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EMOTIONAL INTELLIGENCE IN RELATION TO DEPRESSIVE SYMPTOMS IN LITHUANIAN CLINICAL NURSES: A PILOT STUDY

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Abstract. The World Health Organisation's European Work Programme 2020-2025 identifies mental health as a key element of personal and collective well-being. In Lithuania, the importance of emotional literacy education is not sufficiently focused on, so the aim of this study was to identify and assess the relationship between emotional intelligence and depression symptomatology in nurses working in personal health care institutions in the Republic of Lithuania.

The results of the study showed that almost one in five nurses in the healthcare sector has an insufficient level of emotional intelligence. The higher-risk group of nurses with low levels of emotional intelligence is exclusively represented by nurses working in primary health care settings. Higher depressive symptomatology among nurses working in Lithuanian healthcare institutions is associated with insufficiently developed emotional literacy, which is uniquely determined by the nursing staff's insufficient ability to manage individual emotions ($r = -0.3$, $p = 0.007$). Health care institutions in Lithuania need to protect and enhance the mental health of nurses and reduce depressive symptomatology, so the recommendations of this study should focus on the consistent rationalisation and optimisation of existing prevention programmes by integrating an emotional literacy component.

Keywords: clinical nurses, depressive symptoms, emotional intelligence

INTRODUCTION

The World Health Organisation's European Work Programme for 2020-2025 identifies mental health as a key element of personal and collective well-being. Mental health disorders are very common and contribute to the growing burden of disability in the European region. People of all ages and social groups face challenges arising from mental health disorders. The most common mental health disorders are depressive and anxiety disorders and somatisation, which can lead to co-morbidities, including burnout syndrome, which is particularly common in health care workers. In order to reduce morbidity and mortality due to mental health disorders, a coalition has been formed at international level to reduce the stigma that leads society to perceive people with mental health disorders as problematic. One of the measures to promote mental health includes increasing mental health literacy among health workers (World Health Organization, 2023). The Action Plan on Occupational Safety and Health 2022-2027 (2022) notes that, according to the Procedures for the Promotion of Employee Competence in Mental Health, municipal public health offices are to organise training for employees on mental health competences in enterprises, thereby contributing to the promotion of the mental health of employees in enterprises. More specifically, in order to promote a safe and healthy environment conducive to the psychological/emotional well-being of medical staff, to reduce the incidence of psychological violence in personal health care institutions, and to strengthen the mental health of current and future personal health care professionals, an Action Plan for Ensuring the Mental Well-being of Employees in the Personal Health Care System for the period 2021-2024 has been developed, focusing on the promotion of employees' social, emotional, and other competencies, psychological resilience, and literacy in the area of mental health.

One of the components of resilience to psychological stress is a sufficient level of emotional intelligence (EQ). EQ refers to the general ability to understand and regulate one's own and others' emotions and to deal effectively with emotionally distressing situations. Notably, research has shown a correlation between employee performance and effectiveness and EQ (Moroń & Biolik-Moroń, 2021; Uraz & Arhan, 2020). A sufficient level of EQ can influence the quality of work performed. Specifically, employees with high EQ are able to recognise and attend to their feelings, stimulate themselves, sympathise and build relationships with other people. With EQ, a worker can do their job with more sincerity and a more goal-oriented approach in order to achieve better quality. Workers are able to do their daily tasks, focusing on the ability and efforts to properly supervise the EQ, in addition to others, are able to better implementation of the organization, in which the work of the work, the objectives and to facilitate the psychological stress.

While the importance of emotional intelligence education has been recognised worldwide for more than 20 years, in Lithuania the focus on the importance of emotional literacy education has been too low. On the other hand, while there are programmes in Lithuania to promote mental health coherence among employees, their impact is focused only on reducing psychological violence in the workplace and preventing alcohol consumption. At the same time, health workers, exclusively nurses (including midwives), are also subjected to constant psychological stress due to the relatively low level of funding for their work, the heavy workload and, as a consequence, the development of burnout syndrome. While nurses' emotional literacy development is consistently as important as the development of professional skills, there is currently no research in Lithuania on nurses' EQ and its association with depressive symptoms.

The aim of the study was to determine and evaluate the relationship between emotional intelligence and depressive symptomatology in nurses working in personal health care institutions in Lithuania.

SURVEY ORGANISATION AND METHODOLOGY

A single-observer cross-sectional survey was carried out from 24 October to 28 November 2023. A representative sample volume (n = 96) was calculated and constructed using the official OpenEpi software (Open Source Epidemiologic Statistics for Public Heart, 2013) to organize the study, with a precision of 10% and a confidence level of 95%.

A non-random convenience sampling method using the official survey system "Apklausa.lt" via 4 official Facebook groups was used to survey 40.7 ± 12.9 year old respondents (n = 76). Given the exclusion criteria of having been diagnosed with a mental health disorder requiring inpatient treatment in the last 12 months, 74 nurses (n = 74) were finally included in the data analysis.

The study was carried out using a questionnaire survey. The 52-question questionnaire was developed using two standardised questionnaires: the Schutte Self-Report Inventory (SSRI) (Schutte et al., 1998) and the Patient Health Questionnaire-9 (PHQ-9) (Montvidas, 2018). In order to find out the socio-demographic characteristics of the respondents (biological sex, age, education), work characteristics (length of employment, place of work, duration of work per week, night work and shift work), and mental status, the questionnaire was supplemented with 9 questions.

A five-point Likert scale was used to assess nurses' EQ ('strongly disagree' - 1 point, 'disagree' - 2 points, 'not sure' - 3 points, 'agree' - 4 points, 'strongly agree' - 5 points). The SSRI consisted of 4 subscales: (1) Statements about perceiving emotions helped to clarify the ability to detect emotions in faces, pictures, voices, cultural artefacts, as well as in oneself; Statements about managing one's own emotions were intended to clarify the ability to use, modify or adapt one's emotions (positive and negative) in the given situation in order to achieve the set goals; (3) Statements about managing other people's emotions helped to clarify the ability to use or modify any type of other people's emotions, even negative ones, in order to achieve goals; (4) Statements about using emotions helped to clarify the ability to use emotions in order to facilitate various cognitive activities such as thinking or problem solving.

For EQ expression, the total SSRI scores could range from 33 to 165. The mean score for each EQ component was calculated as the sum of the statement scores divided by the number of statements reflecting the component. The higher the number, the more pronounced the EQ. Given that when studying the EQ of large groups of people, if the mean EQ score was 124 and the standard deviation was about 13, the current study set thresholds referring to low (scores < 111), moderate (scores 111 ≤ scores < 124), and high (scores ≥ 124) EQ (Schutte et al., 1998). In addition, previous studies conducted in Lithuania have examined the reliability and validity of the Lithuanian version of the SSRI questionnaire (Akelaitis & Malinauskas, 2014). The Cronbach alpha coefficient for the Lithuanian version of the SSRI questionnaire was 0.76.

The PHQ-9 was used to assess nurses' depressive symptom expression. The PHQ-9 is a part of the broader Patient Health Questionnaire (PHQ) that assesses depressive symptoms. The original PHQ was developed in 1999 and standardised in two studies involving approximately 6000 patients from different primary care and gynaecology-obstetrics clinics (Kroenke et al., 2001). The PHQ-9 consisted of 9 statements corresponding to the diagnostic criteria for depression. A four-point Likert scale was used to assess the statements. Specifically, for each statement, the respondent was asked to tick one of four responses describing how often the symptom had occurred in the last two weeks: 'not at all', 'a few days', 'more than half of all days', 'almost every day'. Each of these answers is scored from 0 to 3, depending on how often the symptom occurred. At the end of the PHQ-9, respondents were asked an additional question to assess the difficulty of daily personal and work activities due to depressive symptoms. The response options to the last statement of the PHQ-9 were consistent: "not at all difficult", "slightly difficult", "very difficult", "extremely difficult". The intensity of depressive symptoms was assessed on the basis of the sum of the scores and the answer to the additional question. A score of 0-4 identified low depressive symptoms, 5-9 low depressive symptoms, 10-14 moderate depressive symptoms, 15-19 severe depressive symptoms and 20-27 very severe depressive symptoms. It should be noted that despite the back-translation of the PHQ-9 into Lithuanian (Montvidas, 2018), the limitations of this instrument in its application in Lithuania are that there is no study that has yet standardised the Lithuanian version of the PHQ-9 in the Lithuanian population, and no Lithuanian-specific baseline threshold has been established for the assessment of a diagnosis of depressive disorder. In this study, in order to avoid overdiagnosis, clinically significant depressive symptoms, where additional psychiatric consultation is recommended to confirm the diagnosis of depression, were considered when the sum of the respondents' scores was greater than or equal to 15.

Statistical analysis of the data was performed using SPSS (Statistical Package for Social Sciences) v. 25.0 (Armonk, NY, USA). The Shapiro-Wilk test was used to test the normality of the data. The $\chi 2$ (Chi-squared) test was used for the analysis of categorical data. Arithmetic means and standard deviations (SD) were calculated for the analysis of some quantitative continuous and discrete variables. A difference in results was considered statistically significant when the resulting p-value was less than or equal to 0.05. Given the univariate cross-sectional study design, the dependent variable was depressive symptomatology and the independent variable was EQ level. To assess the relationship between the analysed traits, Pearson's linear correlation coefficient (r) was calculated. According to the calculated correlation coefficient, the strength of the association between the analysed traits was assessed on a scale from 0 to 1 or from 0 to -1. If r = 0, there was no relationship between the variables. The correlation coefficient ranged from - 1 to - 0,7, indicating a strong inverse relationship, from - 0,7 to - 0,5, a moderate inverse relationship, from - 0,5 to - 0,2, a weaker-than-average inverse relationship, and from - 0, 2 to 0 - weak inverse relationship, from 0 to 0.2 to 0.2 weak direct relationship, from 0.2 to 0.5 to 0.5 to 0.5 to 0.7 weak moderate direct relationship, from 0.7 to 1 - strong direct relationship. In order to make

sure that the resulting correlation is not a coincidence, and the relationship between the variables is significant, the p-value is estimated to be less than or equal to the relationship between the variables being analyzed is statistically reliable.

RESULTS AND DISCUSSION

The cross-sectional study included 21 - 68 (mean: 40.1 ± 12.9) nurses, exclusively female (n = 74). According to Table 1, the estimated distribution of subjects by education was based on a large proportion of nurses with a higher non-university education (51.4%) and a slightly smaller proportion with a higher university education (23.0% and 25.7%). The distribution of nurses in terms of years of work experience, the highest proportion of junior nurses (52.7), with 1 - 5 years of work experience. At 16.2 per cent of the 11 - 20 years of seniority, and at 6 - 10 years and 21 - 30 years of seniority were only 6.8 and 8.1 per cent of the nurses respectively. The nurses' characteristic of the worker's activity revealed that most of the worker's activity (64.9). The number of nurses is 24.3 per week for 40 - 50 hours a week and 10.8 per week for 50 - 60 hours a week. The results show that nurses work 12 to 14 hours a week, but 89.2 percent of the 12-hour workweek, almost every ten nursing worker (10.8) - 14-hour workweek. Regarding the practice of night work weekly, 12 hours night work 16.2 percent, 12 hours night work - 18.9 percent, and 36 hours night work - 6.8 percent nursing.

Table 1

Distribution of nurses (%) by socio-demographic characteristics and occupational characteristics

Variables		%
Age	< 41 years old	54,1
	≥ 41 years old	45,9
Education	Post-secondary education	23,0
	Higher non-university education	51,4
	Higher university education	25,7
Seniority	1 – 5 years	52,7
	6 –10 years	6,8
	11 – 20 years	16,2
	21 – 30 years	8,1
	> 30 years	16,2
Duration of work (hours per week)	36 – 40 hours	64,9
	40 – 50 hours	24,3
	50 – 60 hours	10,8
Shift duration (hours)	12 hours	89,2
	14 hours	10,8
Duration of night work (hours per week)	0 hours	58,1
	12 hours	16,2
	24 hours	18,9
	36 hours	6,8

According to the study, the average EQ expression intensity of the nurses was 121.2 ± 21.6 points. According to the level of EQ, the subjects were divided into low (20.3% (mean ± SN: 91.4 ± 20.8)), medium (63.5% (mean ± SN: 122.7 ± 6.9)), and high (16.2% (mean ± SN: 152.7 ± 7.8)) levels of EQ.

A more detailed analysis of the nurses' SSRIs revealed average subscale scores: the mean subscale score (± SN) for perceiving one's own emotions was 3.6 ± 0.7, the mean subscale score (± SN) for managing one's own emotions was 3.7 ± 0.7, the mean subscale score (± SN) for managing other people's emotions was 3.6 ± 0.7, and the mean subscale score (± SN) for using one's emotions was 3.9 ± 0.8. According to the data presented in Table 2, the nurses were distributed according to their low level of perception and management of their own emotions in 55.4% and 55.4%, respectively. When the distribution of nurses was assessed according to their ability to manage other people's emotions, it was found that 52.7% of the nurses had a low level of skills of managing other people's emotions. The results of the study related to the use of emotions, i.e. the ability to use emotions to facilitate various cognitive activities such as thinking or problem solving, showed that as many as 58.1% of the nurses had a low level of skills in using emotions.

Table 2

Distribution of nurses (%) according to SSRI subscale results

SSRI subscales	Low level EQ	High level EQ
Perception of own emotions (%)	55,4	44,6
Managing own emotions (%)	55,4	44,6
Managing other people's emotions (%)	52,7	47,3
Use of emotions (%)	58,1	41,9

The distribution of nurses according to EQ level, taking into account sociodemographic characteristics (age, education) and work characteristics (length of service, duration of weekly work, duration of night and shift work), did not reveal statistically significant differences between the variables analysed ($p > 0.05$). On the other hand, a statistically significant difference was found between the variables analysed with regard to the place of work of the nurses. Specifically, a significantly higher proportion of nurses working in primary care (47.8%) had low EQ levels compared with nurses working in emergency care (0%) and in hospital (9.1%) ($\chi 2 = 18.2$, $p = 0.006$).

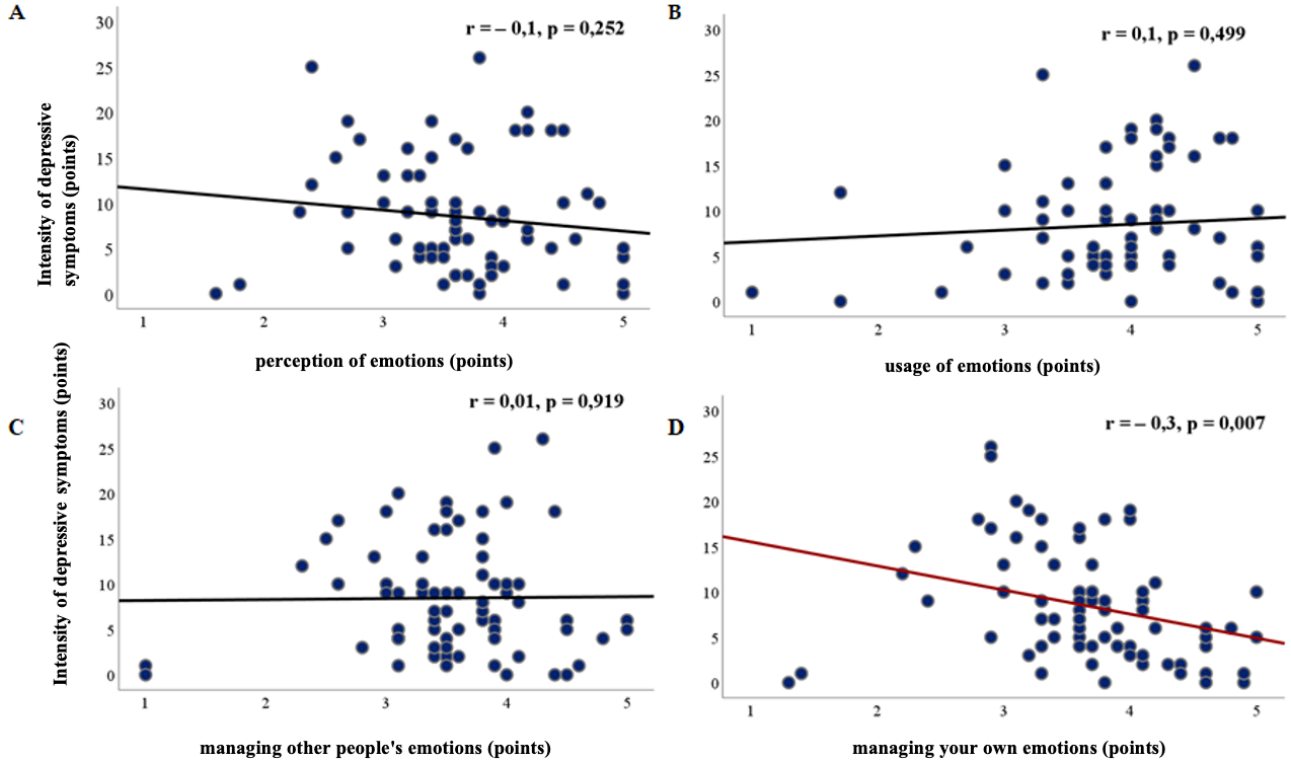

Figure 1. **Relationship between nurses' intensity of depressive symptom expression and EQ components**

Note: A - relationship of depressive symptomatology with level of emotion awareness ($r = -0.1$, $p = 0.252$); B - relationship of depressive symptomatology with level of emotion use ($r = 0.1$, $p = 0.499$); C - relationship of depressive symptomatology with level of emotion management in other people ($r = 0.01$, $p = 0.919$); and D - relationship of depressive symptomatology with level of self-management of emotion ($r = -0.3$, $p = 0.007$).

In the next steps of the data analysis, the nurses' depression symptomatology was almost evenly distributed between nurses with minimal (31%) and low (34%) depression symptoms. Moderate depressive symptoms were experienced by 15% of the subjects. One in five (20%) nurses had severe and very severe, clinically significant symptoms of depression.

Finally, the correlation analysis revealed no statistically significant relationship between the intensity of nurses' depressive symptom expression and the EQ components related to perception of emotions ($r = - 0.1$, $p = 0.252$) (Fig. 1, part A), use of emotions ($r = 0.1$, $p = 0.499$) (Fig. 1, part B) and management of others' emotions ($r = 0.01$, $p = 0.919$) (Fig. 1, part C). At the same time, there was only a statistically significant inverse relationship between depressive symptomatology and the level of self-management of emotions ($r = -0.3$, $p = 0.007$) (Figure 2(D)), suggesting a possible negative association of poor self-management of emotions with more intense depressive symptomatology.

In conclusion, when health care institutions in Lithuania need to implement programmes to prevent psychological violence and alcohol consumption, to protect and enhance the mental health of nurses and to reduce depressive symptomatology, the recommendations of this study should be focused on the consistent rationalisation and optimisation of the existing prevention programmes, integrating an emotional literacy component, which would include: (1) Targeted specialised counselling by psychologists in healthcare settings, with the aim or objective of developing

emotional literacy among nurses; (2) the use of mindfulness and acceptance psychology-based methodologies. (2) Introducing Mindfulness in health care settings and providing practical training and encouragement for nurses in key mindfulness exercises (cognitive behavioural therapy-based sessions, yoga, meditation).

Our study has limitations related to the relatively small sample size and the convenience sampling method. For these reasons, the results of the study should be interpreted and applied to a larger population of nurses with caution. In addition, a further longitudinal (cohort) prospective study in a larger cohort of Lithuanian nurses is needed to further validate the results of our pilot study.

CONCLUSIONS

The majority (63%) of nurses have only a moderate level of emotional intelligence. Nearly one in five (20.3%) nurses working in Lithuanian personal health care institutions have an insufficient level of emotional intelligence. The riskier group of nurses with insufficient emotional intelligence is exclusively represented by nurses working in primary health care institutions.

Nurses working in Lithuanian healthcare institutions are at increased risk of depressive disorders: one in five (20%) nurses experience clinically significant depressive symptoms that are predictive of a diagnosis of a mental health problem.

The higher prevalence of depressive symptoms among nurses working in Lithuanian healthcare institutions is related to a lack of emotional literacy, which is uniquely determined by the nursing staff's lack of capacity to manage individual emotions.

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