

RELATIONSHIPS BETWEEN DEATH ANXIETY AND EMPATHY AMONG MEDICAL STUDENTS (PILOT STUDY)

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Summary. Background. *Death anxiety* is defined as emotionally negative reactions provoked by thoughts about death and dying of self, and death and dying of others (Lester, 1990). *Empathy* refers to the reactions of one individual to the observed experiences of another (Davis, 1983). As determined by Kurz and Hayes (2006) in their study, death anxiety affects the student's successful transition from theoretical knowledge to their practical application, while medical empathy has a significant impact on patient satisfaction with treatment (Regehr, Goldberg, Hughes, 2002; Wimmer, Stuber, 2010; Ward, Cody, Schaal, Hojat, 2012) and on adherence to the treatment plan (Wimmer, Stuber, 2010), better disease outcomes and the physician-patient relationship (Caruso, Bernstein, 2014; van Ryn et al., 2014). Research studies on death anxiety among medical students are scarce. The number of articles on death anxiety's link to empathy in foreign literature is limited, and this relationship has not been fully investigated in the studies conducted. Unfortunately, there are no studies in the Lithuanian language on the relationship between death anxiety and empathy seen as the main subject matter of the research. This suggests that the given field of science has not been fully explored. The **aim** of this study was to investigate the relationships between death anxiety and empathy among the students of Lithuanian University of Health Sciences. **Methods.** The study involved 47 third-year medical students of the Faculty of Medicine of Lithuanian University of Health Sciences. A questionnaire designed for the study consisted of demographic questions, empathetic concern and personal distress subscales in the scale of Interpersonal Reactivity Index (IRI) (Davis, 1980), and the death of others and the dying of others subscales in the revised Collet – Lester Fear of Death and Dying Scale (Lester, 1990). **Results & Findings.** It has been found that female medical students tend to have more death of others and dying of others anxiety and display higher levels of overall empathy and personal distress than male medical students. It was also found that medical students showing greater empathetic concern have a stronger sense of death of others and dying of others anxiety than students reporting lower levels of empathetic concern.

Keywords: death of others anxiety, personal distress, empathetic concern, emotional empathy.

INTRODUCTION

Death anxiety is a new concept launched in the middle of the 20th century. In 1950, Herman Feifel conducted the first research on attitudes to death and the experience of bereavement. In 1969, Elisabeth Kübler-Ross's book *On Death and Dying* was published followed by questionnaires designed to explore death anxiety and related factors (Neimeyer, 2009). At present, it is alleged that death anxiety is caused by consciousness of one's own mortality (Sherman, Norman, McSherry, 2010), however, the uncertainty of what awaits one beyond death is more frightening than death itself (Ozanne, Graneheim, Strang 2013).

Death anxiety is defined as emotionally negative reactions provoked by thoughts about death and dying of self, and death and dying of others (Lester, 1990). This phenomenon consists of four distinct fears, such as death of self, dying of self, death of others, and dying of others (Collet and Lester, 1969, as cited in Sherman et al., 2010). Currently, the majority of research related to death anxiety investigates death anxiety levels in physicians and patients. In Lithuania however, such research studies are few and far between, accordingly, new studies and literature on the subject are scarce. This may be due to the fact that people normally avoid topics on death and deny its existence (Valmaitė, 2006). As stated by author Kübler-Ross (2001), we live in a very particular death-denying society.

Research suggested that death anxiety and attitudes towards the end of life or death evolved among students during the first cycles of the educational program (Kurz, Hayes, 2006, as cited in Dobbins, 2011). Meanwhile, an inevitable encounter with the first patient during clinical practice triggers severe anxiety and a sense of insecurity in medical students due to lack of experience and absence of certain skills (Pitkala, Mantyranta, 2004). Therefore, it is assumed that the ability of medical students to control their own death anxiety would help them later to constructively overcome negative emotions (Vasiliauskienė, 2011).

Studies have shown that younger female medical students experience higher levels of death anxiety than elder students. On the contrary, younger male medical students reported lower levels of death anxiety than elder ones (Vasiliauskienė, 2011). These findings coincide with the

results obtained in other research which revealed that women were more inclined to dread death and to experience more discomfort in respect thereof than men (Neimeyer, 2009; Petrošiūtė, 2012; Rakauskienė, 2008; Dickinson, Lancaster, Winfield, Reece, Colthorpe, 1997). Attempts were made to explain the given link between death anxiety and gender by the fact that women tended to reveal themselves through emotions (Neimeyer, 2009), acknowledge the existing fears, and try to discuss them (Petrošiūtė, 2012). Studies have found that women deem it more difficult to cope with the death of significant others (Rakauskienė, 2008). Meanwhile, men are more worried about their preferred social responses that partially restrict the male's emotional expression (Neimeyer, 2009). Men argue that in the presence of a loved one's death, they would not experience death anxiety, also they would bravely attend to a terminally ill person (Rakauskienė, 2008). However, scientists agree that the given factors alone are not enough to clarify this link, consequently, more comprehensive research is required in this field (Neimeyer, 2009).

Meanwhile, empathy is defined as the reactions of one individual to the observed experiences of another (Davis, 1983). The concept of empathy was first proposed in 1759 by Adam Smith who described it as a sense of fellow-feeling with others that derives from an emotional situation (Davis, 1996). Currently, empathy is divided into two components: cognitive (the capacity to recognize accurately and understand another's emotional state) and emotional (the capacity to respond with an appropriate emotion to another's emotional experiences) (Davis, 1983, as cited in Regehr, Goldberg, Hughes, 2002). In Lithuania, empathy is examined on a larger scale than death anxiety; teenagers or school-age children are frequently drawn into such studies as research subjects (Pukinskaitė, 2006; Karkauskaitė 2013; Nenortienė, 2012).

The research suggests that empathy is related to gender (Hojat et al., 2005; Karaoglu, Pekcan, Yilmaz, 2013; Dickinson et al., 1997; Shashikumar et al., 2014). It was found that female medical students tended to have higher levels of empathy than male medical students (Karaoglu, Pekcan, Yilmaz, 2013; Hojat et al., 2005; Shashikumar et al., 2014). Female doctors take care of their patients and foster their health more accurately than male doctors (Dickinson et al., 1997). Empathy also affects a medical student while choosing a specialization (Hojat et al., 2005).

The findings obtained in research showed that students scored higher on empathy in preclinical studies than in clinical practice. This may stem from students' attempts to appease the nascent anxiety by using nonadaptive methods that cause a decline in empathy for patients (Karaoglu, Pekcan, Yilmaz, 2013). On the other hand, other findings demonstrated that the level of empathy in students increased consistently with each year level of the studies (McKenna et al., 2011). More empathetic medical graduates showed better clinical than academic excellence (Shashikumar et al., 2014). Research conducted by Hojat et al. (2009) revealed a decline in empathy among medical students in their third year of studies when empathy is most important because of patient care related activities.

Empathy is significantly associated with medical decisions (Chibnall, Tait, Jovel, 2014). The physician's empathy has a significant impact on patient satisfaction with treatment (Regehr, Goldberg, Hughes, 2002; Wimmer, Stuber, 2010; Ward, Cody, Schaal, Hojat, 2012) and on adherence to the treatment plan (Wimmer, Stuber, 2010), better disease outcomes and physician-patient relationship (Caruso, Bernstein, 2014; van Ryn et al., 2014).

The findings of research on the relationship between death anxiety and empathy indicated lower levels of death anxiety in more empathetic hospice volunteers than in their less empathetic counterparts (Claxton-Oldfield, Banzen, 2010; Garbay, Gay, Claxton-Oldfield, 2014). Meanwhile, the examination of medical students showed the following correlation: the higher the level of death anxiety, the lower the level of emotional empathy or personal distress (Thiemann, Quince, Benson, Wood, Barclay 2014).

According to another source, women who are characterized by a higher level of death anxiety than men are also more sensitive, supportive and empathetic for the dying. Furthermore, it is easier for them to contemplate and discuss death related topics (Kastenbaum, 2003). This conclusion is supported by the results of a study performed by Servaty, Krejci and Hayslip (1996) with regard to nurses: the higher the level of empathy, the higher the level of death anxiety. Another study found that more empathetic individuals are more anxious about their and others' death than less empathetic individuals (Valmaitè, 2006).

The subject matter of the present research is the relationships between death anxiety and empathy among medical students. As determined by Kurz and Hayes (2006), death anxiety affects the student's successful transition from theoretical knowledge to their practical application. It should be noted that research studies on death anxiety among medical students are scarce. There are only a limited number of articles on death anxiety's link to empathy in foreign literature, accordingly, this relationship has not been fully investigated and precise patterns have not been established. Unfortunately, there are no studies in the Lithuanian language on the relationship between death anxiety and empathy seen as the main subject matter of the research. This suggests that the given field of science has not been fully explored, therefore, a research on the relationship between death anxiety and empathy among Lithuanian medical students would be beneficial.

The **aim** of this study was to investigate the relationships between death anxiety and empathy among the students of Lithuanian University of Health Sciences. To achieve the aim, the following **goals** have been set:

1. To determine peculiarities of death and dying of others anxiety among medical students of different genders;
2. To determine empathy characteristics among medical students of different genders;
3. To establish links between death and dying of others anxiety and empathy.

Based on the analysis of scientific literature, the following **hypotheses** have been put forth:

1. Females have more death and dying of others anxiety than males;
2. Females are more empathetic than males;
3. More empathetic medical students are more anxious about death and dying of others than less empathetic medical students.

METHODS

Sample

The study involved 47 third-year medical students from group 4–9 of the Faculty of Medicine of Lithuanian University of Health Sciences (14 males and 33 females). The mean age of all respondents was 21.23 years ($SD = .666$). Men accounted for 29.79 percent of the total study sample, the average age being 21.43 years ($SD = .646$). The youngest male respondent involved in the study was 21 years old, the oldest respondent was 23 years old (*Fig. 1*).

Respectively, females accounted for 70.21 percent of the study sample, the average age being 21.15 years ($SD = .667$). The youngest female respondent involved in the study was 20 years old, the oldest respondent was 23 years old (*Fig. 1*).

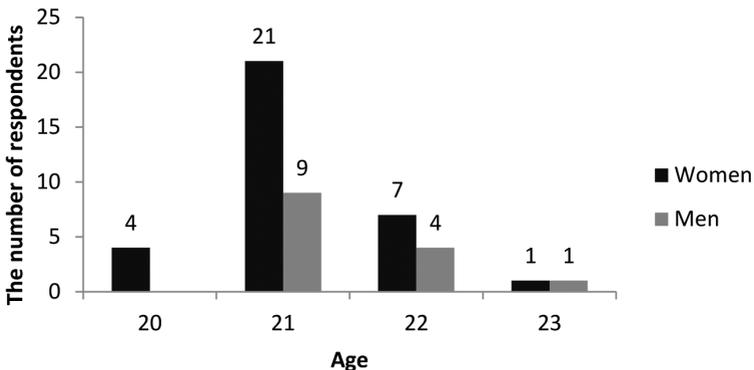


Fig. 1. *Distribution of respondents by gender and age*

Instruments

A questionnaire designed for the study consisted of empathetic concern and personal distress subscales in the scale of Interpersonal Reactivity Index (IRI) (Davis, 1980), and the death of others and dying of others subscales in the revised Collet – Lester Fear of Death and Dying Scale (Lester, 1990). Permissions to use these scales were obtained from the researchers who translated these scales into the Lithuanian language and were first to have used them in their research studies. Permission to use the scale of Interpersonal Reactivity Index was obtained from Justina

Naujokaitienė, while permission to use the revised Collet – Lester Fear of Death and Dying Scale was received from Justina Vonžodienė.

Two questions about gender and age were used to determine medical students' demographic characteristics.

To measure levels of empathy in students, the **subscales of the scale of Interpersonal Reactivity Index** and the total score (overall empathy) were used:

- The *empathetic concern* subscale helps to assess the respondents' ability to experience feelings of sympathy, compassion and tenderness for others. This component refers to other-oriented emotions;
- The *personal distress* subscale measures the respondents' ability to experience distress and discomfort in response to extreme distress in others. It helps to determine human responses to other people's complex interpersonal interactions;
- The *overall empathy* scale calculates the total score on empathetic concern and personal distress. It presents the emotional component of empathy which shows the individual's tendency to emotionally empathize with the others' situation, to be moved by others' emotional experiences (Karkauskaitė, 2013; Nenortienė, 2012; Shamay-Tsoory, Aharon-Peretz, Perry, 2009).

Each of the subscales consists of 7 items. The subjects are asked to rate the items on a subscale from 1 to 6, with 1 indicating that the item does not describe the subject's attitudes and feelings well and 6 indicating that the item describes the subject's attitudes and feelings very well. Subscale scores are calculated by summing up scores on each of the items (Naujokaitienė, 2010). Scoring higher on the subscale indicates a feature characteristic of the participant (Nenortienė, 2012). After internal consistency reliability of the subscales has been assessed, both subscales and the overall empathy scale were found to be suitable to use despite low reliability of one of the subscales (Table 1).

Table 1. Internal consistency reliability of the subscales of the scale of Interpersonal Reactivity Index and overall empathy

Subscale	Cronbach's alpha
Empathetic concern	.658
Personal distress	.868
Overall empathy	.823

The **subscales of the revised Collet – Lester Fear of Death and Dying Scale** were used to assess death anxiety experienced by medical students. The subscales were designed to examine the respondents' fear of death of others and dying of others:

- *The fear of death of others* subscale reflects anxiety expressed by the respondents with respect to various aspects of the death of significant others (loss of communication, bereavement, loneliness following their death, etc.);
- *The fear of dying of others* subscale is designed to measure the intensity of anxiety experienced by the respondents with respect to the moments of the dying process of significant others (a decline in mental ability, staying close to the dying person, degeneration of the body, etc.) (Vonžodienė, 2010).

Each subscale includes 8 items. The subjects are asked to rate the items on a subscale from 1 to 5, with 1 indicating the low level of anxiety about the given death, 3 indicating the average level of anxiety about the given death aspect, and 5 indicating the high level of anxiety about the given death aspect for the respondent. Subscale scores are calculated by summing up scores on each of the items. Scoring higher on the subscale indicates higher levels of death anxiety (Vonžodienė, 2010). After internal consistency reliability of the subscales has been assessed, the subscales were found to be reliable, therefore, suitable to use (Table 2).

Table 2. Internal consistency reliability of the subscales of the revised Collet – Lester Fear of Death and Dying Scale

Subscale	Cronbach's alpha
Death of others	.719
Dying of others	.738

Procedure

Permission to carry out a study was issued by the Center for Bioethics of Lithuanian University of Health Sciences on 10 March 2015. The study was conducted on 19 March 2015 from 9:30 a.m. to 11:30 a.m. Students were surveyed after Pharmacology works.

At the beginning of the study, 54 consent forms for participation in a research study were distributed and, respectively, 54 questionnaires were distributed. At the end of the study, 54 signed consent forms for

participation in a research study and 52 completed questionnaires were received which led to a lower response rate of 96.3 percent.

During the survey, some of the subjects displayed defensive responses when completing the items on the Collet – Lester subscales, consequently, three questionnaires were discarded for failure to honestly complete the information requested. Two more questionnaires were discarded for typing errors – the second pages of the questionnaires were found blank. Therefore, in total, 5 questionnaires were discarded (10.2 percent of the questionnaires distributed).

Methods of Data Analysis

The values of the quantitative attributes satisfying the normal conditions of the study are represented by the mean and standard deviation within parentheses. The attributes not meeting these conditions are represented by the median and the minimum and maximum values within parentheses.

The *Shapiro – Wilk test* was used to check the normality of the dataset. The *Student's t-test* was used to compare the means of two independent samples where the two populations being compared followed a normal distribution. The data then were described by the p-value, mean, standard deviation and t-test. The nonparametric *Mann – Whitney test* was applied where the two populations did not follow a normal distribution, they were described by the p-value, ranking average, and Z-test. Hypotheses were tested using the significance level $\alpha = .05$.

The research data were processed using IBM SPSS Statistics 22 and Microsoft Excel 2010 programs.

RESULTS

Peculiarities of Death Anxiety among Medical Students of Different Genders

In order to verify the first hypothesis whereby females had more death and dying of others anxiety than males, the *Shapiro – Wilk test* for checking the normality of the dataset, the nonparametric *Mann – Whitney test* and the parametric *Student's t-test* were used.

It was found that the scores on the fear of death of others subscale did not follow a normal distribution, accordingly, the nonparametric

Mann – Whitney test was used. Analysis of the data revealed a statistically significant difference between the means of female medical students population and male medical students population ($p = .034$) (Table 3). Since higher subscale scores indicated higher levels of death of others anxiety, it can be stated that females have more death of others anxiety than males.

Furthermore, it was found that the scores on the fear of dying of others subscale were normally distributed. The difference between the means of the male and female populations ($p = .002$) was determined using the *Student’s t-test* (Table 3). Females scored higher on dying of others anxiety subscale suggesting more intensely experienced anxiety. It can be concluded that females have more dying of others anxiety than males.

In summary, it can be said that female medical students experience significantly higher death and dying of others anxiety levels than male medical students.

Table 3. Comparison of death and dying of others anxiety indices among male and female medical students

Aspects of death anxiety	Male medical students (n = 14)			Female medical students (n = 33)			Z	t	p
	Mean	Standard deviation	Ranking average	Mean	Standard deviation	Ranking average			
Death of others anxiety	–	–	17.5	–	–	26.76	–2.126	–	.034
Dying of others anxiety	21.786	4.079	–	27.485	5.82	–	–	3.324	.002

Empathy Characteristics among Medical Students of Different Genders

In order to verify the hypothesis whereby females were more empathetic than males, the *Shapiro – Wilk test* for checking the normality of the dataset and the parametric *Student’s t-test* were used.

The total score on the empathetic concern and personal distress subscales referred to the overall empathy level among medical students. This population showed a normal distribution. The means were

compared using the *Student's t-test* to verify dependence on gender. Analysis of the data demonstrated a statistically significant difference between the mean scores on overall empathy in male and female respondents ($p = .016$) (Table 4). Therefore, it can be stated that overall empathy is related to gender. Female medical students achieved higher levels of overall empathy than male medical students.

It was found that the medical students' empathetic concern scores followed a normal distribution. The *Student's t-test* was employed to determine dependence between empathetic concern and gender. The findings showed no difference by gender in the mean score on the empathetic concern subscale ($p > .05$) (Table 4). Therefore, it can be said that empathetic concern is not statistically significantly associated with gender.

Medical students' personal distress subscale scores were found to be normally distributed. The above mentioned *Student's t-test* was used to determine dependence between personal distress and gender. The findings revealed a statistically significant difference between the mean scores on personal distress in male and female respondents ($p = .04$) (Table 4). Therefore, personal distress can be said to be related to gender. Females scored higher on the personal distress subscale suggesting higher levels of personal distress, therefore, it can be stated that females tend to have higher levels of personal distress than males.

In summary, it can be said that female medical students displayed higher overall empathy and personal distress (an aspect of empathy) levels than male medical students. Meanwhile, no correlations between empathetic concern and gender were detected.

Table 4. Comparison of empathy indices among male and female medical students

Aspects of empathy	Male medical students (n = 14)		Female medical students (n = 33)		t	p
	Mean	Standard deviation	Mean	Standard deviation		
Overall empathy	43.857	10.904	51.697	9.299	2.511	.016
Empathetic concern	26.5	6.273	29.758	4.677	1.968	.055
Personal distress	17.357	6.476	21.939	6.937	2.111	.04

Relationships between Death Anxiety and Empathy

The third hypothesis to be verified stated that more empathetic medical students were more anxious about death and dying of others than less empathetic medical students. To test this hypothesis, the empathetic concern and personal distress subscales of the scale of Interpersonal Reactivity Index and the overall empathy scale were divided into two groups based on the sample means. Then the statistical calculations were performed using the nonparametric *Mann – Whitney test* and the parametric *Student’s t-test*.

The distribution of overall empathy subscale scores according to the mean score on the scale resulted in two groups, the first whereof consisted of medical students reporting lower levels of overall empathy (score ≤ 49), and the second group was comprised of medical students reporting higher levels of overall empathy (score > 49). Based on the given division, the death of others anxiety subscale scores were also divided into two groups. The nonparametric *Mann – Whitney test* was then used for two independent samples. No statistically significant difference between the scores on death of others anxiety between respondents reporting lower levels of overall empathy and those reporting higher levels of overall empathy was found ($p > .05$) (Table 5). Therefore, it can be concluded that overall empathy is not significantly associated with death of others anxiety.

The same operations were carried out for the dying of others anxiety subscale scores. The means were compared via the *Student’s t-test* whereby no statistically significant difference between the mean scores between respondents reporting lower levels of overall empathy and those reporting higher levels of overall empathy was found ($p > .05$) (Table 5). The findings suggest that overall empathy is not statistically significantly associated with dying of others anxiety.

Table 5. Comparison of death anxiety indices among medical students reporting higher or lower levels of overall empathy

Aspects of death anxiety	Higher levels of overall empathy reported (n = 24)			Lower levels of overall empathy reported (n = 23)			Z	t	p
	Mean	Standard deviation	Ranking average	Mean	Standard deviation	Ranking average			
Death of others anxiety	–	–	26.85	–	–	21.02	-1.464	–	.143
Dying of others anxiety	27.125	6.797	–	24.391	4.62	–	–	-1.618	.113

The distribution of empathetic concern subscale scores according to the mean score resulted in two groups, the first whereof consisted of medical students displaying lower levels of empathetic concern (score ≤ 30), and the second group was comprised of medical students displaying higher levels of empathetic concern (score > 30). Based on the given division, the death of others anxiety subscale scores were also divided into two groups. The nonparametric *Mann – Whitney test* was then used to calculate statistical significance of the two populations. Analysis of the data revealed a statistically significant difference between p-values of the populations of respondents displaying higher levels of empathetic concern and respondents displaying lower levels of empathetic concern ($p = .037$) (Table 6). It can, therefore, be stated that medical students displaying higher levels of empathetic concern express higher degrees of death of others anxiety.

In examining the relationships between empathetic concern and dying of others anxiety, the latter subscale was divided into two groups according to pre-defined levels of empathetic concern. The findings of the *Student's t-test* indicated a statistically significant difference between the mean scores on dying of others anxiety between respondents displaying higher levels of empathetic concern and respondents displaying lower levels of empathetic concern ($p = .049$) (Table 6). Consequently, medical students reporting higher levels of death of others anxiety tend to show more empathetic concern.

Table 6. Comparison of death anxiety indices among medical students displaying higher or lower levels of empathetic concern

Aspects of death anxiety	Higher levels of empathetic concern displayed (n = 20)			Lower levels of empathetic concern displayed (n = 27)			Z	t	p
	Mean	Standard deviation	Ranking average	Mean	Standard deviation	Ranking average			
Death of others anxiety	–	–	28.82	–	–	20.43	-2.085	–	.037
Dying of others anxiety	27.9	7.04	–	24.222	4.484	–	–	-2.049	.049

Based on the aforementioned principle, the personal distress subscale scores were divided into two groups according to the mean. The first group consisted of respondents experiencing lower levels of personal distress (score ≤ 20) whereas the second group included

respondents experiencing higher levels of personal distress (score > 20). Then, the death of others anxiety subscale scores were divided into two groups with respect to the division referred to above. The findings of the nonparametric *Mann – Whitney test* for two independent samples showed that death of others anxiety associated p-values coincided between respondents experiencing higher levels of personal distress and those experiencing lower levels of personal distress ($p < .05$) (Table 7). Thus, death of others anxiety was not statistically significantly associated with the level of personal distress.

The dying of others anxiety subscale scores were distributed in the same way. The findings of the parametric *Student's t-test* for two independent samples showed no statistically significant difference between the mean scores on dying of others anxiety between medical students experiencing higher levels of personal distress and those experiencing lower levels of personal distress ($p > .05$) (Table 7). The findings suggested that dying of others anxiety was not statistically significantly associated with personal distress.

Table 7. Comparison of death anxiety indices among medical students experiencing higher or lower levels of personal distress

Aspects of death anxiety	Higher levels of personal distress experienced (n = 25)			Lower levels of personal distress experienced (n = 22)			Z	t	p
	Mean	Standard deviation	Ranking average	Mean	Standard deviation	Ranking average			
Death of others anxiety	–	–	25.60	–	–	22.18	–.856	–	.392
Dying of others anxiety	27.32	6.074	–	24.046	5.385	–	–	–1.944	.058

In summary, it can be said that a statistically significant relationship between overall empathy, personal distress and death and dying of others anxiety was not observed. However, a link between empathetic concern and death and dying of others anxiety was detected. Medical students displaying higher levels of empathetic concern were found to have higher levels of death and dying of others anxiety.

DISCUSSION

As demonstrated by numerous studies on death anxiety characteristics, this psychological construct is related to gender. The studies have indicated that women tend to report somewhat higher levels of death-related anxiety than men (Neimeyer, 2009; Petrošiūtė, 2012; Rakauskienė, 2008; Dickinson, Lancaster, Winfield, Reece, Colthorpe, 1997). The given conclusion is supported by the findings of the present research study whereby women display higher levels of death and dying of others anxiety than men. According to studies, such pattern can be related to the fact that in public, it is acceptable for women to express their emotions more openly, dare to be vulnerable and boldly share their fears (Neimeyer, 2009; Petrošiūtė, 2012). Meanwhile, a need for males to carry out strong role and conceal their emotions has roots in early childhood experiences. Therefore, they may not realize or deny the existence of death anxiety as a negative emotion (Neimeyer, 2009).

Furthermore, links between empathy and gender were identified. Studies suggest that women have higher levels of empathy than men (Hojat et al., 2005; Karaoglu, Pekcan, Yilmaz, 2013; Dickinson et al., 1997; Shashikumar et al., 2014). The same conclusion has been drawn in the present study: female medical students experienced higher levels of personal distress (an aspect of empathy) and overall empathy comparing to male medical students. However, a statistically significant difference with respect to empathetic concern has not been observed. Studies suggest that female doctors are better at establishing warm relationships with patients and caring about their well-being than males (Dickinson et al., 1997). It is easier for female doctors and medical students to reach out to another person, consequently, it can be assumed that in this case, it is easier for them to understand what the other person is experiencing in certain situations and to share negative feelings of the suffering person. These patterns are indicated by scores on the personal distress subscale. Also, it can be justified by the above mentioned fact that sympathy and helpfulness in supporting highly distressed individuals have been promoted in women since early childhood.

Research studies on the relationships between death anxiety and empathy are few and far between, and their results are contradictory. Some studies indicate that more empathetic individuals show lower levels

of death anxiety (Thiemann, Quince, Benson, Wood, Barclay, 2014; Claxton-Oldfield, Banzen, 2010), while other studies, on the contrary, suggest that more empathetic individuals display higher levels of death anxiety (Kastenbaum, 2003; Servaty, Krejci, Hayslip, 1996; Valmaitė, 2006). The results of this study partially confirm findings of the latter research. It has been found that medical students showing higher levels of empathetic concern tend to show higher levels of death and dying of others anxiety than students displaying lower levels of empathetic concern. Meanwhile, no statistically significant correlations between personal distress, overall empathy and death and dying of others anxiety have been detected. This regularity can rest on Terror Management Theory (TMT) which states that high death anxiety drives an individual to be forgiving and caring about others and to behave prosocially (Schimmel, Wohl, Williams, 2006). Such an individual is characterized by a higher level of empathy compared to the one that shows a lower level of death anxiety. However, in order to determine a more precise regularity and causal relationship, more comprehensive research is required.

Like many researches, the present study has a few limitations. First, the study sample was too small to statistically reveal all the existing patterns. Therefore, a follow-up study would be appropriate employing more detailed questionnaires and representative sampling. Another limitation may be related to the fact that the study included only third-year medical students. They might not have reflected tendencies prevailing among all medical students, accordingly, a sample consisting of medical students in different years of their course of study would be advisable.

On the other hand, the present research can be used as a pilot study, because in spite of a small sample of respondents, some death anxiety and empathy patterns emerged based on statistical criteria. Thus, this field is significant and follow-up studies would be very valuable in examining the relationships between death anxiety and empathy conclusively. However, due to the fact that no articles of this type have been published in Lithuania so far, even a small-scale study can provide important information and complement available knowledge of the relationships between death anxiety and empathy among medical students. Moreover, internal consistency reliability of the scales secures validity and reliability of the findings.

CONCLUSIONS

1. Female medical students tend to have more death of others and dying of others anxiety than male medical students;
2. Female medical students display higher levels of overall empathy and personal distress (an aspect of empathy) than male medical students. Levels of empathetic concern among female and male medical students are not statistically significantly different;
3. Medical students displaying higher levels of empathetic concern have higher levels of death and dying of others anxiety compared to students displaying lower levels of empathetic concern. Levels of death and dying of others anxiety among medical students displaying higher or lower levels of overall empathy and personal distress (an aspect of empathy) are not statistically significantly different.

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MIRTIES NERIMO IR EMPATIJOS SĄSAJOS TARP MEDICINOS STUDENTŲ: PILOTINIS TYRIMAS

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Santrauka. Problema. Mirties nerimas apibrėžiamas kaip emociškai neigiamos reakcijos, atsirandančios asmeniui galvojant apie savo ar kitų mirtį ir savo ar kitų mirties procesą (Lester, 1990). Empatija apibrėžiama kaip vieno asmens individualios reakcijos, sukeltos stebimų ir (arba) matomų žmonių patirties (Davis, 1983). Kurzo ir Hayeso (2006) tyrimu buvo nustatyta, kad nuo mirties nerimo priklauso, ar studentui pavyks sėkmingai teorines žinias pritaikyti praktiškai, o nuo mediko empatiškumo labai priklauso, ar pacientas bus patenkintas gydymu (Regehr, Goldberg, Hughes, 2002; Wimmers, Stuber, 2010; Ward, Cody, Schaal, Hojat, 2012), laikysis gydymo plano (Wimmers, Stuber, 2010), ar pavyks pasiekti geresnių gydymo rezultatų ir užmegzti geresnius ryšius su pacientu (Caruso, Bernstein, 2014; Ryn et al., 2014). Mirties nerimo tarp medicinos studentų tyrimų nėra daug. Užsienio literatūroje straipsnių, nagrinėjančių mirties nerimo ir empatijos ryšį, kiekis ribotas, o rastuose darbuose šis ryšys nėra iki galo ištirtas. Lietuvių kalba publikuotų straipsnių, kuriuose pagrindinis dėmesys būtų skiriamas mirties nerimo ir empatijos ryšiui, rasti nepavyko. Tai leidžia manyti, kad ši sritis nėra iki galo ištirta. Šio darbo tikslas – ištirti Lietuvos sveikatos mokslų universiteto medicinos studentų mirties nerimo ir empatijos sąsajas. **Metodai.** Tyrime dalyvavo 47 Lietuvos sveikatos mokslų universiteto Medicinos fakulteto trečio kurso medicinos studentai. Tyrimui naudotas klausimynas, kurį sudarė demografiniai klausimai, empatiško rūpesčio ir asmeninio distreso subskalės, esančios Tarpasmeninio reaktyvumo indekso skalėje (angl. Interpersonal Reactivity Index, sutr. IRI, Davis, 1980), taip pat kitų mirties ir mirimo subskalės, esančios pataisytoje Collet-Lester mirties ir mirimo baimės skalėje (angl. The Revised Collet-Lester Fear of Death And Dying Scale, Lester, 1990). **Rezultatai ir išvados.** Tyrimo metu nustatyta, kad medicinos studentės dažniau jaučia nerimą dėl kitų mirties ir mirimo, pasižymi didesniu bendrosios empatijos ir asmeninio distreso lygiu nei studentai vyrai. Taip pat nustatyta, kad medicinos studentai, kuriems būdingas didesnis empatiškas rūpestis, jaučia didesnį nerimą dėl kitų mirties ir mirimo nei mažesniu empatišku rūpesčiu pasižymintys studentai.

Pagrindiniai žodžiai: nerimas dėl kitų mirties, asmeninis distresas, empatiškas rūpestis, emocinė empatija.

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