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Emotional Intelligence and Stress Coping Strategies of Medical Residents

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ABSTRACT

Background. Everyday medical residents experience stress related to academic, professional, and personal factors (Alosaimi, Alghamdi, Aladwani, Kazim, & Almufleh, 2016; Dave, Parikh, Vankar, & Valipay, 2018), therefore it is important to take care of their psychosocial well-being. Traits of medical residents that are important for well-being are related to control of emotional information, and abilities that provide for effective handling of stressful situations are important as well. The objective of the present study was to assess correlations between emotional intelligence and stress coping strategies of medical residents.

Methods. The study sample consisted of medical residents (n = 108). The following questionnaires were used: *TEIQue-SF* and *Coping Styles Questionnaire*. Questionnaires were sent to personal electronic addresses and target groups of social networks. Paper-based questionnaires were presented in the work and gathering places of subjects.

Results. Emotional intelligence was higher than average, and the most expressed trait was the overall sense of well-being (in relation to emotionality, self-control and sociability). Sociability and self-control were more expressed in men than in women. Rational coping with stress was the most characteristic for medical residents (in relation to emotional coping, detached and avoidance coping). Women were more than men inclined to use emotional coping while men were more inclined than women to use detached coping.

Conclusions. Statistically significant correlation existed between emotional intelligence and stress coping strategies of medical residents. Positive correlation was determined between emotional intelligence and adaptive stress coping strategies, while negative correlation was observed between emotional intelligence and maladaptive stress coping strategies.

Keywords: resident doctors, stress, emotional intelligence as a trait, coping with stress.

INTRODUCTION

Currently, there is a lack of doctors in our country, therefore it is important to take care not only of financial and social benefits of medical residents, but also of psychosocial well-being (Ministry of Health of the Republic of Lithuania, 2019). Many researchers agree that in the activity of a medical professional, there are various factors that may cause tension and various psychological difficulties (Dave et al., 2018; Žutautienė Radišauskas, Ustinavičienė, & Kirvaitienė, 2014). Therefore, doctors in their professional environment are inevitably confronted with situations that pose threat to their psychological well-being. The experienced stress and exhaustion negatively impact not just the provision of health care service in general, but also health and well-being of doctors (Imo, 2017). Prolonged difficulties determine a great risk of burnout of doctors (Imo, 2017; Lo, Wu, Chan., Chu, & Li, 2018; Mikalauskas, Širvinskas, Macas, & Padaiga, 2016). It has been observed that young doctors – medical residents – experience more stress than independent senior doctors (Canadian Medical Association, 2017). This may be related not only to professional, but also to academic and personal difficulties, big workload, emotional difficulties and others (Alosaimi et al., 2016; Dave et al., 2018; Ogundipe, Olagunju, Lasebikan, & Coker, 2014). Therefore, in addition

to the knowledge acquired during studies, for the young doctor traits related to emotional information management and abilities that provide for effective coping with stressful situations become important (Kerasidou & Horn, 2016).

Emotional intelligence (EI) may be understood as certain traits of personality that are revealed trough the individual's self-reflection and that influence the ability to cope with environmental requirements and pressure (Bar-On, 1997; Ekman & Friesen, 2013). In foreign countries, a tendency is observed that medical residents are distinguished with average or above average EI as compared to the general population (McLeod & Sonnenberg, 2017). We could not find literature about what EI expression is characteristic for young Lithuanian doctors when they start work. However, in the scientific are, it is maintained that EI is particularly important in the medical occupation: high EI is important not only in relations with patients, but it also increases resistance to stress, which medical residents experience every day. Higher EI also helps to more effectively cope with stress when it has been experienced (Kerasidou & Horn, 2016; Petrides et al., 2016).

When confronted with a stress causing event, stress coping strategies are activated. Coping here is understood as individual's cognitive and behavioural efforts to control internal or external requirements that are perceived as exceeding the available resources (Lazarus & Folkman, 1984). Coping strategies may be adaptive as, for example, problem oriented or maladaptive, for example, avoidance (Roger Jarvis, & Najarian, 1993). Higher EI is related to the selection of adaptive coping strategies (Sarabia-Cobo et al., 2017). Some researchers maintain that medical residents when confronted with stress inducing situation are more inclined to use adaptive stress coping strategies than to use the non- adaptive ones (Alosaimi et al., 2015). However, there are still not enough articles that deal with coping with stress of medical residents that would allow to summarize the obtained results and apply to the general population of medical residents (due to potential cultural differences, specifics of the areas of residence, different methodologies used in studies, etc.) The said results are also not sufficient to formulate conclusions about coping strategies characteristic for Lithuanian medical residents.

Studies that would analyse correlation between EI and coping with stress methods by Lithuanian medical residents have not been found. The obtained data could supplement the available knowledge about psychological well-being of Lithuanian medical residents and strategies used for its protection. The results could be useful when developing effective and targeted recommendations, strategies, and support programs for medical residents.

The purpose of the study was to assess association between emotional intelligence and stress coping strategies of medical residents.

The objects of the study were emotional intelligence of medical residents as a trait and stress coping strategies.

Hypothesis of the study was that higher emotional intelligence of medical residents would be related to the use of adaptive stress coping strategies.

METHODS

Process of the Study. The survey was conducted from 26 November 2018 till 15 March 2019 in two phases: using online questionnaire (79 responses) which was sent to electronic mail of medical residents, publicized among medical residents and *Facebook* social network targeted groups. Paper-based questionnaires were also distributed in places of gathering and work of medical residents (70 questionnaires were distributed and 29 out them were returned). The overall sample of subjects was 108 medical residents.

Instruments of the Study. *Emotional intelligence* was assessed using the short version of Petrides (2009) questionnaire – *Trait Emotional Intelligence – Short Form* (TEIQue-SF). The questionnaire consists of 30 statements, where respondents had to assess EI onn the scale from 1 – "totally disagree" to 7 – "totally agree". The questionnaire covers 15 EI aspects that are contracted into 4 factor subscales (Petrides, 2009). *Emotionality* includes the sphere of own and other people's emotions. High scores of the said subscale indicate good ability to perceive and express emotion and ability to develop and maintain good relations with others. *Sociability* defines relations and social influence. Here the role of a person in the social context (not just in relation with family or friends) is important. Higher scores of the said scale indicate that a person is a better listener and is able to socialize with different people. *Well-Being* includes the overall feeling of well-being (from the achieved results to future expectations that a person holds). High scores indicate that the person

feels positive, happy, and satisfied. High scores of *Self-Control* scale indicate good ability to control own wishes and desires. Such person is capable of controlling not just impulses, but also external pressure and stress. The overall Cronbach α of the questionnaire is high (α = .925). The internal compatibility of all subscales is high (α > .7), except for the *Sociability* scale, which does not have high compatibility, but it is sufficient (α = .693). *Stress Coping Strategies* were assessed using Elklit's (1996) *Coping Styles Questionnaire* (CSQ). The questionnaire consists of 60 statements (15 of them are reversible), which were assessed by subjects: 1 – "never", 2 – "sometimes", 3 – "often", 4 – "always". The questionnaire consists of 4 factors: *Rational Coping* includes rational coping with stress style based on actions and problem solution strategies. *Detached Coping* includes strategies and beliefs that create cognitive distance without attaching oneself to a stressor. The first two types of coping strategies are considered to be adaptive. *Emotional Coping* indicates emotion oriented (including manipulations) style of coping with stress. This type of coping is considered to be maladaptive. *Avoidance Coping* includes strategies that aim to distract oneself from the stressful situation (e.g., get involved in a pleasant activity). The said type of coping is also considered to be maladaptive. CSQ questionnaire Cronbach α was .798. Internal compatibility of all subscales was high (α ≥ .7).

Methods of Data Analysis. Qualitative data analysis was performed using IBM SPSS Statistic 17 software. Questionnaire reliability was checked using Cronbach-α criterion. Averages were indicated with standard deviation (± *SD*). Descriptive statistics methods were applied in the study, in the correlation analysis Spearman correlation coefficient was used. Mann–Whitney statistical criterion (averages were presented in diagrams) was used when determining correlations of the analysed constructs with the gender of subjects. Reliability of data was considered significant when $p < .05$.

RESULTS

After reviewing the obtained EI assessment results we found that the average score of the general EI questionnaire was 147.8 ± 26.86, and the average score of an EI item was 4.9 ± 0.89 points. When compared with the theoretical average value of response scale (3.5 points), the tendency that EI score of medical residents was higher than the theoretical average was observed. Detailed subscale expression indicators are presented in Table. 1.

Table 1. **Indicators of the emotional intelligence traits of medical residents**

Subscale	Mean item score	Mean scale score
General emotional intelligence	4.9 ± 0.89	147.8 ± 26.86
Well-being	5.2 ± 1.31	31.4 ± 7.87
Self-control	4.6 ± 1.08	27.4 ± 6.45
Emotionality	5.1 ± 0.91	41.0 ± 7.28
Sociability	4.6 ± 1.01	27.8 ± 6.04

When assessing EI between genders, it was determined that the overall EI score did not statistically significantly differ between genders. However, when assessing subscales, male medical residents had more expressed self-control ($m = 4.91$) and sociability ($m = 5.05$) traits than female medical residents (see Figure 1). This means that men are able to better control external pressure and stress than women. They also have a more expressed ability to communicate with different people and have more effective interaction with people round about.

When analysing the most often used strategies of coping with stress by medical residents (see Table. 2), it was determined that the most expressed strategy with respect to other strategies was the rational strategy of coping with stress (on average 28 ± 6.72 points). Thus, the most often strategy used in coping with stress was based on action and problem-solving strategies. The said coping was considered to be adaptive. The least expressed maladaptive stress coping strategy was avoidance strategy (on average 17 ± 4.95 points). This shows that when confronted with stressful situations

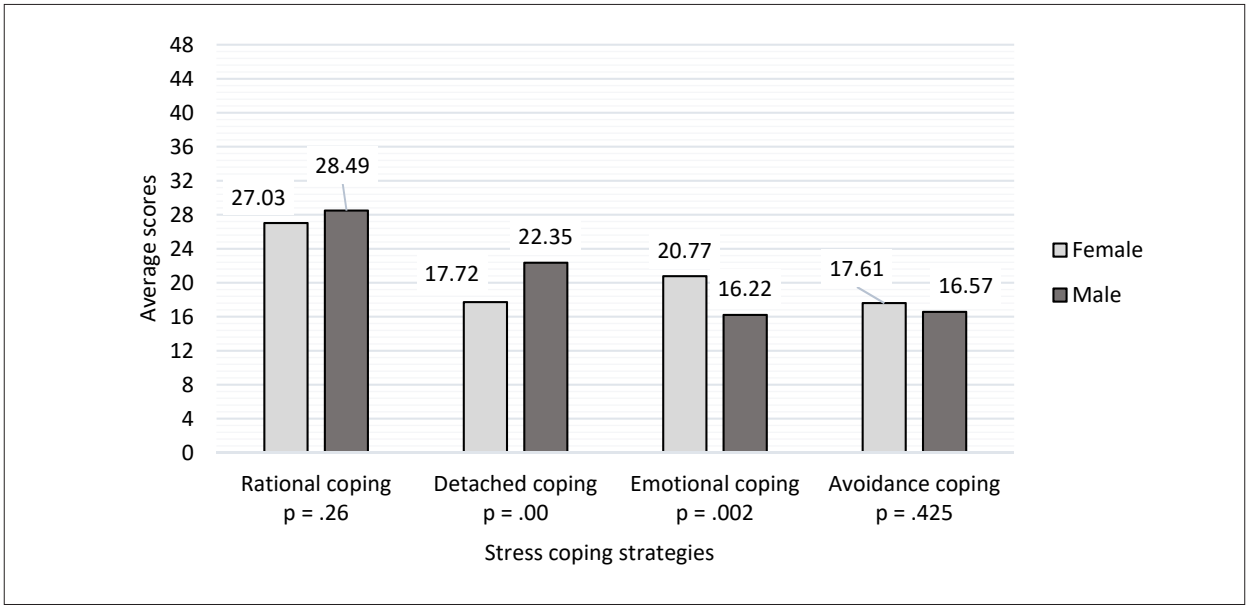

Figure 1. **Relationship between emotional intelligence and gender of medical residents**

Table 2. **Indicators of the stress coping strategies of medical residents**

Subscale	Mean item score	Mean scale score
Rational coping	1.7 ± 0.42	28 ± 6.72
Detached coping	1.3 ± 0.39	19 ± 5.97
Emotional coping	1.3 ± 0.46	19 ± 7.35
Avoidance coping	1.3 ± 0.38	17 ± 4.95

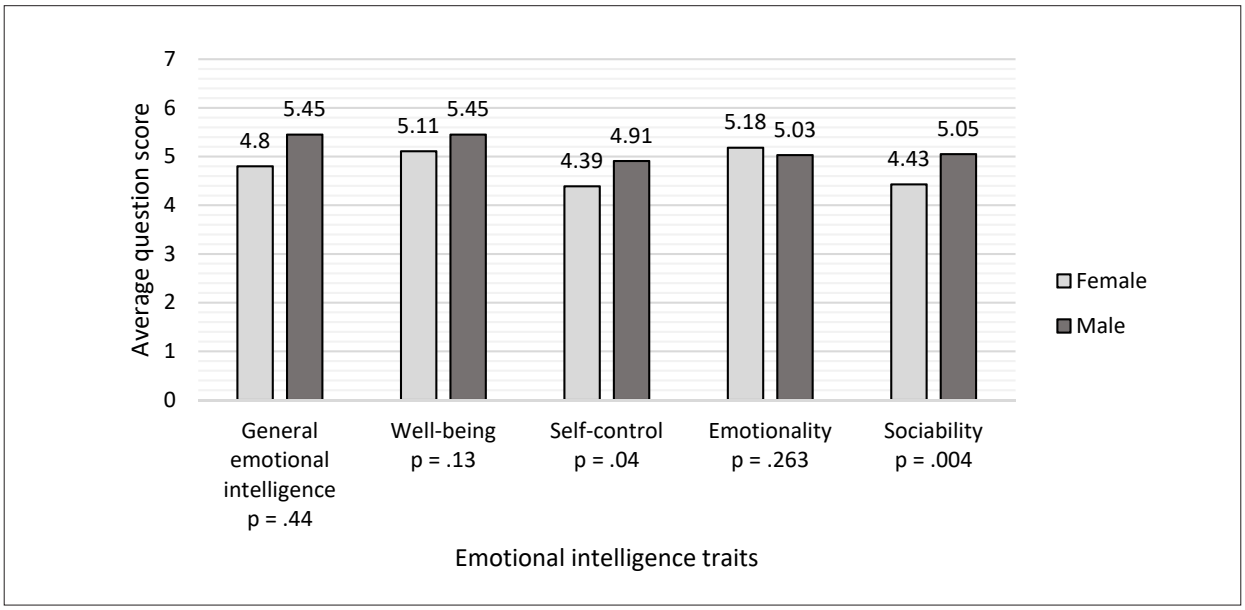

Figure 2. **Relationship between stress coping strategies and gender of medical residents**

subjects are not likely to ignore the situation and are not trying to escape it.

When assessing stress coping strategies by gender, it appeared that detached coping was more characteristic of male medical (m = 22.35) than female medical residents (m = 17.72). This means that men were more than women inclined to create a cognitive distance not associating themselves with

the stressor (adaptive coping). Whereas emotion-based coping (maladaptive coping) was more characteristic of female medical residents ($m = 20.77$) than male medical residents ($m = 16.22$). This means that female medical residents were more than men inclined to succumb to unpleasant emotions (e.g., crumple). Rational behaviour and stress avoidance coping did not differ statistically significantly between genders. More numeric parameters are presented in the diagram (see Figure 2).

Results of correlational analysis of EI and stress coping strategies revealed statistically significant correlation between the overall EI and coping with stress strategies. Considering the value of correlation coefficient (r), it is evident that EI was negatively correlated with maladaptive stress coping strategies and positively correlated with adaptive stress coping strategies. This shows that at higher EI indicators adaptive stress coping strategies are more prevalent. And conversely, the lower the EI, the more expressed the maladaptive stress coping strategies (see Table 3).

After reviewing which of the EI components was most related to stress coping strategies, it is evident that most correlations of average strength ($r > .4$) were observed between EI traits and three coping strategies: rational, emotion oriented, and detached. The trait of emotionality of EI was the least related to stress coping strategies ($r < .4$).

3 Table. **Relationship between medical residents' emotional intelligence and stress coping strategies**

		Stress coping strategies			
Emotional intelligence subscales	**Numerical indicators**	**Rational Coping**	**Detached Coping**	**Emotional Coping**	**Avoidance Coping**
General emotional intelligence	*r*	**.623**	**.449**	**– .658**	**– .481**
	p	.000	.000	.000	.000
Well-being	*r*	**.610**	**.458**	**– .584**	– .366
	p	.000	.000	.000	.000
Self-control	*r*	**.596**	**.424**	**– .600**	– .399
	p	.000	.000	.000	.000
Emotionality	*r*	.339	.149	– .387	– .377
	p	.000	.124	.000	.000
Sociability	*r*	**.460**	**.462**	**– .544**	**– .417**
	p	.000	.000	.000	.000

DISCUSSION

Results obtained in the present study show that EI of medical residents was higher than the theoretical average. The said results supplement foreign studies with samples of medical residents (Lin, Liebert, Tran, Lau, & Salles, 2016; Lindeman et al., 2017; Popescua et al., 2015). Medical residents who participated in the present study indicated that they were most inclined to solve complicated situations using the rational way of problem solving. In other words, they undertook specific actions and strategies that could change the existing situation. The second mentioned coping with stress strategy was emotion oriented (maladaptive). The participants of the study were slightly less inclined to use detachment from the situation by creating a cognitive distance between themselves and the situation, for example, humour. The least used strategy of coping with stress was avoidance. Medical residents were not inclined to avoid problems by ignoring them (e.g., by trusting the fate). Such behaviour may be determined by the nature of work meaning that a medical professional has to solve complicated situations and not avoid them. Thus, medical residents are inclined to

use both adaptive and maladaptive coping. The obtained results relate to foreign studies (Alosaimi et al., 2015; Popescua et al., 2015). Based on the said results it may be assumed that mixed (adaptive-maladaptive -adaptive- maladaptive) use of coping with stress strategies insufficiently reduces the level of experienced stress.

Stress coping strategies in the present study revealed significant correlations with gender. It was observed that female medical residents were more inclined than males to use emotion-based coping, for example, crying. However, the male participants of the study were more inclined than females to use the detached coping. Such a tendency is also observed in foreign studies (Matud, 2004). Similar results were presented in Conference for Lithuanian Junior Researchers (Osipov & Šeputytė, 2014). In the conclusions of the said materials it was maintained that female medical residents were more inclined than males to rely on emotion-based coping. However, male medical residents were more than females inclined to deferment of action and humour, which corresponds to the detached coping strategy (Osipov & Šeputytė, 2014).

EI of the participants of the study was significantly related to all four strategies of coping with stress. Results of the present study supplement results presented in foreign studies that maintain that EI possibly takes the position of a mediator among stress coping strategies and the stress itself (Moradi Pishva, Ehsan, Hadadi, & Pouladi, 2011; O'Connor, Nguyen, & Anglim, 2016; Sarabia-Cobo et al., 2017). Perception of emotions here acts as the received information about the arising dangerous situation or stress. For example, anxiety when performing work may inform about the danger of not properly achieving the set objective, a threat to self-respect (Grakauskas, 2004). Adequately perceived emotions may be effectively regulated thus assisting in the selection of appropriate coping stress strategies.

When analysing which of the EI traits was the most significant in the selection of adaptive strategies, three out of four emerged: the overall sense of well-being, self-control, and sociability. Those medical residents were the most capable to cope with the experienced stress who were able to communicate with different people in the social context, were positive and experienced overall satisfaction with life, were able to control their own wishes and desires and were also able to control the external pressure. It may be assumed that development of the said traits of EI would not only improve successful functioning in the social context, but would also act as a mediator which determines the selection of adaptive strategies of coping with stress, and that, in turn, would reduce the stress experienced by medical residents. This would also reduce the use of maladaptive stress coping strategies – the observed negative correlation indicates that with the increase of EI, manifestation of the said coping strategies diminishes.

CONCLUSIONS

1. Emotional intelligence of medical residents was higher than the theoretical average. The most expressed emotional intelligence trait was the overall sense of well-being (in relation to emotionality, self-control and sociability). Male medical residents more than female residents had expressed traits of sociability and self-control.
2. Medical residents most often applied rational stress coping strategy, which is considered to be adaptive. Less frequently they used emotional (maladaptive), detached (adaptive), and avoidance (maladaptive) stress coping strategies. Female medical residents were more than males inclined to use emotional coping strategy. However, male medical residents were more than females inclined to use the detached coping strategy.
3. Emotional intelligence of medical residents was significantly related to strategies of coping with stress. Higher emotional intelligence of medical residents was related to adaptive stress coping strategies while lower emotional intelligence was related to maladaptive stress coping strategies.

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