A Change in Perception of Nursing Students' Death after Cadaver Dissection

Hyunjung Lee

Professor, Department of Nursing, Kyungdong University, Medical Campus, 815 Gyeonhwon-ro, Munmak, Wonju, Gangwondo- 24695, South Korea

Abstract

This study attempted to provide basic data to inspire correct awareness and understanding of death by grasping the change in perception of death of nursing students before and after cadaver dissection.The subjects of this study were 80 first-year nursing students in Korea, and their perception of death was measured on a 5 Likert scale using a questionnaire consisting of 36 questions. For data analysis, frequency analysis, paired t-test, and one-way ANOVA were performed using SPSS version 25.0.As a result of the study, before dissection, the perception of death was significantly higher according to gender (p=.029). After the cadaver dissection, the perception of death was significantly higher according to the gender (p=.026) and the degree of health status (p=.009). Overall, the perception of death significantly increased after (3.24 points) than before (3.14 points) in dissection (p=.000). In particular, negative perception of death significantly decreased after dissection (p=.003). if an intervention program that can alleviate anxiety about death is accompanied, cadaver dissection will not only help to improve anatomy knowledge, but also contribute to raising the level of awareness of death.

1. INTRODUCTION

With the rapid development of science and technology, medicine has made remarkable progress, and in addition, in-depth knowledge of the human body of medical personnel dealing with life is becoming important (Kim, 2012). Nurses, in particular, are professionals who work in healing patients' diseases based on their deep knowledge of the human body, and learn from major essential subjects, especially anatomy, which is based on medical law, and Korea licensing examination-related regulations (Ministry of Government Legislation of Korea, 2020).

Anatomy is very helpful in clinical practice as it allows us to accurately learn the structure and function of the human body by practicing using anatomical cadavers. Students who practice dissection using these dissecting bodies face human death through them regardless of their own will. Death (medicine: expire) means the end of life and is the cessation of all biological functions of maintaining living organisms. In other words, organs such as the heart, brain, and lungs, which are essential for maintaining life, stop functioning.

Advanced science, medical technology and economic development have led to an increase in human life expectancy, but death is still an inevitable challenge for anyone. The meaning of death in humans depends on social and cultural background or experience, and the individual's attitude to death affects the pain and quality of life of those who face death and those who watch him. Also, it is not easy to define the concept because death is a part of the process of life that varies widely depending on individual values, philosophy, and attitudes toward life. Death is something that cannot be separated from life and is being recognized as a stage of life's development (Lee & Koh, 2011).

Perception of death is defined as a multidimensional concept that combines several factors, such as cognitive factors formed as attitudes to life viewed in relation to death (Inumiya, 2002), anxiety about death, anxiety, fear, understanding, and meaning of death (Thorson & Powell, 1988). Nursing students in college years, where the meaning of life and death is established, experience psychological, physical, and social changes, experiencing internal and external disruption compared to other life cycles, and being in a position to directly and indirectly affect nursing subjects as pre-service nurses is important (Baek, 2018). A prior study of nursing students showed that most college students thought about death at least once and that more than half feared death

(Lee, 2013).

As such, nursing students often face the death of patients during education, dissection practice using cadaver, hospital practice, and even more professional work. This is a significant amount of experience that cannot be compared to ordinary people, and their perception of death is thought to affect their quality of life, their attitude, and even their professional performance.

Therefore, this study attempted to help nursing students perform their professional work by identifying changes in their usual perception of death before hospital practice and the perception of death through cadaver dissection.

2. METHODS

2.1 Subject of the Study

A total of 80 nursing students who participated in the cadaver dissection program during the winter vacation after taking anatomy courses in the second semester of their first year in W city, Gangwon-do, Korea understood the purpose of the study and agreed to participate. The cadaver dissection program was commissioned by the anatomy class of S University School of Medicine in Shanghai, China, with the front torso and upper extremity for day 1, the back torso and lower extremity for day 2, and the back upper extremity and lower extremity for day 3, and the internal organs and brain dissection and observation for day 4.

1.1. Tool of the Study

The questionnaire consists of six general characteristics and 36 perceptions of death. The perception of death was developed by Inumiya (2002) and modified and supplemented by Cha (2005). The tool consists of five factors: 10 positive perceptions of death, 10 negative perceptions of death, 5 anxiety questions about death, 5 interest questions about death, and 6 willingness to respect life questions. Each question is on a five Likert scale (not at all: 1 point, very positive: 5 point), and negative perceptions of death and anxiety about death are reversed. In other words, the higher the overall score, the higher the positive perception of death, the lower the negative perception, the lower the anxiety about death, the higher the interest in death, and the higher willingness to respect life, which means the higher the perception level of death. In Cha (2005)'s study, the reliability of the tool is Cronbach's α=.790, and in Cho & Kim (2018)'s study, Cronbach's α=.799, and in this study it was Cronbach's α= .781 (positive perception Cronbach's α=.783, negative Perception Cronbach's α=.720, anxiety Cronbach's α=.886, interest Cronbach's α= .918, willingness to respect life Cronbach's α= .820).

1.2. Data Collection

The schedule of the cadaver program was commissioned to the anatomy class at S University Medical College in Shanghai, China, and operated for a total of four days (January 3 to 6, 2020). Before participating in the practice on January 2, the questionnaire was conducted on general characteristics, death perception, and on January 7, death perception was identified again after four days of practice.

Prior to participation in the study, the purpose and method of the study were explained and agreed in writing. It explained to those who agreed to participate in the study that they could change their intention to participate at any time by investigating before and after participation in the study, and that there were no disadvantages. Those who agreed to participate in the study were randomly assigned a unique number and asked to write a unique number on questionnaires before and after participation in the study, creating a pair of questionnaires before and after the practice.

1.3. Data Analysis

The collection data were analyzed with SPSS version 25.0, and the analysis methods that were used were descriptive statistics, paired t-test, one-way ANOVA.

2. RESULT

3.1 General Characteristics of Study Respondents

The study respondents were 92.5 %(74 students) female and 7.5%(6 students) male, and the number of non-religious respondents was 66.3%(53 students) which is more than the one of religious respondents 33.8%. Before participating in the cadaver program, the respondents who were interested in the human body structure and had experience in visiting the human exploratory exhibition were 17.5% (14 students). 42.5% (34 students) answered that they were in good health, and 22.5% (18 students) had patients in their immediate family. 61.3% (49 students) had experienced the death of a close person in the past [Table 1].

Table 1: General characteristics of the subjects (N=80)

Characteristics	Division	n	%
Gender	Male	6	7.5
	Female	74	92.5
Religion	Yes	27	33.8
	No	53	66.3
Experience Similar to Anatomy Program	Yes	14	17.5
	No	66	82.5
Health Status	Good	34	42.5
	Moderate	38	47.5
	Poor	8	10.0
Existence of Patient Among Immediate Family	Yes	18	22.5
	No	62	77.5
The Death of Someone Close to You	Yes	49	61.3
	No	31	38.7

3.2 Death Perception According to General Characteristics before Cadaver Dissection

Among the general characteristics before the cadaver program, it was found that there was a significant difference in the perception of death according to gender (p=.029) [Table 2]. That is, the male students' perception level of death was 3.40 points, which was statistically significantly higher than the female students' 3.12 points. When looking at the specific factors of death perception, there was a significant difference in the perception of the willingness to respect life according to the presence or absence of religion (p=.006). The case with religion scored 3.46, which was statistically significantly higher than the score of 2.97 for the case of no religion.

Table 2: Death perception according to general characteristics before cadaver dissection (N=80)

Variable	Division	Positive perception Mean (SD)	t(p)	Negative perception Mean (SD)	t(p)	Anxiety about death Mean (SD)	t(p)	Interest in death Mean (SD)	t(p)	Willingness to respect life Mean (SD)	t(p)	Total Mean (SD)	t(p)
Gender	Male	3.70 (0.25)	1.284	3.05 (0.58)	1.449	3.07 (1.24)	-0.536	3.60 (0.81)	1.363	3.58 (0.99)	1.510	3.40 (0.30)	2.218
	Female	3.45 (0.47)	(.203)	2.74 (0.49)	(.151)	3.26 (0.84)	(.593)	3.07 (0.93)	(.177)	3.10 (0.73)	(.135)	3.12 (0.30)	(.029)
Religion	Yes	3.47 (0.45)	0.073	2.77 (0.55)	-0.011	3.41 (0.92)	1.162	3.17 (0.95)	0.482	3046 (0.81)	2.804	3.22 (0.29)	1.823
	No	3.47 (0.47)	(.942)	2.77 (0.48)	(.992)	3.17 (0.83)	(.249)	3.07 (0.92)	(.631)	2.97 (0.68)	(.006)	3.09 (0.31)	(.072)
Experience similar to anatomy program	Yes	3.41 (0.48)	-0.549	2.89 (0.41)	0.973	3.34 (0.61)	4.39	2.81 (1.05)	-1.311	2.96 (0.89)	-0.941	3.10 (0.32)	-0.550
	No	3.48 (0.46)	(.585)	2.74 (0.52)	(.333)	3.23 (0.91)	(.662)	3.17 (0.89)	(.194)	3.17 (0.73)	(.350)	3.15 (0.30)	(.584)
Health status	Above average	3.47 (0.47)	0.201	2.75 (0.50)	-0.938	3.20 (0.85)	-1.562 (.122)	3.17 (0.94)	1.822	3.17 (0.77)	1.116	3.14 (0.31)	0.262
	Poor	3.44 (0.37)	(.841)	2.93 (0.55)	(.351)	3.70 (0.96)		2.55 (0.63)	(.072)	2.85 (0.65)	(.268)	3.11 (0.26)	(.794)
Existence of patient among immediate family	Yes	3.53 (0.47)	0.615	2.77 (0.55)	0.045	3.27 (0.96)	0.092	3.03 (1.06)	-3.84	3.19 (0.58)	0.360	3.16 (0.23)	0.301
	No	3.45 (0.46)	(.540)	2.77 (0.49)	(.964)	3.25 (0.84)	(.927)	3.13 (0.89)	(.702)	3.12 (0.80)	(.720)	3.13 (0.33)	(.764)
The death of someone close to you	Yes	3.44 (0.44)	-0.630	2.83 (0.48)	1.429	3.36 (0.79)	1.426	2.99 (0.87)	-1.414	3.13 (0.84)	-0.071	3.15 (0.32)	0.316
	No	3.50 (0.50)	(.531)	2.67 (0.52)	(.157)	3.08 (0.96)	(.158)	3.29 (0.99)	(.161)	3.15 (0.61)	(.943)	3.12 (0.28)	(.753)

3.3 Death Perception According to General Characteristics after Cadaver Dissection

Among the general characteristics after the cadaver program, it was found that there was a significant difference in the perception of death according to gender ($p=.026$) and health status ($p=.009$) [Table 3]. That is, male students' perception level of death was 3.55 points, which was statistically significantly higher than female students' 3.21 points. The students who responded that they had above average health had death awareness level of 3.25, which were significantly higher than that of students with poor health, 3.07. When looking at the specific factors of death perception, there was a significant difference in the perception of the willingness to respect life according to the presence or absence of religion ($p=.026$). The case of having religion scored 3.51 points, which was statistically significantly higher than that of no religion at 3.08 points. There was a difference in the positive perception of death depending on whether or not there was an interest in the structure of the human body before participating in the cadaver program and whether or not there was a previous experience of excursions before human body exploration ($p=.049$). Those with no experience (3.54 points) perceived death more positively than those with experience (3.21 points).

Table 3: Death perception according to general characteristics after cadaver dissection (N=80)

Variable	Division	Positive perception Mean (SD)	t(p)	Negative perception Mean (SD)	t(p)	Anxiety about death Mean (SD)	t(p)	Interest in death Mean (SD)	t(p)	Willingness to respect life Mean (SD)	t(p)	Total Mean (SD)	t(p)
Gender	Male	3.80 (0.35)	1.386	3.18 (0.53)	1.161	3.57 (1.07)	0.517	3.66 (0.85)	1.159	3.64 (0.77)	1.307	3.55 (0.28)	2.264
	Female	3.46 (0.59)	(.170)	2.90 (0.58)	(.249)	3.36 (0.92)	(.607)	3.20 (0.96)	(.250)	3.19 (0.80)	(.195)	3.21 (0.36)	(.026)
Religion	Yes	3.44 (0.61)	-0.483	2.91 (0.62)	-0.152	3.28 (0.92)	-0.658	3.21 (0.98)	-0.117	3.51 (0.73)	2.274	3.25 (0.31)	0.260
	No	3.50 (0.57)	(.630)	2.93 (0.56)	(.879)	3.43 (0.94)	(.512)	3.24 (0.95)	(.907)	3.08 (0.82)	(.026)	3.23 (0.39)	(.796)
Experience similar to anatomy program	Yes	3.21 (0.57)	-2.004	3.07 (0.68)	1.075	3.39 (0.80)	0.036	3.04 (1.13)	-0.815	2.99 (1.02)	-1.208	3.13 (0.34)	-1.134
	No	3.54 (0.57)	(.049)	2.89 (0.55)	(.286)	3.38 (0.96)	(.971)	3.27 (0.92)	(.417)	3.28 (0.76)	(.231)	3.26 (0.36)	(.260)
Health status	Above average	3.51 (0.60)	1.273	2.92 (0.58)	0.045	3.36 (0.94)	-0.472	3.29 (0.97)	1.517	3.26 (0.83)	1.059	3.25 (0.38)	2.854
	Poor	3.24 (0.37)	(.207)	2.91 (0.60)	(.964)	3.53 (0.81)	(.638)	2.75 (0.66)	(.133)	2.94 (0.63)	(.293)	3.07 (0.13)	(.009)
Existence of patient among immediate family	Yes	3.44 (0.54)	-0.380	3.14 (0.64)	1.848	3.30 (1.13)	-0.400	3.34 (1.15)	0.562	3.31 (0.65)	0.477	3.30 (0.28)	0.870
	No	3.50 (0.60)	(.705)	2.86 (0.54)	(.068)	3.40 (0.87)	(.690)	3.20 (0.90)	(.576)	3.20 (0.85)	(.635)	3.22 (0.39)	(.387)
The death of someone close to you	Yes	3.46 (0.56)	-5.75	2.92 (0.59)	-0.016	3.41 (0.88)	0.370	3.11 (0.90)	-1.498	3.16 (0.88)	-0.856	3.20 (0.37)	-0.991
	No	3.50 (0.50)	(.567)	2.67 (0.52)	(.987)	3.08 (0.96)	(.713)	3.29 (0.99)	(.138)	3.15 (0.61)	(.395)	3.12 (0.28)	(.325)

3.4 Changes in Death Perception before and after Participation in Cadaver Dissection

Before the cadaver program, among the five sub-domains, positive perception was the highest with 3.47 points, and negative perception was the lowest with 2.77 points. After the program, positive perception was still the highest with 3.49 points, and negative perception was the lowest with 2.92 points. In particular, the negative perception score for death increased from 2.77 to 2.92 after the program, and there was a statistically significant difference ($p=.003$). Overall, it was found that the perception level of death was statistically significantly increased after (3.24 points) than before (3.14 points) of the cadaver program ($p=.000$) [Table 4].

Table 4: Changes in death perception before and after participation in cadaver dissection (N=80)

Category	Timing	Mean	SD	t/F(p)
Positive perception	Before	3.47	0.46	-0.350(.727)
	After	3.49	0.58	
Negative perception	Before	2.77	0.50	-3.029(.003)
	After	2.92	0.58	
Anxiety about death	Before	3.25	0.87	-1.850(.068)
	After	3.38	0.93	
Interest in death	Before	3.11	0.93	-1.833(.071)
	After	3.23	0.96	
Willingness to respect life	Before	3.14	0.76	-1.901(.061)
	After	3.23	0.81	
Total	Before	3.14	0.31	-3.668(.000)
	After	3.24	0.36	

3. DISCUSSION

In this study, 22.5% of the subjects of this study had a patient in their immediate family, and 61.3% had experienced the death of a close person in the past. It was found that only 17.5% of the students directly observed the body through excursions such as before the human body exploration. Since 82.5% of the students had never seen a cadaver, the program could cause vague fear and anxiety for a significant number of students.

There was a significant difference according to gender (p=.029) in the perception of death according to the general characteristics before the cadaver program, which was different from the previous study (Cho & Kim, 2018). The reason that male students (3.40 ± 0.30) showed higher death perception than female students (3.12 ± 0.30) was thought to be related to the fact that male students had a lower stress level than female students and had an active tendency to control and overcome their environment (Cha, 2013; Cha, 2018). However, it is suggested that more repeated studies according to gender are needed by securing more male students in the future.

There was no significant difference in the overall perception of death according to religion (p=.072) as in the previous study (Cho & Kim, 2018), but there was a significant difference in the willingness to respect life, a detailed factor of death perception. (p=.006). In other previous studies, those who actively participated in religion had higher awareness of biomedical ethics than those who did not (Chong & Lee, 2017). As one of the common essences of religion considers the consciousness of respect for life that respects all life including human beings as important, it is considered that students with religion (3.46±0.81) scored higher than those without religion (2.97±0.68).

After the cadaver program, there was a significant difference in the perception of death according to gender (p=.026) and health status (p=.009) among general characteristics. That is, male students' perception level of death (3.80±0.35) was higher than that of female students (3.46±0.59). The level of perception about death of students who responded that they were in above-average health (3.25±0.38) was higher than that of students in poor health (3.07±0.13). The difference by health status is consistent with the results of previous studies (Cho & Kim, 2018) and is a variable that had no effect before the cadaver program. In the case of this study, it was explained to the students before the program that the anatomical body provided for practice was the cadaver donated according to the noble will of the deceased to help medical development and humanity. In addition, before the dissection, a time of silence was held every day to express gratitude and remembrance for the deceased. As a result, it is analyzed that students' perception of death as a whole has risen in appreciation for the deceased's cadaver donation and the fact that such noble work can be done even after death. It is known that when one's subjective health status is good, they interpret positively about themselves and the surrounding environment and take active coping actions, whereas when one's health is poor, they perceive the environment distortedly, have a passive way of life, and have unstable behavior (Kim, Oh, Cheon&Yoo, 2016). Therefore, it is thought that the unstable and uncertain situation of death is likely to promote an interest avoidance situation in subjects with poor health, and the fear of death is high (Cho, Han & Hwang, 2013; Kim, Oh, Cheon&Yoo, 2016). There was also a contrary study result, and a fear of death was also reported when the subjective health status of nursing students was good (Choi & Lim, 2017). By analogy with the reason, healthy subjects would have had less experience to think about death, and this may be perceived as a negative concept that death itself is a fearful situation and far from them. As such, the experience of thinking about death in relation to one's own health can help us understand death and reduce fears and negative perceptions. This can be seen as a result of suggesting the need for systematic education about death to pre-service nurses who need to take care of dying patients. It is known that nurses, who do not establish an attitude or awareness of death early, feel pressure, fear, frustration, depression, etc. and experience stress in a situation where they have to face death (Kang & Choe, 2020; Kim, Oh, Cheon&Yoo, 2016).

After the program as before, there was a significant difference in the willingness to respect life according to the presence or absence of religion (p=.026). Religion (3.51±0.73) was statistically significantly higher than non-religious (3.08±0.82). In previous studies on paramedic students (Lee & Koh, 2011) and previous studies on nursing students (Kim, Oh, Cheon&Yoo, 2016; Lee, 2015), religion did not show any statistically significant results with death orientation and attitude toward death. Further research on religion is

needed in the future.

Although it was a variable that had no effect before the cadaver program, there was a difference in the positive perception of death depending on whether there was an interest in the structure of the human body before participating in the cadaver program and whether or not there was a past experience of excursions before the cadaver program (p=.049).

Those with no experience related to human anatomy (3.54±0.57) perceived death more positively than those with experience (3.21±0.57). The post score of the inexperienced subjects was higher than the pre-survey positive perception score (3.48±0.46), but the post score decreased compared to the pre-survey positive perception score of the experienced subjects (3.41±0.48). Repeated exposure to situations in which organs or parts of the body are amputated or dismantled can be thought of as death to those who have experienced it as not being freed from the pain of life. Contrary to this, the perception of death was significantly higher both before and after cadaver practice in the case of having seen the dead in 'Have you ever seen the dead?' This was because it provided an opportunity to think more concretely (Cho & Kim, 2018).

In this study and the study of paramedic students (Cho & Kim, 2018), the 'experience of death of a close person' did not show a significant difference with the perception of death both before and after the cadaver dissection. Conversely, in another study of paramedic students, 'experience of death of someone close' was significant in the difference in death orientation, and death perception score was higher than that of students who did not experience death, indicating a negative perception of death (Lee & Koh, 2011).

Changes in the perception of death before (3.14±0.31) and after (3.24±0.36) of the cadaver program were significantly higher overall (p=.000). This is consistent with the statistical significance (p=.000) of the prescore (3.06 points) and the post score (3.19 points) of the preceding study ofparamedic students (Cho & Kim, 2018). Compared with the previous study of nursing students (3.15 points) (Chong & Lee, 2017), it can be seen that the death perception scores of the subjects who responded before the program were similar to those of this study, and they were higher after the program. Among the perceptions of death, in detail, there was no significant difference in the positive perception of death, anxiety, interest, and willingness to respect life. Negative perception is an inverse item, indicating that the higher the score, the lower the negative perception. It was significantly increased from 2.77 to 2.92 (p=.003), indicating that the negative perception of death after the program was lowered. Both before (3.47 points) and after (3.49 points) of the cadaver program, positive perception showed the highest score among the five areas. Contrary to the results of this study, in the previous study ofparamedic students, the anxiety about death was significantly lowered from 2.96 to 2.72 points (p=.000), indicating the anxiety increased after cadaver dissection, and the interest in death increased from 2.93 to 3.19 points (p=.000) significantly increased (Cho & Kim, 2018).

Since this study conveniently sampled nursing students from some regions, there is a limit to generalizing the research results to nursing students across Korea. However, as a result of the above study, through the cadaver training, students clearly understood the meaning of donating the body and the noble meaning of the deceased, and it seems that the level of perception of death increased through this. Considering this aspect, a program that can provide sufficient education on the noble meaning of body donation during cadaver practice should be continuously operated. As a prospective professional who will provide professional nursing services to patients, an education program that can continuously improve the level of understanding and perception of death will be required (Amor & Joana, 2013; Cornelia, Ulrich, Mirjam&Gerhild, 2015). In previous studies, when the fear of death was low, the perception of organ donation was positive (Choi & Lim, 2017). If the perception of organ donation is positively changed, it will lead to organ donation, and it is expected that the degree of organ donation practice of nursing students will be improved. As the effect of gender on the perception of death was found to be significant, it would be necessary to develop and apply a death-related program suitable for each female student with a lower recognition score and a male student with a high score.

4. CONCLUSION

Among the general characteristics before the cadaver dissection, there was a significant difference in the perception of death according to gender (p=.029). When looking at the specific factors of death perception,

there was a significant difference in the perception of the willingness to respect life according to the presence or absence of religion (p=.006). Among the general characteristics after the cadaver dissection, there was a significant difference in the perception of death according to gender (p=.026) and health status (p=.009). Looking at the specific factors of death perception, there was a significant difference in the perception of the willingness to respect life according to the presence or absence of religion (p=.026). There was a difference in the positive perception of death depending on whether or not there was a previous experience of excursions before cadaver dissection (p=.049). Before the cadaver dissection, among the five sub-domains, positive perception was the highest with 3.47 points, and negative perception was the lowest with 2.77 points. After the dissection, positive perception was still the highest with 3.49 points, and negative perception was the lowest with 2.92 points. In particular, there was a significant difference in the negative perception score of death before and after the cadaver dissection (p=.003). Overall, the recognition level of death was statistically significantly higher after (3.24 points) than before (3.14 points) of the cadaver dissection (p=.000).

If an intervention program capable of alleviating death anxiety for nursing students is accompanied in the future, dissection practice using an anatomical cadaver will not only help to improve anatomical knowledge, but also contribute to raising the level of death perception.

5. ACKNOWLEDGEMENTS

Consent for Publication

The author read and aware of publishing the manuscript in Journal for ReAttach Therapy and Developmental Diversities

Data Availability Statement

The database generated and /or analysed during the current study are not publicly available due to privacy, but are available from the corresponding author on reasonable request.

Declarations

Author(s) declare that all works are original and this manuscript has not been published in any other journal.

REFERENCES

[1]   Amor, A. H. & Joana, G. B. (2013). Death attitudes and emotional intelligence in nursing students, Omega, 66(1), 39-55. https://doi.org/10.2190/OM.66.1.c

[2]   Baek, S. Y. (2018). A Study on the death consciousness and the awareness of good death in the college of nursing students who have experienced clinical practice, Journal of Digital Convergence, 16(10), 271-279.

[3]   Cha, N. H. (2013). The relationships between stress and health locus of control in nursing college students. Journal of East-West Nursing Research, 19(2), 177-185. https://doi.org/10.14370/jewnr.2013.19.2.177

[4]   Cha, N. H. (2018). The relationships between the perception of biomedical ethics and nursing ethics in nursing students, Journal of East-West Nursing Research, 24(2), 154-162. https://doi.org/10.14370/jewnr.2018.24.2.154

[5]   Cha, Y. R. (2005). A study on the nurses' attitude to death in Korea: Centering on university hospital in Jeollabuckdo Province. Unpublished Master's Thesis. Wonkwang University; Iksan, Korea.

[6]   Choi, D. W. & Lim, J. H. (2017). A convergence study on the relationships among attitude toward death, spiritual well-being and awareness about organ donation of nursing students. Journal of the Korea Convergence Society, 8(5), 265-273, doi.org/10.15207/JKCS.2017.8.5.265

[7]   Cho, K. J. & Kim, S. I. (2018). Changes of recognition to death before and after observation on

the cadaver dissection to paramedical students, Korean J Phys Anthropol, 31(4), 159-165. https://doi.org/10.11637/kjpa.2018.31.4.159

[8] Cho, O. H., Han, J. S. & Hwang, K. H. (2013). Subjective health status, attitude toward death and spiritual well-being of nurses. Journal of Korea Contents society, 13(10), 375-384. https://doi.org/10.5392/JKCA.2013.13.10.375

[9] Chong, Y. R. & Lee, Y. H. (2017). Affecting factors of the awareness of biomedical ethics in nursing students. J Korean Acad Soc Nurs Educ. 23(4), 389-397. http://dx.doi.org/10.5977/jkasne.2017.23.4.389

[10] Cornelia, M., Ulrich, S., Mirjam, K. &Gerhild, B. (2015). Perceptions of a good death among German medical students. Death Studies, 39(5), 307-315. DOI:10.1080/07481187.2014.951496

[11] Inumiya, Y. (2002). A study on development of a view of life and death scale and relationships among its elements. Unpublished Doctoral Dissertion. Korea University; Seoul, Korea.

[12] Kang, H. J. & Choe, H. J. (2020). Nursing students' experiences with patient deaths during clinical practice, J Korean Acad Soc Nurs Educ, 26(1), 56-66. doi.org/10.5977/jkasne.2020.26.1.56

[13] Kim, J. G., Oh, S. M., Cheon, E. Y. &Yoo, J. H. (2016). Factors influencing the attitude toward death in college nursing student. Journal of the Korea Academia-Industrial cooperation Society, 17(1), 676-683. https://doi.org/10.5762/KAIS.2016.17.1.676

[14] Kim, W. S. (2012). The effect of observation program of cadaver dissection for the paramedical students. Korean J Phys Anthropol, 25(2), 77-86. https://doi.org/10.11637/kjpa.2012.25.2.77

[15] Lee, H. J. (2013). A study on the nursing student's attitude toward death and perception on hospice care. Journal of East-West Nursing Research, 19(2), 88-95. DOI: 10.14370/jewnr.2013.19.2.88

[16] Lee, J. E. & Koh, B. Y. (2011). The death orientation of paramedic student. Korean J Emerg Med Ser, 15(3), 45-55.

[17] Lee, M. R. (2015). A Study on the spiritual well-being and attitudes to death in nursing students after anatomy cadaver practice. Asia-pacific Journal of Multimedia Services Convergent with Art, Humanities, and Sociology, 5(4), 287-295. DOI: 10.14257/AJMAHS.2015.08.29.

[18] Ministry of Government Legislation of Korea: Law of Medicine. No. 17643, Law for Medical Technicians etc. No. 17472. 2020.12.31 enforced. (in Korean)

[19] Thorson, J. A. & Powell, F. C. (1988). Elements of death anxiety and meaning of death. J Clin Psychol, 44(5), 691-701. https://doi.org/10.1002/1097-4679(198809)44:5<691::AID-JCLP2270440505>3.0.CO;2-D