asian Journal of Psychiatry*, 22(1), 177-181. <https://doi.org/10.1016/j.ajp.2015.10.011>
- Sakunpong, N. (2018). Life narrative to substance use: voices from LGBT people. *Journal of Health Research*, 32(5), 387–394. <https://doi.org/10.1108/JHR-08-2018-041>
- Sierra, C. E., Sabater, M. A., & Monux, L. Y. (2017). An instrument to measure nurses' knowledge in palliative care: validation of the Spanish version of palliative care quiz for nurses. *Plos One*, 12(5), 1-15. <https://doi.org/10.1371/journal.pone.0177000>
- Sukcharoen, P., Sakunpong, N., & Sripa, K. (2020). Spiritual dimension in palliative care from the perspective of Thai palliative caregivers. *International Journal of Palliative Nursing*, 26(2), 70-74. <https://doi.org/10.12968/ijpn.2020.26.2.70>
- Tisdell, E. J. (2008). Spirituality and adult learning. *New Directions for Adult and Continuing Education*, 119(1), 27-36. <https://doi.org/10.1002/ace.303>
- Tishelman, c., Bergenmar, M., Bernhardson, B. M., Blomberg, K., Borjeson, S., Foderus, H, Levealahti, E., Sahlberg, E., & Ternestedt, B. (2008). Using undergraduate nursing students as mediators in a knowledge transfer programme for care for patients with advanced cancer. *European Journal of Cancer Care*, 17(3), 253–260. <https://doi.org/10.1111/j.1365-2354.2007.00840.x>
- Wallace, M., Grossman, S., Campbell, S., Robert, T., & Lange, J., (2009). Integration of end of life care content in undergraduate nursing curricula: Student knowledge and perceptions. *Journal of Professional Nursing*, 25(1), 50–56. <https://doi.org/10.1016/j.profnurs.2008.08.003>