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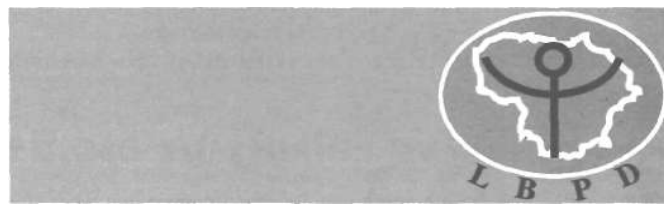
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C O N T E N T S

T U R I N Y S

EDITORIAL.....34

LETTER TO EDITOR

Nojus Sudeikis, Laura Salciunaite-Nikonove
Unfolding sensory processing sensitivity: unique personality trait
beyond psychiatric disorders.....35

RESEARCH REPORT

Morta Juodyte, Laura Salciunaite-Nikonove
Exploring the link between sensory processing sensitivity and
cognitive stress response: an experimental study.....36

REVIEWS

Paulina Petraityte, Morta Juciute, Agne Pasilyte, Vesta Steibliene
Affective and anxiety symptoms in the development and clinical
outcomes of different subtypes of irritable bowel syndrome: a
narrative literature review.....42

Evelina Baciuniene, Evelina Palaityte-Urbone, Julija Gecaite-Stonciene, Aurelija Podlipskyte, Vesta Steibliene, Julius Burakauskas
Anxiety assessment scales used in Lithuania: a narrative literature
review.....51

CASE REPORT

Vytautas Steponavicius, Vesta Steibliene, Vigintas Vilkas
Psychiatric manifestations as early indicators of frontotemporal
dementia: a case study.....57

ASSESSMENT SCALES

Aurelija Podlipskyte, Saulius Taroza, Nijolė Kažukauskienė, Narseta Mickuvienė
Sveikatos būklės klausimynas (angl. Health Questionnaire,
EQ-5D-5L).....61

THESES

Priklausomybės: keliai ir klystkeliai.....63

VIRŠELYJE – LSMUL dailės terapijos studijų II kurso studentė Kristina Mišeikytės darbas. Studentes kuratorė dailės terapeutė Gita Navickė-Miakiševa LSMUL Psichiatrijos klinika. Gita Navickė-Miakiševa – „Viename taške sustoja laikas: praeitis, dabartis ir ateitis. Tai akimirka, kurioje sudygsta daigas, apjungiantis praeties patirtis, skausmą, nusivylimus ir suteikiantis viltį, kad ateitis gali būti kitokia. Kiekvieną akimirką aš renkuosi ir kuriu savo autentišką gyvenimą, už kurį esu atsakinga“.

PUSLAPIS INTERNETE <http://biological-psychiatry.eu>

Welcome to *Biological Psychiatry and Psychopharmacology*, a journal dedicated to advancing our understanding of psychiatric disorders through cutting-edge research, clinical case reports, and comprehensive reviews. This issue is particularly special as it features contributions from young researchers, psychologists, and medical students—an inspiring group of emerging professionals whose fresh perspectives and innovative approaches are vital to the growth of psychiatric science. We are proud to provide a platform for such voices and warmly encourage future submissions from authors at all stages of their academic and professional journeys.

One of the featured articles is a letter to the editor by Nojus Sudeikis and Laura Salciunaite-Nikonove titled “Unfolding Sensory Processing Sensitivity: A Unique Personality Trait Beyond Psychiatric Disorders”. This thought-provoking piece highlights Sensory Processing Sensitivity (SPS), emphasizing its distinctiveness as a neurodiverse personality trait rather than a pathological condition. The authors advocate for greater awareness and supportive environments to unlock the strengths of highly sensitive persons (HSPs), such as their heightened empathy and cognitive depth.

In addition, Morta Juodyte and Laura Salciunaite-Nikonove present a research report, “Exploring the Link Between Sensory Processing Sensitivity and Cognitive Stress Response: An Experimental Study”. Their preliminary findings reveal that while SPS is not directly related to physiological or subjective stress markers, individuals with higher sensitivity demonstrate superior cognitive performance even under stress. This research adds new dimensions to our understanding of SPS and its implications for stress resilience.

Paulina Petraityte and her colleagues contribute a narrative review, “Affective and Anxiety Symptoms in the Development and Clinical Outcomes of Different Subtypes of Irritable Bowel Syndrome.” This comprehensive analysis underscores the role of anxiety and depression in exacerbating IBS symptoms and highlights their varying impacts across IBS subtypes. The findings emphasize the importance of addressing affective symptoms in the management of this complex gut-brain disorder.

An insightful narrative review by Evelina Baciuniene and colleagues, “Anxiety Assessment Scales Used in Lithuania” evaluates diagnostic tools for anxiety symptoms, considering their validation and applicability in clinical practice. This article provides valuable guidance for professionals in selecting the most appropriate instruments for accurate anxiety assessment.

Vytautas Steponavičius and co-authors present a compelling case report, “Psychiatric Manifestations as Early Indicators of Frontotemporal Dementia”, which explores the diagnostic challenges in distinguishing between primary psychiatric disorders and neurodegenerative conditions like Pick’s disease. The report underscores the importance of thorough clinical evaluation in recognizing atypical presentations of neurodegenerative diseases.

Finally, a review by Aurelija Podlipskyte and colleagues discusses the 5-level EQ-5D version (EQ-5D-5L), a versatile tool for assessing health-related quality of life across dimensions such as mobility, self-care, and anxiety/depression. The authors highlight its utility as a quantitative measure of health outcomes that reflects patients’ self-perceived well-being.

Through these diverse contributions, this issue of *Biological Psychiatry and Psychopharmacology* offers valuable insights into the interplay between biology, mental health, and clinical practice. We are especially delighted to see the dedication and curiosity of young researchers, psychologists, and medical students reflected in these articles, and we look forward to welcoming more submissions from these groups in the future.

Sincerely,
prof. Vesta Steibliene
Editor in the Field of General Hospital Psychiatry

Unfolding sensory processing sensitivity: unique personality trait beyond psychiatric disorders

Nojus SUDEIKIS¹, Laura SALCIUNAITE-NIKONOVE^{1,2}

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For survival, everyone is sensitive to environmental stimuli – that is human nature. However, while most people move through their day unaffected by subtle changes, highly sensitive persons (HSPs) experience life more intensely. First introduced by Aron and Aron in 1997, the concept of Sensory Processing Sensitivity (SPS) describes an inheritable personality trait characterized by heightened cognitive processing of physical, social, and emotional stimuli [1]. Recognized in up to 30% of the population, SPS presents both unique strengths and challenges due to a lower threshold for sensory overstimulation [2], yet it remains widely misunderstood.

Key features of SPS include heightened sensitivity to light, sound, touch, and increased emotional reactivity. While these may superficially resemble symptoms of autism spectrum disorder, anxiety, or post-traumatic stress disorder, it's essential to distinguish that SPS is not a pathological condition but rather a form of neurodiversity. Mislabelling SPS as a disorder risks stigmatizing individuals and overlooks their unique potential. Recognizing SPS as a personality trait allows us to appreciate its strengths rather than viewing it as a vulnerability.

What sets SPS apart is the positive impact it can have on everyday experiences and outcomes. Highly sensitive persons often excel in roles requiring attention to detail, empathy, and creative problem-solving. Additionally, HSPs tend to benefit more from therapeutic interventions due to their heightened emotional awareness and capacity for deep introspection. Their ability to reflect on experiences and process emotions thoroughly enhances coping strategies, allowing them to turn sensitivity into resilience. These advantages underscore the unique strengths associated with SPS, which thrive in supportive and accommodating environments.

These distinctions are also evident in neural pathways. A meta-analysis of 33 fMRI studies revealed, that a highly sensitive person's brain processes emotions and social situations differently, compared to those with autism (ASD), schizophrenia (SZ), or post-traumatic stress disorder (PTSD) [3]. Specifically, SPS is associated with increased activity in brain regions linked to reward processing, empathy, and self-reflection, such as the hypothalamus, insula, and prefrontal cortex. In contrast, these areas show reduced activation in conditions like ASD, PTSD, and SZ. These distinct neural activations highlight key differences between SPS and the mentioned disorders, further supporting SPS as a unique personality trait rather than a psychiatric condition. EEG research shows that HSPs exhibit increased beta 1 and 2 activity, along with the global EEG power, particularly in central, parietal and temporal brain regions, compared to the control group [4]. Additionally, HSPs are known to exhibit enhanced brain connectivity within hippocampus and precuneus, regions implicated in reflective thinking, alongside reduced connectivity between the amygdala and periaqueductal gray, suggesting lower anxiety and improved physiological homeostasis during rest [5]. These findings further support the evidence that SPS is linked to neurodiversity, differentiating it from conditions.

By recognizing SPS as a natural variation of neurodiversity, we can reduce stigma and foster environments that support the strengths and challenges of HSPs. Increased awareness among healthcare professionals and the public is crucial in ensuring interventions are tailored to enhance well-being and unlock the potential of HSPs. Therapeutic interventions can be particularly effective for HSPs due to their heightened self-awareness and emotional depth, which can help them manage overstimulation and develop coping strategies.

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Exploring the link between sensory processing sensitivity and cognitive stress response: an experimental study

Sensorinio apdorojimo jautrumo ir atsako į kognityvinį stresą sąsajos: eksperimentinis tyrimas

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SUMMARY

Background: Sensory Processing Sensitivity (SPS) is a trait reflecting heightened sensitivity to environmental stimuli, deep cognitive processing, and strong emotional responses. It is hypothesized that SPS may also influence individuals' responses to stress.

The aim. To obtain preliminary data about the relationship between SPS and cognitively enhanced stress responses.

Methods: Utilizing a quasi-experimental design, this preliminary study involved 20 participants (9 females; mean age 26 years) recruited through convenience sampling. Each participant completed two experimental sessions, using counterbalanced design, which included a computerized Stroop task conducted under cognitive stress and control conditions. During these sessions, heart rate (HR), subjective stress levels, and task performance metrics (reaction time and error rates) were monitored. SPS was assessed using the Highly Sensitive Person Scale (HSPS).

Results: The findings revealed statistically significant changes in all stress responses during the stress-inducing condition, including a 4.5% increase in heart rate per minute, a 2-point rise in self-reported stress levels, a 36% reduction in Stroop reaction time, and an increase in errors ($p < 0.001$). However, no statistically significant relationships were found between HSPS and changes in these stress responses ($p > 0.05$). Finally, individuals with higher sensory sensitivity made fewer errors during the Stroop task even under stress conditions.

Conclusion: SPS was not directly related to physiological or subjective stress indicators; however, higher SPS was associated with better cognitive performance even under stress conditions.

Keywords: sensory processing sensitivity (SPS), highly sensitive person scale (HSPS), stress, Stroop

SANTRAUKA

Įvadas. Sensorinio apdorojimo jautrumas (SAJ) yra asmenybės bruožas, atskleidžiantis didesnį žmogaus jautrumą įvairiems aplinkos dirgikliams, lemiantį gilesnį kognityvinį suvokimą bei stipresnį emocinį reaktyvumą. Manoma, kad padidintas SAJ taip pat gali veikti ir žmonių streso reakcijas.

Tikslas. Surinkti preliminarius duomenis apie sensorinio apdorojimo jautrumo ir sukkelto kognityvinio streso reakcijų sąsajas.

Metodai. Šiame kvazi-eksperimente dalyvavo 20 tiriamųjų (9 moterys; vidutinis amžius 26 metai), įtrauktų patogiosios atrankos būdu. Kiekvienas tiriamasis dalyvavo dvejose eksperimentinėse sesijose, taikant atsvaras, kurių metu streso ir 'kontrolės' sąlygomis buvo atliekama kompiuterizuota Stroop užduotis. Sesijų metu buvo stebimas tiriamųjų širdies ritmas (ŠR), subjektyvus streso vertinimas ir Stroop užduoties produktyvumas (reakcijos laikas ir klaidų skaičius). SAJ vertintas naudojant Itin jautraus žmogaus skalę.

Rezultatai. Rezultatai parodė, kad sukkelto streso sąlygomis statistiškai reikšmingai pakito visi tiriamųjų streso rodikliai: 4,5 proc. padažnėjo širdies ritmas, subjektyvaus streso lygis išaugo vid. 2 balais, 36 proc. sumažėjo reakcijos laikas Stroop užduotyje, o klaidų skaičius išaugo ($p < 0,001$). Vis tik, sensorinis apdorojimo jautrumas nebuvo reikšmingai susijęs su šiais pokyčiais ($p > 0,05$). Galiausiai nustatyta, kad didesniu sensoriniu jautrumu pasižymintys tiriamieji padarė mažiau klaidų Stroop užduotyje net ir streso sąlygose.

Išvados. SAJ nebuvo tiesiogiai susijęs su fiziologiniais ar subjektyviais tiriamųjų streso rodikliais; tačiau labiau išreikštas SAJ buvo susijęs su geresniu kognityvinės užduoties atlikimu net ir streso sąlygomis.

Raktažodžiai. Sensorinio apdorojimo jautrumas, itin jautraus žmogaus skalė, stresas, Stroop

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INTRODUCTION

People perceive and experience the world in varying ways, with some individuals being more sensitive to their surroundings than others. To capture this heightened sensitivity, Aron and Aron [1] introduced the concept of Sensory Processing Sensitivity (SPS), a phenotypic trait marked by heightened sensitivity to environmental stimuli, deep cognitive processing, and strong emotional responses [2]. Research estimates that highly sensitive individuals make up between 15% and 30% of the general population [1, 3, 4], with familial context potentially influencing its development. Indeed, studies suggest that heightened SPS is associated with factors like parental conflict frequency, insecure attachment, and environmental harshness towards sensitive individuals [5–6]. Biological factors such as serotonin transporter gene length, dopamine genes, and cerebral white matter volume may also contribute to development of SPS [8–10]. Highly sensitive individuals often exhibit introversion, anxiety, and heightened emotional reactivity [4, 11] alongside exceptional receptiveness [12], suggesting that Sensory Processing Sensitivity may also modulate stress response.

Stress refers to the body's response to external demands, often manifesting as a combination of psychological, emotional, and physiological reactions. Typically, stress triggers physiological responses such as the activation of the autonomic nervous system, leading to increased heart rate, cortisol release, and heightened alertness [13]. Stress can be categorised as physical, emotional and cognitive according to the nature of the stressor. Cognitive stress is the mental strain caused by challenging situations that require mental effort, attention or problem-solving, but not by actual physical risks [14].

Recent studies suggest that Sensory Processing Sensitivity (SPS) modulates individuals' responses to both positive and negative environmental stimuli, potentially affecting how they perceive and manage stress [4, 2]. However, the findings from various studies remain too ambiguous to draw definitive conclusions about the relationship between SPS and stress. While surveys asking participants to rate their subjective stress experiences report that SPS is positively correlated with stress during the COVID-19 pandemic, higher levels of work-related stress, and an increased risk of burnout [12, 15, 16], only one quasi-experimental study in the past decade—conducted by Weyn et al. [17] examined this link using a stressful task. In this study, young people with higher SPS reported experiencing more stress than their less sensitive peers after completing the Trier Social Stress Test. Interestingly, no significant differences were observed in physiological markers such as cortisol levels, heart rate, or skin conductance. This divergence highlights the complexity of the SPS-stress relationship and underscores the need for further investigation into the mechanisms by which SPS influences stress perception. Our research aimed to bridge gaps in existing literature by examining how individuals with different levels of SPS respond to a cognitive stressor, using both subjective and objective measures of stress.

METHODS

Procedure

This experimental preliminary study took place during

January and February of 2023. The research protocol and the associated consent procedures were approved by the Lithuanian University of Health Sciences (LUHS) Centre of Bioethics (Reference No. BEC-SP(B)-114, 2023).

Preliminary experimental study was conducted in Department of Health Psychology, Lithuanian University of Health Sciences. Experimental sessions were carried out in computer class with small groups of 2 to 5 participants. Experimental environment was quiet, well-lit, free from external disruptions, ensuring participants privacy as no unauthorized individuals were present. Each experimental session was scheduled in the evening, between 5 and 7 PM, to minimize potential time-of-day effects on participants' task performance. Each experimental session lasted from 30 to 40 minutes. Participants took part in two experimental sessions (on a separate days), following a counterbalanced within-subject design.

Upon the arrival at the experimental session, participants were first briefly introduced to the study's objectives, following procedures and upcoming experimental tasks. Prior to participating in the study, all the participants were asked to sign written informed consent. Moreover, participants were demonstrated how to use the heart rate monitor during the experiment. Finally, participants were encouraged to share their initial thoughts and pose any questions to minimise the potential anxiety.

Design

This experiment was conducted using a within-subject design, with two experimental conditions using computerised Stroop task: 1) Cognitive stress condition (Stroop task performance under time pressure); 2) Control condition (Stroop task performance without time constraints).

- Cognitive stress condition. A computerized Stroop task was used to induce cognitive stress by creating cognitive conflict and increasing cognitive load. They were shown colour names (red, blue, green, yellow) against a black background, where the text color could match or differ from the word itself. Participants received instructions on which aspect to focus on (the word's colour or its meaning) before each trial. They had to respond within a strict time limit of 2 seconds for each answer, with mistakes highlighted by an "ERROR" message on a red background and prompts like "TOO SLOW!" if they took too long. To further increase stress, participants were encouraged to work quickly and without errors, while the researcher monitored their performance, and they were not allowed to use written instructions during the task. The task concluded after participants provided 40 correct answers.

- Comparative condition. In the untimed Stroop task, participants were allowed 6 seconds to respond. If an error occurred, a brief "error" message displayed on a gray background. Participants received relaxed instructions and could use written instructions, with the researcher sitting apart.

The experiment was conducted in three stages (Figure 1): (1) In the first stage, participants were introduced to the Stroop task and underwent practice sessions (data from this phase were not included in the research analysis); their baseline heart rates (HR) were measured; (2) The second stage involved performing the untimed Stroop task with continuous HR

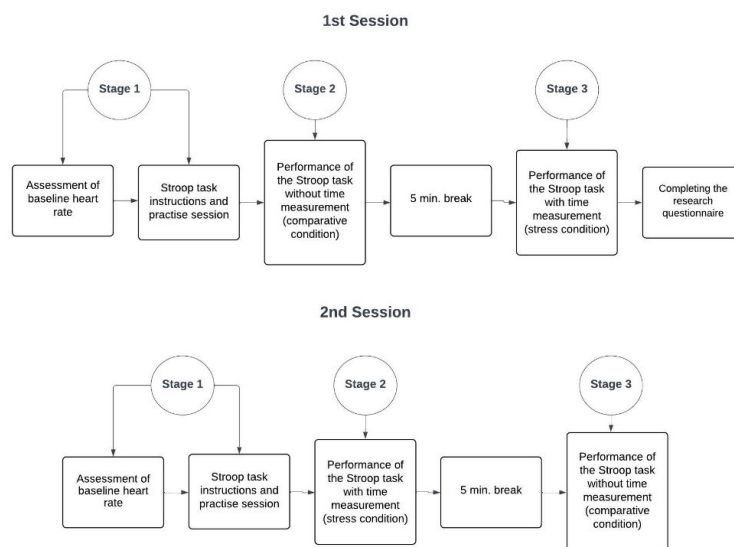


Figure 1. Experiment stages.

monitoring and task evaluation; afterward, participants rated their perceived stress and took a 5-minute break; (3) In the third stage, participants completed the timed Stroop task under stress, with HR monitoring and task assessment; following the tasks, participants filled out a questionnaire with demographic questions and three validated scales, administered only during the first session.

The experiment was counterbalanced: the subject was invited to participate in the experiment twice, in which the course of the effects of the experiment changed – in the first time, a comparative effect was applied followed by stress, and in the second, the course was reversed. The Stroop task was developed using the PsyToolkit platform [18].

Measures

Sensory processing sensitivity (SPS). Participants SPS was evaluated by the Lithuanian version of Highly Sensitive Person Scale (HSPS) [19]. The scale consists of 27 statements about individual's response to various physical, environmental, and emotional stimuli. Participants were asked to rate how well each statement describes them, using a scale from 1 to 7, where 1 – “not at all” and 7 – “extremely”. The total scale score was calculated by summing the responses to all the statements, with a higher score indicating a stronger degree of SPS. The maximum possible total score on the scale is 189. Following the instrument's author recommendations, SPS was evaluated based on the overall score, capturing the extent of sensitivity in sensory processing [19]. The scale demonstrated high internal consistency with a Cronbach's alpha value of 0.9.

Stress response evaluation:

1. **Subjective stress evaluation.** Subjective stress level was evaluated by asking participants to evaluate their stress level on the scale from 1 to 10 (1 being the lowest).

2. **Attention performance.** Following variables were obtained during the Stroop task: reaction time when selecting an answer (in milliseconds), as well as the number of errors and instances of failing to select an answer within 2 seconds.

3. **Heart-rate.** Heart rate of the participants was assessed

both before each session and during all Stroop tasks. The frequency of heart contractions during the Stroop tasks was monitored for 2 minutes. Emwave Pro sensors were utilized for these measurements, with participants comfortably securing the sensors to their ear cups.

Psychological background. Additionally, indicators of depression and anxiety among the participants were assessed. Anxiety level was evaluated by the Lithuanian version of Generalized Anxiety Disorder scale 2 (GAD-2) [20], while depressions by the Patient Health Questionnaire 2 (PHQ-2) [21]. Each questionnaire involves 2 questions, assessing symptoms of depression and anxiety over the past two weeks. Participants are asked to rate how often each symptom occurred on a scale from 0 to 3, where 0 indicates “not at all” and 3 signifies “nearly every day.” A sum score of 3 or more in each questionnaire indicates a possible risk of generalized anxiety [20] or depressive disorder [21].

Study sample

The research sample was created using the convenience sampling method. The invitation to participate in the study was shared across different social media platforms. All individuals aged 18+ were invited to participate in the study. The exclusion criteria included individuals under 18 years old, and diagnosed with cardiovascular diseases, neurological disorders, or mental health conditions.

The study included a total of 20 participants, consisting of 9 (45.0 %) females and 11 (55.0 %) males with a mean age of 26 (Table 1). Majority of the participants held secondary education qualifications, accounting for 45% of the group. Analysing the sample's characteristics also included assessing the risk of anxiety and depression, which revealed that most individuals did not display this risk.

Data analysis

The data were collected and organized using Microsoft Excel 2019 and analysed with IBM SPSS Statistics for Windows, version 29.0. To assess data normality, we examined coefficients of kurtosis and skewness as well as histograms. For

Table 1. Sociodemographic and psychological characteristics of study sample

		M (SD)	% (N)
Gender	Female		45.0 (9)
	Male		55.0 (11)
Education	Secondary		9
	Higher		11
Age		25.80 (7.36)	
PHQ-2	≥3		45.0 (9)
	≤3		55.0 (11)
GAD-2	≥3		35.0 (7)
	≤3		65.0 (13)

statistics hypotheses, the chosen confidence level was 95 per cent, and the significance level $\alpha = 0.05$.

Correlations among cognitive stress responses, response changes, and HSPS scale scores were calculated using Spearman's and Pearson's correlation coefficients. To evaluate the significance of the difference between the comparative and stress-related effects on cognitive stress response changes, we employed the Wilcoxon test.

RESULTS

HSPS and sociodemographic and psychological characteristics

First, the distribution of HSP scale was evaluated (Figure 2). The results have demonstrated that HSPS sum scores in the sample ranged from 67 to 167 with the mean of 114.95 (SD = 26.51).

After comparing HSPS scores with social and demographical characteristics, we found that females had an average HSPS score of 132.1 (SD = 21.6), slightly but insignificantly higher than males at 100.9 (SD = 21.7) ($p > 0.05$). Age showed a small negative correlation with HSPS ($\rho = -0.26$), but it did not reach statistical significance. Participants with higher educational backgrounds exhibited the highest average scale scores, while those with lower education levels showed lower scores. Nevertheless, our data analysis did not uncover a significant relationship ($\rho = -0.10$; $p = 0.539$).

Comparison of Stroop task results in in „stress“ and „comparative“ groups

The comparative analysis of stress responses under control and stress-induced conditions is shown in Table 3. The findings revealed statistically significant changes in all stress responses

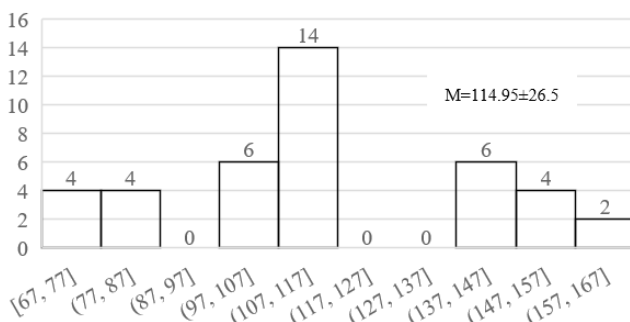


Figure 1. Distribution of HSPS scale scores.

Table 2. HSPS and sociodemographic and psychological characteristics

		HSPS	
		M (SD)	T (p) or P (p)
Sample total		115.0 (26.5)	
Age			-0.26 (0.105)
Gender	Female	132.1 (21.6)	-4.54 (0.376)
	Male	100.9 (21.7)	
Education	Secondary	114.1 (20.0)	-0.19 (0.853)
	Higher	115.6 (31.3)	

within the stress-inducing condition, which proved the validity of the induced stress effect: compared to the control condition, participants under stress experienced an approximately 4.5 % increase in heart rate per minute ($p < 0.001$), and their self-reported stress levels went up by an average of 2 points ($p < 0.001$). Additionally, in the stress-inducing conditions, participants' performance on the Stroop task showed a significant reduction in reaction time, dropping from 2039 milliseconds to 1280 milliseconds with a 36 % decrease ($p < 0.001$), and a significant increase of 125 % in errors made ($p < 0.001$).

Stress response associations with HSPS

Data analysis revealed no statistically significant relationships between HSPS and HR during both comparative and stress conditions, as well as changes in HR (Table 4). No significant correlations were found between these variables ($p > 0.05$). The data showed no statistically significant correlations between SPS and subjectively perceived stress estimates during both comparative and stress conditions, and no significant changes were observed ($p > 0.05$). There were no observed relationships between reaction time, the number of failures to choose an answer within a limited time during comparative and stress conditions, and changes in these indicators ($p > 0.05$).

However, a significant relationship was found between the number of errors made during the Stroop task and SPS ($p < 0.001$). The results indicated that individuals with higher sensory sensitivity made fewer errors during the Stroop task. It's important to note that significant relationships between SPS and the number of errors were found during both comparative and stress conditions ($p < 0.05$), but the relationships between SPS and the change in the number of errors did not reach statistical significance ($p > 0.05$).

Table 3. Stress responses in comparative and stress-inducing experimental conditions

	Condition M (SD)		W	P
	Comparative	Stress		
Heart rate	87.4 (11.6)	91.3 (10.3)	-3.25	<0.001
Subjective stress	3.5 (1.5)	5.5 (1.7)	-5.07	<0.001
Stroop task scores				
Reaction time (ms)	2039.5 (842.6)	1280.7 (195.7)	-5.43	<0.001
Number of errors	4.4 (4.9)	10.0 (8.2)	-4.60	<0.001

Table 4. Stress response and HSPS

	HSPS total		
	Comparative condition	Stress condition	Comparative-stress change
Heart rate	0.18 (0.278)	0.06 (0.718)	-0.13 (0.416)
Subjective stress	0.17 (0.301)	0.24 (0.151)	0.10 (0.547)
Stroop task scores			
Reaction time	-0.083 (0.609)	0.29 (0.067)	-0.18 (0.261)
Number of errors	-0.32 (0.043)	-0.49 (0.004)	0.14 (0.394)
Failures to select an answer		-0.27 (0.087)	

DISCUSSION

Research on Sensory Processing Sensitivity (SPS) has gained substantial attention in recent years, as it offers insights into individual differences in how people perceive, process, and respond to environmental stimuli. One of the focuses within this field is the potential influence of SPS on stress responses. Despite an increasing number of studies exploring this connection over the past decade, the findings remain inconsistent, with quantitative survey research indicating strong links between sensory sensitivity and stress, while experimental studies report no associations with biological stress indicators. This preliminary study sought to analyse the link between SPS and responses to induced cognitive stress, utilizing a quasi-experimental within-group design.

First, the results demonstrated a significant change in all cognitive stress indicators, confirming that participants experienced cognitive stress under the experimental conditions. During stress exposure, participants exhibited increased heart rates (HR) and elevated subjective stress levels compared to the control conditions. Notably, contrary to expectations based on previous research [22,23], participants also displayed accelerated reaction times on the Stroop task under stress. This deviation from the typical stress-induced slowdown in reaction times could be explained by the heightened sense of urgency imposed by the stress condition. In this context, participants may have prioritized speed over accuracy, which aligns with the observed increase in error rates ($p < 0.001$).

The primary findings of this preliminary study revealed no significant relationship between sensory processing sensitivity (SPS) and stress responses, as measured by heart rate and subjective stress levels. This suggests that SPS may not be linked to physiological or perceived stress responses, which is surprising given that these findings contrast with previous observational studies that have identified associations between higher SPS and increased stress. For instance, Iimura [12] found that adolescents with higher SPS experienced elevated stress during the COVID-19 pandemic, and Redfearn et al. [15] reported that nurses with high SPS were more susceptible to work-related stress. Similarly, Weyn et al. [17] conducted a quasi-experimental study and found that highly sensitive individuals reported stronger negative effects of stress than their less sensitive peers. One possible explanation for our results could be the relatively small sample size, which may have limited the detection of significant relationships. However, the sample was representative in terms of SPS score distribution, with scores ranging from 67 to 167 and a mean of 115.0 (SD = 26.5), and was evenly balanced by gender and education.

Additionally, no significant relationships were found between SPS and demographic characteristics such as age or gender. Furthermore, the cognitive stressor used in this preliminary study might not have fully activated the sensory processing traits typically linked to stress in highly sensitive individuals. These traits tend to be more pronounced when the stressor is emotional or social in nature, rather than purely cognitive.

Interestingly, participants with higher SPS scores made significantly fewer errors on the Stroop task during both stress and control conditions ($p < 0.05$). This suggests that individuals with higher sensory sensitivity may possess enhanced cognitive accuracy, regardless of stress. This finding aligns with the work of David et al. [10] who observed structural differences in the premotor cortex of individuals with higher SPS, a region associated with attentional control and cognitive flexibility. The increased cognitive accuracy seen in high-SPS participants may indicate that SPS is more closely related to stable cognitive traits, such as enhanced focus and flexibility, rather than direct modulation of stress responses. Therefore, while SPS does not seem to be related to stress perceptions or physiological responses, it may provide a cognitive advantage that helps mitigate the negative effects of stress on task performance.

Several limitations of this study should be considered when interpreting the results. Most notably, the relatively small sample size may have constrained the ability to detect significant associations between SPS and stress responses, therefore this preliminary study can not be classified as a full-scale experimental study. However, the significant findings related to Stroop task performance suggest that the preliminary study was still able to identify meaningful patterns in cognitive outcomes. Furthermore, the inclusion of participants with a risk of depression and anxiety, while unavoidable, may have confounded the results by influencing stress reactions and cognitive performance. Finally, while the preliminary study focused on HR, subjective stress perception, and Stroop task performance as primary indicators, full-scale future research should consider additional physiological or biochemical markers to provide a more comprehensive understanding of stress responses. Despite these limitations, the study offers valuable insights into how SPS may influence cognitive performance under stress rather than direct stress responses themselves. Additionally, it contributes to the limited body of research on SPS conducted in Lithuania.

The findings from this preliminary study suggest that while Sensory Processing Sensitivity is not directly related to traditional biological or subjective indicators of stress (e.g., heart rate and perceived stress), it does appear to be related to cognitive task performance. Specifically, individuals with

higher SPS showed enhanced accuracy, making fewer errors on the Stroop task during both stress and control conditions. This suggests that the cognitive focus and flexibility associated with high SPS may help mitigate the negative effects of stress

on task performance, even if it does not alter physiological or subjective stress responses. Therefore, SPS may be more related to stable cognitive traits, such as attentional focus, rather than a direct modulator of stress physiology or perception.

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Affective and anxiety symptoms in the development and clinical outcomes of different subtypes of irritable bowel syndrome: a narrative literature review

Afektinių ir nerimo simptomų įtaka dirgliosios žarnos sindromo potipių išsivystymui ir klinikinėms išeitims: naratyvinė literatūros apžvalga

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SUMMARY

Introduction: Irritable Bowel Syndrome (IBS) is a prevalent gastrointestinal disorder marked by abdominal discomfort or pain and irregular bowel habits. It is classified into four subtypes – IBS-C (constipation-predominant), IBS-D (diarrhea-predominant), IBS-M (mixed-type), and IBS-U (unclassified). IBS is influenced by both gastrointestinal and psychological factors. Research has highlighted the significant role of the bi-directional gut-brain axis system in regulating symptoms of IBS and exacerbating comorbid conditions like anxiety and depression. However, affective symptoms and anxiety themselves can also cause or exacerbate the symptoms of IBS.

Aim: The aim of this narrative literature review is to explore the role of affective and anxiety symptoms in the development and clinical outcomes of different subtypes of irritable bowel syndrome and provide an overview of the newest scientific literature.

Methodology: A narrative literature search, review and analysis were conducted using the computerised databases - PubMed, Google Scholar and ScienceDirect in December 2024. The following keywords and their combinations were used to identify relevant scientific publications: Irritable bowel syndrome, IBS, IBS subtypes, anxiety, depression, bipolar disorder, gut-brain axis. Inclusion criteria: full text, peer-reviewed scientific publications, published in English, not older than 10 years, scientific publication types included – clinical trials, controlled clinical trials, randomized controlled trials, meta-analyses, systematic reviews and reviews. A total of 74 full-text publications were reviewed. Descriptive analysis was performed to summarize the findings.

Results: Affective and anxiety disorders are more prevalent in IBS patients than in the general population. The IBS-M subtype shows higher anxiety rates, while IBS-M and IBS-C are more likely to exhibit increased depressive symptoms. Patients with depression have a 2.4-fold higher risk of developing IBS, and they are nearly twice as likely to experience new-onset IBS. Anxiety increases the risk of IBS by 1.53 times and is strongly associated with more frequent and

SANTRAUKA

Įvadas. Dirgliosios žarnos sindromas (DŽS) yra paplitęs virškinimo trakto sutrikimas, kuriam būdingas pilvo diskomfortas arba skausmas ir nereguliarus tuštinimasis. Jis skirstomas į keturis potipius – DŽS-C (vyrauja vidurių užkietėjimas), DŽS-D (vyrauja viduriavimas), DŽS-M (mišrus tipas) ir DŽS-U (neklasifikuojamas). DŽS veikia tiek virškinimo trakto, tiek psichologiniai veiksniai. Tyrimai atskleidė svarbų žarnyno ir smegenų ašies vaidmenį reguliuojant simptomus ir pabloginant gretutines ligas, tokias kaip nerimą ir depresiją. Tačiau afektiniai simptomai ir nerimas taip pat gali sukelti arba sustiprinti DŽS simptomus.

Tikslas. Apžvelgti naujausią mokslinę literatūrą apie afektinių ir nerimo simptomų vaidmenį dirgliosios žarnos sindromo ir jo potipių išsivystyme, ir poveikį klinikinėms rezultatams.

Metodologija. Literatūros paieška, apžvalga ir analizė atlikta naudojant kompiuterines duomenų bazes: PubMed, Google Scholar ir ScienceDirect, 2024 m. gruodžio mėnesį. Mokslinėms publikacijoms rasti naudoti šie raktažodžiai ir jų deriniai: dirgliosios žarnos sindromas, DŽS, DŽS potipiai, nerimas, depresija, bipolinis sutrikimas, žarnyno-smegenų ašis. Įtraukimo kriterijai: pilnas tekstas, recenzuojamos mokslinės publikacijos, publikacijos anglų kalba, ne senesnės kaip 10 metų, įtrauktos mokslinių publikacijų rūšys: klinikiniai tyrimai, kontroliuojami klinikiniai tyrimai, atsitiktinių imčių kontroliuojami tyrimai, meta-analizės, sisteminės apžvalgos ir apžvalgos. Iš viso buvo peržiūrėtos 74 pilno teksto publikacijos. Išvados apibendrinti buvo atlikta aprašomoji analizė.

Rezultatai. Afektiniai bei nerimo sutrikimai yra labiau paplitę tarp DŽS sergančių pacientų nei bendroje populiacijoje. DŽS-M potipis pasižymi didesniu nerimo simptomų dažniu, o DŽS-M/DŽS-C potipiai yra labiau tikėtina, kad bus susiję su didesniu depresijos simptomų dažniu. Depresija sergantys pacientai turi 2,4 karto didesnę riziką susirgti DŽS ir turi beveik dvigubai didesnę tikimybę susirgti naujai atsiradusiu DŽS. Nerimo sutrikimai padidina DŽS riziką 1,53 karto ir yra glaudžiai susiję su dažnesniais bei sunkesniais

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severe gastrointestinal symptoms, especially in IBS-C and IBS-D subtypes. The connection between IBS and bipolar disorder (BD) remains unclear, with some studies suggesting an association and others finding no consistent link.

Keywords: Irritable bowel syndrome, irritable bowel syndrome subtypes, anxiety, depression, bipolar disorder, gut-brain axis.

virškinamojo trakto simptomais, ypač DŽS-C ir DŽS-D potipiuose. Sąsaja tarp DŽS ir bipolinio sutrikimo (BS) išlieka neaiški – kai kurie tyrimai rodo ryšį, tačiau kiti nuoseklių sąsajų nepatvirtina.

Raktažodžiai: Dirgliosios žarnos sindromas, dirgliosios žarnos sindromo potipiai, nerimas, depresija, bipolinis sutrikimas, žarnyno-smegenų ašis.

INTRODUCTION

Irritable bowel syndrome (IBS) is a highly prevalent chronic condition characterized by irregular bowel habits and recurrent abdominal pain or discomfort [1,2]. With considerable regional variation, its estimated frequency ranges from 10% to 25% in the US, with the highest rates in South America (17–21%), the lowest in South Asia (7–9%), and 5.6% in the Middle East and Africa [3,4]. It predominantly affects women, with studies indicating that approximately 60–70% of IBS patients are female and aged ≤50 years [2,5]. Various risk factors are associated with IBS, including chronic stress, anxiety, depression, smoking, genetic predisposition, female sex [6,7]. Even though IBS is a benign disorder, patients' quality of life can be greatly impacted by its erratic and disruptive symptoms, which include pain, bloating, and irregular bowel movements [8]. Many people claim that their symptoms impede their ability to travel, engage in social activities, and be spontaneous. This combined load of psychological anguish and physical suffering emphasises how crucial it is to comprehend and treat IBS holistically [9].

Under the Rome IV criteria, IBS is diagnosed as recurrent abdominal pain occurring at least once a week over the previous three months, accompanied by two or more of the following symptoms: pain related to defecation, changes in stool frequency, or alterations in stool form or appearance [10]. IBS is further divided into four subtypes based on the Bristol Stool Form Scale: mixed type (IBS-M), constipation-predominant (IBS-C), diarrhea-predominant (IBS-D), and unsubtyped (IBS-U) [11]. The specific pathogenic processes behind IBS remain unclear to this day. Rome IV diagnostic guidelines, introduced in 2016, offer a more comprehensive understanding of IBS's complex pathophysiology, reclassifying it from a functional gastrointestinal disorder (FGD) to a disorder of gut-brain interaction [12,13]. New research shows that the gut-brain axis—a two-way communication network that includes the gut microbiota, the hypothalamic-pituitary-adrenal (HPA) axis, the enteric nervous system, and the central nervous system—plays a crucial role in IBS [14–16]. This axis regulates intestine functions as well as affects emotion, mental health, and cognition. The symptoms of IBS and its frequently linked psychiatric comorbidities, such as anxiety, depression, and even suicidal thoughts, may be exacerbated by disruptions in this complex system [17].

This article examines Irritable bowel syndrome (IBS) as a complex, bi-directional gut-brain disorder, with a focus on its distinct subtypes, underlying pathophysiological mechanisms, and close associations with mental health disorders such as depression and anxiety. Furthermore, this article explores the influence of affective and anxiety symptoms in the development and clinical outcomes of different IBS subtypes.

METHODS

A narrative literature search, review and analysis were conducted using the computerised databases – PubMed, Google Scholar and ScienceDirect in December 2024. The following keywords and their combinations were used to identify relevant scientific publications: Irritable bowel syndrome, irritable bowel syndrome subtypes, anxiety, depression, bipolar disorder, gut-brain axis. Inclusion criteria: full text, peer-reviewed scientific publications, published in English, not older than 10 years, scientific publication types included – clinical trials, controlled clinical trials, randomized controlled trials, meta-analyses, systematic reviews and reviews. A total of 74 full-text publications were reviewed and included with additional relevant sources referenced within these publications. Sources that did not match the chosen scientific publication type were not included. Descriptive analysis was performed to summarize the findings.

RESULTS

Affective and anxiety disorders are more prevalent in IBS patients than in the general population, with approximately 40% of IBS patients meeting the diagnostic criteria for an anxiety disorder, and the prevalence of depression reaching an estimated rate of 23.3%. All IBS subtypes are associated with an increased risk of depressive and anxiety symptom development and all exhibit higher levels of these symptoms compared to healthy controls. The IBS-M subtype shows higher anxiety rates, while IBS-M and IBS-C are more likely to exhibit increased depressive symptoms. Anxiety and depressive symptoms are strongly linked to increased IBS severity, with anxiety being a stronger predictor of symptom severity than depression. Patients with depression have a 2.4-fold higher risk of developing IBS, and they are nearly twice as likely to experience new-onset IBS. Anxiety increases the risk of IBS by 1.53 times and is strongly associated with more frequent and severe gastrointestinal symptoms, especially in IBS-C and IBS-D subtypes. A higher prevalence of BD among IBS patients has been established, but the link remains unclear, with some studies suggesting an association and others finding no consistent link.

The pathophysiological mechanisms of Irritable Bowel Syndrome and Psychiatric Comorbidities

The pathophysiological mechanisms contributing to the development of IBS are heterogenous and not yet fully understood. It is a widely acknowledged that the disorder results from the interplay of various factors, including the disruption of the gut-brain axis, visceral hypersensitivity, altered gastrointestinal motility, intestinal inflammation, altered gastrointestinal permeability, post-infectious reactivity,

changes in gut microbiota composition, small intestinal bacterial overgrowth, food sensitivities, genetic predisposition and psychosocial factors [14,18–20]. The gut-brain axis has a core role and acts as a communication network between the central nervous system (CNS) and the gastrointestinal system. The network is composed of the central nervous system (CNS), autonomic nervous system (ANS), enteric nervous system (ENS), hypothalamic-pituitary-adrenal (HPA) axis, gut microbiota, gut wall and is mainly mediated through neural, immune, neuroendocrine and metabolic signalling pathways [14–16]. The gut-brain axis is a bidirectional system and disruptions in either direction can exacerbate IBS symptoms as well as the commonly co-existing psychiatric comorbidities, particularly anxiety and depressive disorders, including subclinical symptom manifestations, for which IBS patients are at higher risk [21,22]. Anxiety, depressive symptoms and psychological stress primarily disturb the gut-brain axis interactions through the overactivation of the HPA axis (release of CRH, ACTH, cortisol), overactivation of the sympathetic nervous system (SNS), increased visceral hypersensitivity, changes in the gut microbiota composition, neurotransmitter imbalance (5-HT, dopamine, norepinephrine) and neuro-immune system activation [23,24]

Clinical manifestations of Irritable Bowel Syndrome Subtypes and their Psychiatric Comorbidities

According to Rome IV criteria IBS is classified into 4 subtypes based on predominant bowel habits: IBS-C (constipation-predominant), IBS-D (diarrhea-predominant), IBS-M (mixed type) and IBS-U (unsubtyped). According to the newest guidelines symptoms must be present for at least 6 months, with active symptoms occurring at least 1 day per week in the last 3 months [12,13]. These categories differ in stool consistency as well as in frequency of bowel movements and are related to defecation [25].

IBS-C – loose or watery stools in $\geq 25\%$ of bowel movements and hard or lumpy stools in $< 25\%$.

IBS-D – hard or lumpy stools in $\geq 25\%$ of bowel movements and loose or watery stools in $< 25\%$ of bowel movements.

IBS-M – hard or lumpy stools and loose or watery stools in $\geq 25\%$ of bowel movements.

IBS-U – Does not meet the criteria for other subtypes due to inadequate irregularity in the consistency of the stool [12,13,26,27].

Prevalence of subtypes varies greatly and depends on geographic location and most importantly diagnostic criteria. This is well illustrated by a meta-analysis encompassing 34 countries, which found that using the Rome IV criteria, IBS-D (31.5%) is the most common subtype, whereas the Rome III criteria identified IBS-M (33.8%) as the predominant subtype [2]. Compared to adults, the most prevalent subtypes of IBS in children are constipation and unsubtyped IBS, while mixed IBS and diarrhoeal IBS are less common [28]. Even though IBS is more commonly diagnosed for women, IBS-D is more common in men [29]. A clear drawback of prevalence estimation studies is the inconsistent diagnostic criteria, which makes it difficult to compare results.

The gut microbiota, that is being compromised in this IBS

condition, is a key component of the gut-brain axis, playing a vital role in various gastrointestinal functions, behavioural regulation, and the modulation of psychiatric symptoms such as depression and anxiety [30]. Recent studies indicate that faecal microbiota varies not only between IBS subtypes but also within each subtype, depending on geographic location. For example, in IBS-D, British patients ($n = 27$) exhibited significantly higher levels of Bacteroidetes compared to Mexican patients ($n = 24$), suggesting distinct faecal microbiota signatures even within the same IBS subtype [31].

Analysis of 942 IBS patients and 942 matched controls from the American Gut Project revealed reduced bacterial diversity in IBS-D and IBS-U, subtype-specific microbial signatures, and functional changes like increased hydrogen sulphide production in IBS-D and palmitoleate biosynthesis in IBS-C. IBS patients with depression exhibited lower abundance of beneficial bacteria (e.g., Bifidobacterium) and reduced short-chain fatty acid (SCFA'S) production [32]. In conditions like IBS, gut dysbiosis and reduced levels of short-chain fatty acids (SCFAs) such as butyrate, propionate, and acetate disrupt the gut barrier and promote systemic inflammation [33]. SCFAs, particularly butyrate, can cross the blood-brain barrier, where it plays a critical role in reducing neuroinflammation and participates in serotonin production, which is a significantly involved in mood regulation [34,35]. Chronic low-grade inflammation, a hallmark of many depressive disorders, is partly attributed to gut dysbiosis, highlighting the intricate connection between the gut and brain. Another analysis shows that behavioural responses to symptoms vary across IBS subtypes, with avoidance behaviours being more common in diarrhea-predominant IBS, control behaviours in constipation-predominant IBS, and both avoidance and control behaviours in those with alternating IBS [36].

Anxiety and depression, or psychological distress, are frequently observed comorbidities in individuals with irritable bowel syndrome (IBS), yet the way they interact with pathophysiological factors and other symptoms remains unclear [37]. These findings highlight the complex interplay between IBS subtypes, gut microbiota, and psychological symptoms, particularly depression and anxiety, which vary in prevalence and severity across different IBS forms.

The link between Affective Symptoms and Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is frequently associated with affective disorders, such as major depressive disorder (MDD) or bipolar disorder (BD) and numerous studies have reported that depression and depressive symptom levels are significantly higher among IBS patients compared to the general population [22,38]. The specific association can be explained by several factors, including a strong genome-wide correlation between the risk of IBS and depression indicating genetic susceptibility, dysregulation of the gut-brain-axis, the influence of acute and chronic stress on the autonomic nervous system and the HPA axis, changes in the gut microbiota composition, serotonin imbalance and heightened neuro-immune response [15,39]. Numerous studies indicate a causal relationship between psychological

factors (depression, anxiety, stress) and IBS [40]. One study concluded that IBS patients reporting psychological distress have higher IBS symptom and non-gastrointestinal symptom severity and a lower quality of life than patients without reported psychological distress. [37]. Although the bi-directional connection between IBS and affective disorders is well-established and a significant amount of scientific literature exists on how IBS can contribute to the development of depression, the role of affective disorders and their symptoms in contributing to the development of IBS remains an underexplored area of research [41].

A systematic review with meta-analysis revealed that the prevalence of depression and depressive symptoms is significantly higher among IBS patients, with estimated rates of 23.3% and 28.8%, respectively [22]. Another study found that depressive symptoms were more severe and frequent among IBS patients in comparison to healthy controls [42]. A large population-based prospective cohort study, conducted in the United Kingdom and including 98,564 participants in the final sample, found a significant association between MDD and IBS [43]. This study, which is the largest to date to explore the connection between MDD and IBS, concluded that patients suffering from MDD have a 26% higher risk of developing IBS compared to patients without a diagnosis of MDD [43]. Another systematic review with meta-analysis concluded that patients with depression have a 2.4 times higher risk of having IBS compared to the healthy controls and the risk of developing new-onset IBS was almost double among patients with depression [41]. However, it is crucial to consider that some of the newly diagnosed IBS cases in patients with affective disorders might be due to the use of SSRI, which can cause side-effects resembling IBS symptoms and lead to an increase in IBS diagnosis, however, the evidence regarding this association remains conflicting [41]. In addition, because IBS is associated with fibromyalgia and other pain syndromes, the higher prevalence of IBS among patients with depression may be attributed to increased physical sensitivity [19,41]. Another study also confirms that depressed mood is a risk factor for IBS and supports the finding that depressed mood doubles the risk for the onset of IBS, while noting that the development of IBS is multifactorial [44].

Most studies report that the prevalence of depressive symptoms does not differ across different genders, however, one study found that the frequency and severity of depressive symptoms was higher among female and younger patients [22,42]. Regarding the connection of depressive symptoms to different subtypes of IBS, one study reported the IBS-C subtype to have the highest prevalence rate of depressive symptoms and connected this finding to changes in the balance of the intestinal serotonin system and to the low responsiveness of serotonin in the central and peripheral regions [22,45,46]. One study found that depression levels were higher among patients with IBS-D, while another study found that the highest prevalence of depressive symptoms was among the IBS-M subtype [42,47]. A network meta-analysis concluded that the IBS-M subtype was more likely associated with the highest level of depression, followed by IBS-C/IBS-D and IBS-U, but only after ranking probability [48]. The studies

associating the higher rates of depressive symptoms among IBS-M and IBS-C, compared to other subtypes could be explained by the higher unpredictability of the coexistence of opposing symptoms (constipation and diarrhoea) which might amplify psychological stress. Additionally, this association might be influenced by the imbalances in the serotonin system, as previously discussed [22,45,46]. These findings may also be influenced by factors such as variations in the prevalence of IBS subtypes within the studied population, geographical differences, heterogeneity or the use of different diagnostic criteria among studies. Further research is needed to confirm the association between IBS-M/IBS-C subtypes and the higher rates of depressive symptoms, using studies with greater statistical power. Interestingly, most studies identified that all IBS subtypes were associated with the risk of depressive symptom development, and all identified higher levels of depressive symptoms among IBS subtypes compared to healthy controls, once again predisposing a bi-directional relationship between the comorbid disorders [42,45].

Regarding the link between bipolar disorder (BD) and IBS, a significantly higher prevalence of bipolar disorder in patients suffering from IBS compared to control groups has been established [38]. The systematic review and meta-analysis included a large number of IBS patients (177,117), but its findings are limited by the small number of included studies (6), heterogeneity, reliance on database research instead of interview-based design, unclear diagnostic criteria used and a lack of detailed patient data [38]. A nationwide population-based retrospective cohort study in Taiwan supported this finding and revealed that IBS might increase the risk of developing BD [49]. The strengths of this study include its longitudinal design, large sample size of 30,796, a long follow-up period of 11 years, the use of ICD-9-AM codes for diagnosing IBS and BD, with BD confirmed by a psychiatrist [49]. While the study is robust and provided the statistical power necessary to detect an association between IBS and BD, it is geographically limited with a homogenous population, relies on older diagnostic criteria and did not investigate BD as a potential risk factor for developing IBS [49]. Another systematic review and meta-analysis conducted in the United Kingdom, which analysed three cross-sectional studies involving 2,718 BD patients, with BD defined using either a structured clinical interview or a medical record diagnosis, investigated this risk and found that BD was not consistently associated with the risk of either having or developing IBS [41]. The conflicting evidence of no consistent association is primarily due to heterogeneity and variations in the definition of BD among studies, since one study did not investigate the link according to BD subtypes, another included only I and II subtypes, and third included other diagnostic codes, such as unipolar mania and psychotic depression [41]. Moreover, the study design did not consider the current phase or severity of BD when collecting data and noticed that a significant increase in IBS symptoms was only among those with currently pronounced depressive symptoms, highlighting that active depression is the key contributor to IBS symptoms through its pathophysiological link [41]. In conclusion, the differences in study design, sample size,

population, diagnostic criteria, confounding factors and heterogeneity of included studies provide conflicting findings. Further longitudinal studies with a heterogenous population are required to support the association between BD and IBS as well as investigate the association of BD as a risk factor of developing IBS.

It is crucial to be aware of the bi-directional comorbidity between affective disorders and IBS to ensure appropriate clinical assessment and multidisciplinary management of the co-occurring conditions. Therefore, treatment methods should not only focus on the reduction of gastrointestinal symptoms, but also provide positive psychological effects. Psychological interventions (CBT, hypnotherapy, mindfulness-based therapies) and/or antidepressants (TCA, SSRIs, SNRIs) could be used to target both gastrointestinal (abdominal pain, diarrhea, constipation) and depressive symptoms [21,50].

The link between Anxiety and Irritable Bowel Syndrome

There is substantial evidence indicating a strong association between anxiety and IBS. A systematic review and meta-analysis revealed that approximately 40% of IBS patients meet the diagnostic criteria for an anxiety disorder. Furthermore, a significant proportion of individuals with IBS demonstrate elevated levels of trait anxiety-related psychopathology within this population [51]. One prevailing hypothesis proposes that both conditions share common pathophysiological mechanisms, such as the brain-gut axis, where stress and anxiety contribute to the exacerbation of gastrointestinal symptoms [21,52,53].

Neurotransmitter imbalances, particularly in serotonin and GABA, are central to anxiety disorders. Given that serotonin is predominantly produced in the gut, its dysregulation affects both mood and gastrointestinal function. Additionally, chronic neuroinflammation associated with anxiety alters pain perception and emotional regulation, further amplifying visceral hypersensitivity [54]. It is clear that chronic stress is strongly linked to anxiety and can play a significant role in its development and persistence. It leads to reduction and complexity of the gut microbiota, and it does not fully return to baseline. This dysbiosis may heighten inflammatory responses and, consequently, worsen anxiety symptoms [23].

From a genetic perspective, recent studies have identified shared single nucleotide polymorphisms between IBS and anxiety disorders, indicating potential genetic vulnerabilities affecting both CNS and the enteric nervous system (ENS) [39,51]. These findings reinforce the notion that anxiety and IBS are deeply intertwined, both biologically and psychologically. Anxiety and depression symptoms are strongly linked to increased IBS severity, while demographic factors show less consistent influence. IBS and anxiety disorders are more common in females, and younger individuals often report more severe symptoms [46]. Factors like a history of sexual abuse and lower socioeconomic status may also worsen IBS and anxiety symptoms [55]. Certain predictors of anxiety in IBS patients include disease activity, hospitalization, female sex, marital status, alcohol use, employment status, and steroid use. Female patients appear to be particularly vulnerable, and steroid use may contribute to anxiety due to

its side effects [56,57]. In IBS patients, demographic variables do not consistently correlate with symptom severity [58]. This suggests that anxiety and depression have a more direct impact on IBS severity, while demographic factors remain context-specific and require further study.

A systematic review and meta-analysis reported that individuals experiencing anxiety have a 1.53 times higher risk of developing IBS compared to control groups [59]. Anxiety is known to influence gastrointestinal motility and visceral hypersensitivity, leading to heightened discomfort and an increased perception of pain in IBS patients [30]. This connection is particularly relevant when considering IBS severity. In a study, among IBS patients, 74% were male, with 37 individuals experiencing severe IBS and 13 experiencing moderate IBS. The severity of IBS symptoms may be exacerbated by anxiety, contributing to increased pain sensitivity and gastrointestinal distress [60]. Additionally, another study indicates that anxiety is a stronger predictor of symptom severity than depression, with individuals reporting more frequent and intense gastrointestinal disturbances when anxiety is present [23]. This connection is especially apparent in individuals with panic disorder who also suffer from diarrhea-predominant IBS (IBS-D), where anticipatory anxiety and avoidance behaviours become common due to the fear of diarrhea-related symptoms. These patients often develop anticipatory anxiety and avoidance behaviours due to fear of IBS, and creates a cycle of worsening anxiety and somatic distress [61]. Moreover, in a study, individuals with the IBS-M subtype report approximately 1.3 times higher anxiety levels compared to IBS-C and IBS-D subtypes, with this increased anxiety being linked to greater somatizations and 60% of IBS patients, 40% indicated that their anxiety significantly impacted their quality of life [36]. This variation suggests that anxiety may exacerbate IBS symptoms through bowel control anxiety and avoidance behaviours. For these patients, subtype-specific treatments focusing on anxiety management, such as cognitive-behavioral therapy (CBT), and medications like serotonin reuptake inhibitors (SSRIs), may be particularly effective. In a systematic review and meta-analysis of randomized controlled trials for IBS therapies, CBT and gut-directed hypnotherapy were found to be the most effective in the long term [21]. For patients with IBS-C, treatment addressing both constipation-related stress and anxiety, such as gut-directed therapies and relaxation techniques, may provide better outcomes. These subtype-specific approaches aim to reduce not only gastrointestinal symptoms but also the psychological distress associated with IBS, highlighting the importance of individualized treatment plans [62]. Moreover, one study demonstrated that pain and diarrhea severity in IBS patients were notably worsened when mood disorders, particularly anxiety, were present. The hospital Anxiety and Depression scale (HAD) was used as a proxy measure for CNS dysfunction, and it demonstrated modest associations with all the domains of the Gastrointestinal Symptom Rating Scale for IBS (GSRs-IBS). Notably, anxiety symptoms correlated with rectal sensitivity variables, indicating that heightened psychological distress intensifies IBS symptoms, particularly pain and bloating [63].

Supporting this, a systematic review highlighted that anxiety is most prevalent in IBS-C patients, followed by IBS-D and IBS-M groups [22]. This finding suggests that the IBS subtype may impact the intensity of psychological distress and visceral sensitivity. This exacerbation highlights the impact of anxiety not just on the psychological well – being of patients, but also on the physiological aspects of IBS, such as gut motility and visceral sensitivity.

Clinical outcomes, Diagnostic and Treatment challenges of IBS

Research highlights a significant underdiagnosis of anxiety and depression among patients with IBS, with approximately one third of depression cases and two - thirds of anxiety cases being unrecognised, particularly among males. This gap in diagnosis can severely impact pati. Current treatment strategies for IBS often focus on pharmacological and behavioural therapies, but there is increasing call for a multidisciplinary approach that considers individual variations in symptom manifestation and responsiveness to different therapies [51]. Among behavioural interventions, cognitive – behavioural therapy (CBT), which targets both the physiological and psychological aspects of IBS, has shown promise in addressing both IBS and anxiety, with studies reporting symptom improvement in 30–50% of patients with comorbid IBS and anxiety [64]. Pharmacological treatments, such as selective serotonin reuptake inhibitors (SSRIs), are also commonly used to manage both anxiety and IBS symptoms, providing dual benefit for patients struggling with both conditions [65]. There is stress- reducing interventions such as meditation, yoga, or breathing exercises, which can help regulate gut symptoms and psychological well-being, have shown to statistically significantly improve disease outcomes as part of treatment. Patients with depression and anxiety in IBS showed significant improvements after yoga interventions, with a notable reduction in HADS anxiety and depression scores after 12 and 24 weeks. Additionally, studies have indicated that yoga effectively reduced symptom severity in individuals with mild to major depressive disorders [66]. Similarly, a study shows that the severity of the IBS symptoms was also lower in the meditation group of patients [67]. To conclude, around 50–70 % of patients with anxiety or depression show improvement with appropriate psychological therapies or pharmacotherapy [68].

Despite the availability of these treatments, non-adherence remains a significant challenge. Non-adherence to treatment in IBS who also experience anxiety and depression can vary, but studies reported rates ranging from 50% to 70% [69,70]. Psychological factors, such as illness perceptions (IP), self-efficacy (SE), and sense of coherence (SOC), heavily influence adherence rates. Higher levels of SE and positive IP are associated with better treatment adherence, while anxiety and depression can lead to non-adherence. Factors contributing to treatment non-adherence, particularly in the context of irritable bowel syndrome (IBS), include stigma related to the condition or medication use, concerns about potential side effects, and psychological resistance due to internalized beliefs about the illness and treatment efficacy [71]. However, there is limited research specifically addressing the psychological factors

influencing non-adherence in IBS. Interventions aimed at improving these psychological aspects may enhance treatment compliance and overall disease management [58].

A 2022 systematic review by Shrey Gohil and colleagues analysed 17 studies with 7,073 IBD patients identified several interventions to improve medication adherence. Motivational Interviewing (MI) showed potential, though more research in IBD is needed. Cognitive Behavioural Therapy (CBT) showed short-term benefits, but its long-term effectiveness is unclear. Educational interventions, especially those involving pharmacist counselling, were effective. Multicomponent interventions combining multiple strategies were the most successful [72]. Future research should focus on multidisciplinary approaches to enhance long-term adherence.

Another critical factor influencing mental health in IBS patients is the role of social determinant of health. Research indicates that depression correlates with higher levels of social vulnerability, whereas anxiety and general mental health diagnoses do not show the same pattern. These findings highlight disparities in mental health diagnosis for socially vulnerable IBS patients and emphasize the need for improvised screening, intervention and social support systems [73].

DISCUSSION

Irritable Bowel Syndrome (IBS) is a chronic gastrointestinal condition, that is characterised by recurrent abdominal pain and changes in bowel habits, without detectable structural or biochemical abnormalities. Although specific pathogenic mechanisms are not fully understood to this day, it is well established that this multifactorial condition is highly influenced by gut-brain axis disruptions, which exacerbate symptoms and increase the risk of psychiatric comorbidities like anxiety and depression [3,8,74].

Literature shows that affective disorders, including major depressive disorder and bipolar disorder, are more prevalent in IBS patients than in the general population, with all IBS subtypes associated with depressive symptom development and subtype-specific patterns such as IBS-M being more likely associated with higher rates of depressive symptoms followed by IBS-C/IBS-D and IBS-U [22,38,41,48]. Further research is needed to confirm the association between IBS-M and IBS-C subtypes and the higher rates of depressive symptoms, using studies with greater statistical power. Compared to the general population, patients with depression have a 2.4-fold increased risk of developing IBS. Furthermore, patients that suffer from depression are almost twice as likely to have new-onset IBS [41]. Evidence on the link between IBS and bipolar disorder is conflicting: one study suggests that IBS may raise the risk of bipolar disorder development, while another study finds no consistent association between bipolar disorder and the risk of either having or developing IBS [41,49]. More studies are required to explore this link.

Individuals experiencing anxiety have a 1.53 times higher risk of developing IBS [59]. Emerging evidence suggests strong connection between anxiety and IBS symptom severity, with individuals experiencing anxiety often reporting more frequent and severe gastrointestinal disturbances, especially in subtypes IBS-C and IBS-D [8,23,60,63]. Our findings align

with previous studies that show anxiety severity varies by IBS subtype, with IBS-M patients reporting higher anxiety levels compared to IBS-C and IBS-D subtypes [36]. The importance of subtype-specific treatments cannot be emphasised. While IBS-C patients might require treatments that address psychological distress related to constipation and bloating, patients with IBS-D benefit more from therapies that target anxiety and anticipatory stress [64,66,67].

When interpreting these findings, it is important to consider several limitations of these studies: can be heterogeneity between studies due to variations in diagnostic methods and assessment instruments used to diagnose IBS (Rome III or ROME IV criteria) or affective disorders (MDD or bipolar disorder) or anxiety disorders, different locations of the conducted studies, selection bias and lack of sufficient scientific data [22,41,43]. These diagnostic thresholds affect prevalence rates and subtype distributions, inconsistencies in study comparability due to methodological variations, lack of integration of psychological comorbidities. Moreover, not all studies directly evaluated depressive or anxiety symptoms, but focused on the presence of a formal diagnosis [42]. It is difficult to identify distinct gut microbiota or psychological traits associated with each IBS subtype due to the heterogeneity within these subtypes, which includes overlapping symptoms and intermittent patterns [31,32,36,46,48,61]. Furthermore, investigations were carried out in various geographical places, which could lead to variations in outcomes because of cultural, nutritional, or medical factors [6,30,40]. Another major issue is selection bias, which limits the generalisability of study findings by including participants from particular therapeutic contexts rather than general populations. Although the study shows links between SCFA production, gut dysbiosis, and mental symptoms, it does not completely explain the underlying mechanisms that link these variables. Larger, more varied samples, standardised diagnostic instruments, and longitudinal designs should be used in future studies to overcome these constraints.

Multidisciplinary treatments, including antidepressants (TCA, SSRIs, SNRIs), psychological interventions (CBT,

hypnotherapy, mindfulness-based therapies, stress-reducing practices like yoga and meditation), have proven effective for managing both gastrointestinal and psychological symptoms [21,50]. However, treatment adherence remains a challenge, with non-adherence rates reaching 50–70%. Psychological factors, such as illness perceptions and self-efficacy, heavily influence adherence and require targeted interventions to improve compliance.

Personalized approaches to treatment are still underdeveloped, and barriers to adherence are insufficiently addressed. Future efforts should focus on long-term studies, standardizing diagnostic tools, and incorporating social and psychological factors into care frameworks. By addressing these limitations, healthcare providers can better integrate physical and psychological care, improving outcomes and quality of life for IBS patients.

CONCLUSIONS

The analysed literature data revealed a bidirectional connection between irritable bowel syndrome and affective/anxiety disorders emphasising common pathophysiological pathways with the gut-brain axis dysfunction playing the main role. Literature shows that patients with depression have a 2.4-fold increased risk to develop IBS compared to the general population, whereas individuals suffering from anxiety have a 1.53-fold higher risk. Additionally, patients with depression are almost twice as likely to develop new-onset IBS. A distinct pattern was observed across different IBS subtypes, with patients with IBS-M exhibiting higher levels of anxiety symptoms, and patients with IBS-M or IBS-C being more likely to exhibit higher rates of depressive symptoms. However, further research is needed to confirm the latter association. Moreover, a connection exists between anxiety and IBS symptom severity with individuals suffering from anxiety reporting more frequent and severe gastrointestinal disturbances, particularly in subtypes IBS-C and IBS-D. The association between IBS and bipolar disorder remains inconsistent, and further researched is required.

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Anxiety assessment scales used in Lithuania: a narrative literature review

Lietuvoje naudojamos nerimo vertinimo skalės: naratyvinė literatūros apžvalga

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SUMMARY

The assessment of health symptoms is a very important step in achieving accurate diagnosis, effective treatment, prevention, and avoiding complications, as well as raising patients' awareness. There are many diagnostic tools available for assessing anxiety symptoms. However, specialists from different fields often face challenges in choosing the most suitable tool for evaluating anxiety symptoms. Therefore, we have prepared a review in which we analyzed various anxiety assessment scales used in Lithuania, considering their characteristics, validation, adaptation and applicability in Lithuania.

Keywords: Anxiety, anxiety symptoms, anxiety assessment scales, review

SANTRAUKA

Psichikos sveikatos simptomų vertinimas yra labai svarbus etapas siekiant tikslaus diagnozavimo, efektyvaus gydymo, ligų prevencijos, komplikacijų išvengimo, bei asmeninio pacientų sąmoningumo ugdymo. Gausu diagnostinių instrumentų, skirtų vertinti nerimo simptomus. Vis tik skirtingų sričių specialistai, susiduria su sunkumais renkantis tinkamiausią priemonę nerimo simptomams įvertinti. Siekiant sumažinti šią našą, parengėme apžvalgą, kurioje pateikiame skirtingas nerimo vertinimo skales naudojamas Lietuvoje, atsižvelgiant į jų charakteristikas, validizaciją, adaptaciją ir pritaikomumą Lietuvos populiacijai.

Raktiniai žodžiai: Nerimas, nerimo simptomai, nerimo vertinimo skalės, apžvalga

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ANXIETY DISORDERS AND THEIR PREVALENCE

Anxiety is a natural human reaction that signals the presence of danger or a threat, making it a highly adaptive response when triggered in the right situation [1]. National Institute of Mental Health claims that experiencing anxiety from time to time is a normal part of life [2]. However, anxiety disorders are more than just brief periods of worry or fear. Anxiety is considered a clinical issue when it is persistent, severe, and causes significant distress or functional impairment, taking into account the context in which it occurs [1].

Anxiety disorders are the most commonly diagnosed mental disorders in the world [3]. An estimated 4.4% of the global population in 2021 experienced an anxiety disorders [3]. Despite the availability of highly effective treatments for anxiety disorders, research shows that approximately 27.6% of those who needed help received no form of treatments [4]. Anxiety disorders are common and often enduring mental health conditions, characterized by a significant incidence of treatment resistance that necessitates regulatory clinical trials for novel therapeutic approaches [5].

DIAGNOSTIC DIFFICULTIES

Anxiety disorders are distressing psychological conditions marked by a variety of cognitive and physical symptoms [6]. Due to its comorbidity anxiety disorders are often underdiagnosed in various healthcare settings [4]. People experiencing anxiety symptoms often present at the primary healthcare level with comorbid complaints, such as cardiovascular or respiratory issues [7]. Primary healthcare professionals are often the first individuals who could recognize and properly refer an individual with anxiety symptoms to mental health specialist [7]. However, due to social stigma, a lack of awareness, human resources and insufficient specialist knowledge, patients often are undiagnosed and untreated [8].

Despite the availability of numerous freely accessible scales for assessing anxiety symptoms, there is no single “gold standard” suitable to assess all cases. Additionally, due to the previously mentioned shortage of human resources and lack of knowledge, specialists are often unable to select the most appropriate tools. For this purpose, we have reviewed various scales used for anxiety assessment, considering their characteristics, validation, adaptation and applicability in Lithuania.

ANXIETY RATING SCALES

We selected seven scales for anxiety assessment: The Hospital Anxiety and Depression Scale (HADS) [9], The Hamilton Anxiety Scale (HAM-A) [10], The Generalized Anxiety Disorder questionnaire (GAD-7) [11], Depression Anxiety Scale-42 (DASS-42) [12], Depression Anxiety Scale-21 (DASS-21) [12], The Beck Anxiety Inventory (BAI) [13], and The State Trait Anxiety Inventory (STAI) [14]. We reviewed their origins, general characteristics, validity, and adaptation to the Lithuanian population. The main characteristics, validity, and adaptation to the Lithuanian population are presented in Table 1.

THE HOSPITAL ANXIETY AND DEPRESSION SCALE

The Hospital Anxiety and Depression Scale (HADS)

was developed in 1983 by A.S. Zigmond and R.P. Snaith to determine the probable presence of anxiety disorders and depression in patients at non-psychiatric hospital clinics [9]. This tool was shown to be effective in evaluating anxiety and depression among primary care patients and the general population [15].

HADS consists of two subscales – anxiety (HADS-A) and depression (HADS-D) that include 7 items each [16]. Each subscale takes approximately 2–5 minutes to complete [16]. HADS-A includes items that assess generalized anxiety: tension, worry, panic, fear, relaxation difficulties, restlessness. Respondents rate each item on a 4 – point Likert scale (range from 0 to 3) considering how they feel at that moment [17]. In the original English version of the questionnaire, final scores ranging from 0 to 7 are classified as a normal mood or no anxiety, scores between 8 and 10 suggest as mild anxiety, and scores from 11 to 14 indicates moderate anxiety and the rest up to 21 indicate severe anxiety [17].

The HADS-A has its strengths and weaknesses. First of all, it is a very short, user-friendly screening tool designed to detect clinically significant anxiety symptoms [18]. It is widely used, easily accessible, and supports the practice of splitting its subscales. Research also backs its effectiveness as a standalone measure for general anxiety. On the other hand, it has been noticed that the validity of the HADS-A might be weaker in some populations, especially among elderly [17]. Also, this measure is not sufficient for identifying specific anxiety disorders but instead offers evidence of general anxiety symptoms [17].

In Lithuania, The HADS was validated in 2013 by Bunevicius and colleagues showing adequate internal consistency, validity and proposed good factor structure in samples of patients with coronary artery disease and brain tumours [19, 20]. It was a widely used anxiety measure for research in Lithuania. Bunevicius and his colleagues included HADS in many different studies e.g., medical students, primary care patients, patients with coronary artery disease and patients that had brain tumor [20–23]. The HADS scale for anxiety or depression is not a medical diagnostic instrument, but studies conducted in Lithuania show that when used properly, scales can help to select those suffering from such disorders. It is now available under a licensing agreement with Mapi Research Trust that requires a fee.

THE HAMILTON ANXIETY SCALE

The Hamilton Anxiety Scale (HAM-A) was developed in 1959 by Dr. Max Hamilton [10]. HAM-A is considered to be one of the oldest and one of the most often used rating scales for the severity measurement of anxiety symptoms that should be administered by trained mental health professionals [24]. Although HAM-A was originally designed as clinician-administered questionnaire, it can also be used as a self-scored survey due to easy public access [24].

HAM-A questionnaire consists of 14 symptom-defined items: anxious mood, tension (including fatigability, restlessness), fears, insomnia, cognitive issues (difficulties in concentrating and memorizing), depressed mood, general somatic symptoms such as muscular, sensory, cardiovascular, respiratory, gastrointestinal, genitourinary, and behavior at

Table 1. Characteristics of anxiety scales

Anxiety Assessment Scale	Adaptation in Lithuania	Validation sample	Other research samples	Licensed
The Hospital Anxiety and Depression Scale (HADS) [9]	Yes	Primary care patients [23] Patients with coronary artery disease [19] Patients with brain tumors [22]	Students [21]	Lithuanian HADS version is not available freely anymore due to changes in licensing terms. All questions regarding permission to use the Lithuanian scale version should be addressed to The GL Assessment Education Group (info@glassessment.co.uk)
The Hamilton Anxiety Scale (HAM-A) [10]	No	–	Patients with dementia [25] Patients with addictions [26] Individuals with depression and anxiety disorders [27]	The Lithuanian version of the scale is publicly available, no additional permission is required only for scientific purposes. Available at https://biological-psychiatry.eu/wp-content/uploads/2014/06/2009_instrumentuote.pdf
Generalized Anxiety Disorder Questionnaire (GAD-7) [11]	Yes	Students [30] Individuals with depression and anxiety disorders [27]	Individuals who had/hadn't Covid-19 [47] Doctors [48] Patients with cardiovascular diseases [31] Patients with neurological disorders [49]	The Lithuanian version of the scale is publicly available, no additional permission is required to use it for scientific and practical purposes. Freely available at https://www.phqscreeners.com/
Depression Anxiety Stress Scale (DASS-21) [12]	Yes	Intensive Care Staff during a pandemic [38, 41] Youth adults during a pandemic [40]	Adolescents [50] Students [51] Patients with oncologic disease [52]	The DASS-21 methodology can be used for scientific and practical purposes. Freely available at https://www.fsf.vu.lt/dokumentai/DASS21_LT.pdf
Depression Anxiety and Stress Scale (DASS-42) [12]	No	–	Adults with traumatic experience [35]	The Lithuanian version of the scale is publicly available, no additional permission is required to use it for scientific and practical purposes. Freely available to download at https://www2.psy.unsw.edu.au/dass/Lithuanian/Kuodyte-Kazieliene/Lithuanian_KK.htm
Beck Anxiety Inventory (BAI) [13]	Yes	Healthy adults and individuals with mental health conditions [45]	Individuals in prison [53] Patients with atopic dermatitis [54]	In order to purchase the Beck scale, one should contact the applied psychology laboratory of Institute of Psychology at Vilnius University.
State Trait Anxiety Inventory (STAI) [14]	Yes	Individuals with coronary artery disease [19, 22]	Patients before having anesthesia [55] Surgical patients [56] Patients with coronary artery disease [19]	The administration and purchase of the STAI is facilitated through Mind Garden, Inc., the authorized distributor for this instrument.

interview [10]. Each item is evaluated by scoring it on a basic numeric scoring of 0 to 4 [24].

As every other questionnaire, HAM-A also has its limitations. First, since depressed people usually get high HAM-A scores, this measure gets criticized for not always distinguishing individuals with anxiety symptoms from individuals with depressive symptoms [18]. Some criticism also gets expressed about the obstacles of HAM-A to measure

excessive or difficult-to-control anxiety [18]. Another limitation of this scale is the significant role of both, clinician and participant, which means that the scale score depends on clinicians interpretation of answers and participants sincerity and honesty [18], which are common issues with all questionnaire-based assessment tools.

Lithuanian version of HAM-A [25] is publicly available, free only for research purposes, and can be used for different

age groups. This instrument is widely used for clinical and research purposes. The measure is used in Lithuania for different research, e.g., patients with dementia, patients with addictions, and etc. [25–27]. Unfortunately, to our knowledge the HAM-A scale has not been adapted and validated for Lithuania population.

GENERALIZED ANXIETY DISORDER

The Generalized Anxiety Disorder Questionnaire (GAD-7) is a self-report instrument that was developed in 2006 by Robert L. Spitzer and colleagues [11]. GAD-7 is used in clinical practice and research for assessing the symptoms of generalized anxiety disorder [11]. The scale does not offer a definitive diagnosis of a generalized anxiety disorder, however it is a reliable and valid method that allows efficiently detect the presence of the common anxiety disorder [28].

The initial version of this scale consisted of 13 items: 9 items created by DSM-IV general anxiety disorder's symptom criteria and 4 items based on the summary of existing anxiety scales [11]. However, eventually the questionnaire was shrunk to 7 items and named GAD-7. Every item of this measure is evaluated within 0-3 score range. In the English version of the scale, the final sum score of 0–4 indicates minimal anxiety, 5–9 shows mild anxiety, 10–14 is considered as moderate anxiety and 15 or more indicates severe anxiety [11, 27]. The GAD-7 questionnaire is quick to administer, enhancing time efficiency. The questionnaire also maintains good sensitivity and specificity for the diagnosis of the most common anxiety disorders encountered in primary care [29].

Some GAD-7 limitations may be discussed. First of all, GAD-7 concentrates only on one anxiety disorder – generalized anxiety disorder [11]. This means that additional measures must be used to determine other anxiety disorders (e.g. social phobia) that need clinical attention [11].

Lithuanian GAD-7 version was validated by Pranckeviciene et al. in 2022 [30] in healthy population and Stanyte et al [27] in patients with anxiety and mood disorders. In both studies GAD-7 showed good psychometric characteristics. GAD-7 is publicly available and free to use. GAD-7 has been used in Lithuania in many different studies, among various samples [27, 30, 31].

DEPRESSION ANXIETY STRESS SCALE-42

Depression Anxiety Stress Scale-42 (DASS-42) was developed by Lovibond and Lovibond in 1995 [12]. The DASS-41 is a self-report tool to assess anxiety, depression and stress by measuring negative emotional symptoms [32]. This scale, as well as its shorter version (DASS-21) was developed using a bootstrapping approach, combining clinical consensus with empirical refinement through factor analysis [12]. The primary goal was to create measures of general negative emotional states based on both existing concepts and empirical data [12].

The DASS-42 consists of 42 negative emotional symptoms that are divided into three scales: depression, anxiety, and stress [33]. The Depression scale measures symptoms of dysphoric mood, such as sadness and worthlessness; the Anxiety scale focuses on physical arousal, panic, and fear-related symptoms, like trembling and faintness; the Stress scale assesses symptoms like tension, irritability, and overreacting to

stress [33]. Each scale is comprised of 14 items, divided in 2–5 items with similar content (e.g., depression – „I felt I was pretty worthless“, anxiety – „I felt I was close to panic“, stress – „I found it difficult to relax“) [12]. After reading every item, respondents have to rate how much they have experienced each symptom in the past week using a 4 – point scale that measures severity and frequency. The scores for the Depression, Anxiety, and Stress scales are calculated by adding up the scores of the corresponding 14 items [12].

Multiple researchers consider DASS-42 to be a highly effective tool for assessing aspects of depression, hyperarousal, and tension in both clinical and non-clinical populations [33]. It is an adequate and useful instrument, but for the most effective use, the instrument has to be translated in relevant language of the research place and adapted locally. In comparison to other anxiety measures, DASS-42 (as well as DASS- 21) may be more reliable for distinction between anxiety and depression, as well as between symptoms of physical arousal and symptoms of generalized anxiety [34].

DASS-42 is publicly available, and no additional permission is required [35]. The instrument was translated into Lithuania by Rasa Kuodyte-Kazieliene in 2015 [36]. In Lithuania, among others, this instrument was used in the research of adults with traumatic experience [37], but is not formally validated.

DEPRESSION ANXIETY STRESS SCALE-21

Depression anxiety stress scale-21 (DASS-21) is a short version of DASS-42, and as a DASS-42, it was created by Lovibond and Lovibond in 1995 [12]. This questionnaire is a self-report instrument designed to measure negative emotional states of depression, anxiety and stress [12]. In order to measure these three parts there is a separate scale for each with 7 items. Respondents read each statement and rate the frequency and severity of it in the past week by using a 4-point scale: 0 – did not apply to me at all, 1 – applied to me to some degree, or some of the time, 2 – applied to me to a considerable degree, or a good part of time, 3 – applied to me very much, or most of the time [32].

The 21-item version scale offers several advantages compare to the 42-item version, such as fewer items, a clearer factor structure, and lower factor correlations [33]. While the findings for the DASS-21 need to be confirmed in an independent sample, it may be a preferable option compared to the full 42-item DASS. However, the main advantage of the longer version is the additional clinical information it provides [33].

Although both DASS scales are considered reliable and effective tools for evaluation of depression, anxiety and stress, there are some limitations. While there is evidence that the DASS – Depression and DASS – Anxiety scales do constitute valid measures of the constructs they were intended to represent, it remains unclear whether the DASS – Stress scale should be regarded as a measure of general psychological distress, or instead, as a measure of stress component that is related to, but distinct from negative affectivity [38].

The instrument is publicly available [39]. Lithuanian version was adapted by Truskauskaite-Kuneviciene et al. in 2019 [40]. Subsequent adaptations and validations showed that the scale is a reliable instrument for evaluations of anxiety

symptoms among intensive care staff and youth adults during a pandemic period [40, 41]. The scale is valid and can be used in Lithuanian population.

BECK ANXIETY INVENTORY

The Beck Anxiety Inventory (BAI) is a 21 item self-report inventory that was developed in 1988 by Aron T. Beck and colleagues to measure anxiety and differentiate between anxiety-related diagnostic groups (such as panic disorder and generalized anxiety disorder) and non-anxiety-related diagnostic groups (such as major depression and dysthymic disorder) [13]. The initial inventory consisted of 68 items that were drawn from preexisting scales: the Anxiety Checklist, the Physician's Desk Reference Checklist, and the Situational Anxiety Checklist. However, after multiple analyses the inventory was reduced to 21 questions reflecting the most common emotional, physiological, and cognitive symptoms of anxiety [42].

The BAI was created to fulfill the need for a tool that could reliably distinguish anxiety from depression, while demonstrating convergent validity [13]. Authors believe that this instrument offers advantages for both clinical and research purposes compared to existing self-report anxiety measures, such as the State-Trait Anxiety Inventory and the Self-Rating Anxiety Scale, which have not been shown to effectively differentiate between anxiety and depression [13].

Each item of 21 scale represent a typical symptom of anxiety [13]. The respondent is asked to rate the extent to which each symptom was present during the past week on a 4-point scale. The individual item scores are then summed to produce a total score, which can range from 0 to 63. In the original English version of the questionnaire scores ranging between 0 and 21 are considered as a low anxiety, scores of 22–35 are considered as a moderate anxiety, scores of 36 and above indicate potentially concerning levels of anxiety [13].

The BAI appears to be most sensitive to the physical symptoms typical of panic disorder [43]. In the study that was conducted in 1992, clients with panic disorder scored higher on the BAI than those with other anxiety disorders, raising the question of whether they are truly more anxious or if the scale better represents panic-related anxiety [44].

In 2011 Muntingh with colleagues conducted a study that showed limitations of the BAI when working with primary care patients [44]. Even though The BAI can be used to assess anxiety severity in primary care patients with different anxiety disorders, it was not effective for distinguishing between anxiety and depression, as it also reflects depression severity [44].

In 2016, after Vilnius University signed an agreement with Pearson Publishing, which is the copyright holder of the Beck scales, the Beck Anxiety scale was translated into Lithuanian and normative sample data was collected. The Psychometric properties of Lithuanian BAI have been investigated and showed good internal consistency, good content validity comparing normative data with patients with mental health disorders sample [45]. Vilnius University BAI is not publicly available and can be purchased from applied psychology laboratory of Institute of Psychology at Vilnius University [45].

STATE TRAIT ANXIETY INVENTORY

The state trait anxiety inventory (STAI) was developed by Charles D. Spielberg in 1983 [46]. The STAI is a reliable self-report 40-item instrument that measures both state and trait anxiety. The A-State scale includes 20 statements to assess the intensity of feelings like tension and worry at a current moment [14]. The A-Trait scale, also with 20 items, measures an individual's general tendency to experience anxiety, particularly in social situations that threaten self-esteem [14]. In both scales, the subject has to rate his answer on a 4-point Likert scale [17]. The total scores of the scales are calculated, for each subtest's score range from 20 to 80. The higher score – the greater anxiety. Some studies suggested that scores 39–40 indicates clinically significant symptoms for A-State scale. Other studies suggested a higher cut score of 54–55 for older respondents [17].

There is substantial evidence that STAI A-State scores rise in response to both physical and psychological stress, such as in situations involving the threat of electric shock, watching stressful films, public speaking, or receiving negative feedback [46]. Scores also get higher before surgery and decrease during post-surgical recovery. In addition, A-State scores increase when performing difficult tasks, decrease with easier tasks, and drop further with relaxation training [14].

Kvaal and colleagues found that the STAI state scale, along with the 'Well-being' and 'Nervousness' subscales, effectively differentiate between individuals with mental disorders and those without [46]. These scales appear to be useful not only for identifying anxiety disorders but also for detecting mixed anxiety-depressive disorders [46]. Additionally, they are sensitive to depressive disorders, as well as personality and adjustment disorders [46].

Limitations include limited validation data for somatic diseases and poor validity, especially in using the A-Trait subscale to distinguish between anxiety and depression [17]. Since the A-Trait scale measures a long-standing trait, it may not be suitable for detecting short-term changes. As a result, many researchers prefer to use the A-State scale for tracking longitudinal changes [17]. In Lithuania, STAI has been validated by Bunevicius et al. and suggested good psychometric properties in the sample of individuals with coronary artery disease [19, 22]. The administration and purchase of the STAI is facilitated through Mind Garden, Inc., the authorized distributor for this instrument.

CONCLUSION

A variety of instruments are used in Lithuania to assess anxiety symptoms. In this review, we examined several different scales, all of which have been translated into Lithuanian and used in various studies and clinical practice. Several of these instruments have been validated for the Lithuanian population and have widely applicable normative values. Most of the instruments we reviewed have been tested in both clinical and healthy participant groups. Nonetheless, further research is needed to adapt and validate some of these instruments for the general Lithuanian population. However, before using any of these scales, it is necessary to comply with the International and Lithuanian Test Use Regulations (ITC, 2001; LPS, 2014) and professional (medical/psychological) ethics requirements.

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Psychiatric manifestations as early indicators of frontotemporal dementia: a case study

Psichikos simptomai kaip ankstyvieji frontotemporalinės demencijos požymiai: klinikinio atvejo analizė

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SUMMARY

Pick's disease is a rare form of frontotemporal dementia that typically presents with distinct cognitive impairments and behavioral changes. This case report examines a 65-year-old female patient whose primary symptoms included insomnia, anxiety, and apathy, which made it difficult to recognize the underlying neurodegenerative condition. The duration of symptoms was prolonged before the neurodegenerative disorder was diagnosed. The article emphasizes the complexity of differentiating between primary psychiatric disorders and neurodegenerative diseases, highlighting the importance of a thorough clinical evaluation. By exploring this case, we aim to enhance understanding of Pick's disease and its clinical symptoms, ultimately drawing attention to the importance of differential diagnosis.

Key words: frontotemporal dementia, Pick's disease, neurodegenerative disorder

SANTRAUKA

Pick'o liga yra reta frontotemporalinės demencijos forma, kuri paprastai pasireiškia išskirtiniais kognityviniais sutrikimais ir elgesio pokyčiais. Šiame atvejo aprašyme nagrinėjame 65 metų pacientę, kurios pagrindiniai simptomai buvo nemiga, nerimas ir apatija, dėl kurių buvo sunku atpažinti pagrindinę neurodegeneracinę būklę. Simptomų trukmė buvo uždelsta iki diagnozuojant neurodegeneracinį sutrikimą. Straipsnyje pabrėžiama, kad sudėtinga atskirti pirminius psichikos sutrikimus nuo neurodegeneracinių ligų, todėl itin svarbus išsamus klinikinis įvertinimas. Tyrinėdami šį atvejį, siekiame geriau suprasti Pick'o ligą, jos klinikinius simptomus ir atkreipti dėmesį į diferencinę ligos diagnostiką.

Raktiniai žodžiai: Frontotemporalinė demencija, Pick'o liga, Neurodegeneracinis sutrikimas

INTRODUCTION

Frontotemporal dementia (FTD) is a progressive neurodegenerative disorder that primarily affects behaviour and language due to the degeneration of frontal and temporal brain regions. It presents a diverse range of symptoms and can vary significantly between individuals, influenced by clinical, genetic, and pathological factors. Commonly known as Pick's disease, this type of dementia typically arises in younger individuals. FTD has a prevalence of 15–22 per 100,000 population and an incidence of 2.7–4.1 per 100,000 population. FTD accounts for 2.7% of all dementia cases diagnosed in individuals over 65 years of age and 10.2% of dementia cases diagnosed before the age of 65. The typical age of onset is between 50 and 60 years [1,2]. FTD is classified into two main subtypes: behavioural variant and primary progressive aphasia. The progression of frontotemporal dementia is generally gradual, beginning with subtle symptoms and leading to a continuous decline until death. This trajectory imposes significant emotional, social, and financial challenges for patients, their families, and caregivers [3]. The behavioural variant of frontotemporal dementia (bvFTD) is the most common clinical type, accounting for approximately half of all FTD cases according to various authors. A distinguishing feature of this clinical type is the progressive change in personality and behaviour occurring in the early stages of the disease [3,4]. The diagnostic criteria for the behavioural variant of frontotemporal dementia (bvFTD) include significant behavioural changes that manifest in various ways. Individuals may experience disinhibition, which leads to socially inappropriate behaviours, loss of etiquette, impulsive, irresponsible behaviour. Along with apathy, where they show a lack of motivation or interest in daily activities. There is often a marked lack of empathy, making it difficult for them to understand or relate to the feelings of others. Compulsive behaviours may also arise, characterized by repetitive or ritualistic actions, while hyperorality can result in increased oral behaviours, such as excessive eating or putting objects in the mouth. Additionally, individuals typically face executive function impairments, which affect their ability to plan, organize, and execute tasks in daily life. These criteria are essential for distinguishing bvFTD from other forms of dementia [3,6]. Other variant of FTD is Primary progressive aphasia (PPA) which is a condition marked by a gradual and progressive loss of language abilities, particularly expressive language, in the early stages. This decline in language function may include repetitive speech patterns (stereotypy), involuntary repetition of words or phrases (echolalia), persistent repetition of a response (perseveration), and eventually, an inability to speak (mutism). While other cognitive abilities may also decline as the disease advances, language impairment remains the most prominent and defining feature. Frontotemporal dementia accounts for about 3% of all dementia cases across all age groups, although it typically presents most frequently in individuals during their fifth and sixth decades of life [6].

CASE REPORT

65-year-old female patient was hospitalized to a psychiatric clinic. Her major complaints included anxiety, restlessness, speech impairment, difficulty pronouncing

certain words, apathy, insomnia, and depressed mood. The patient's medical history revealed that initially she sought for psychiatric attention 5 years ago because of anxiety, apathy, insomnia, and depressed mood. According to family members, it was observed that the patient exhibited attention difficulties, emotional flatness, and episodically irresponsible behaviours, including impulsivity, such as approaching strangers in public places to engage in conversation. The patient had a diagnosis of hypothyroidism and was treated with levothyroxine 100 mcg. Thyroid hormone levels in the medical history were within the normal reference range, based on laboratory test results. In the outpatient setting she was diagnosed with moderate depression and initial treatment of Escitalopram till 15 mg and Bromazepam 3 mg daily was administered. Patient continued the treatment of depressive and anxiety symptoms for 12 months with no clinical improvement. A year later alongside depression symptoms, attention disturbances became apparent. She had trouble concentrating and expressing her thoughts fluently. Additionally, she noted an increase in anxiety symptoms and insomnia. Moreover, family members report noticing speech difficulties, challenges in formulating thoughts and recalling words, as well as further exacerbated attention disturbances and anxiety. The patient was capable of self-care but made mistakes while cooking and had difficulty remembering items during shopping. Due to the complaints, the patient had to change jobs and later discontinue work, leading to increased apathy and depressive symptoms. The patient worked as a teacher, and the mentioned symptoms hindered her verbal expression, making it difficult for her to convey her thoughts and share information with students. She noticed frequent speech blocks, which caused significant stress, further increasing her anxiety, restlessness, and feelings of worthlessness. Throughout the whole treatment period, the patient was prescribed various benzodiazepines (lorazepam, bromazepam, diazepam), Due to persistent sleep disturbances, escitalopram was switched to mirtazapine 15 mg p/d, and later to trazodone 150 mg/d. For the correction of restless behaviour, tiapride 300 mg daily was prescribed. Despite these adjustments, no significant clinical improvement was observed with the medications. Four years after the initial visit to the psychiatrist was the patient referred for a neurology consultation to assess cognitive functions. The psychological testing of cognitive functioning with The Mini mental state exam (MMSE) test showed a score of 27, which meant no cognitive impairment, but there was observed reduced language in terms of semantic comprehension and word selection, with occasional paraphrasing that shifted to English. Laboratory tests were conducted to assess potential causes of the symptoms. The patient's blood test showed no signs of inflammation. Thyroid hormone tests revealed no clinically significant abnormalities. The results for *Treponema pallidum* and HIV 1/2 tests were negative. Glycaemic levels were also within the normal reference range. Subsequently, a magnetic resonance imaging (MRI) scan of the brain was performed, which showed atrophic changes in the large cerebral hemispheres, resulting in widened cortical sulci, narrower gyri, and moderately enlarged lateral ventricles. The changes were more pronounced bilaterally in the frontal and temporal lobes. The patient was hospitalized in the neurology department for further evaluation, where a positron emission tomography (PET) scan was performed. Areas of predominantly

hypometabolism were observed bilaterally in the frontal, anterior parietal, and partially in the anterior temporal lobes. The most pronounced hypometabolism zones were observed in the right frontal, partially parietal, and temporal regions of the brain. Additionally, minimal hypometabolic changes were noted bilaterally in the parietal areas. These findings confirmed signs of frontotemporal degeneration. Upon repeating the MMSE, mild cognitive impairment (24) was identified. It was recommended to discontinue benzodiazepines due to possible effect on cognitive functioning and start treatment with donepezil at 5 mg per day. The prescription of benzodiazepines was reduced after the PET scan. Over time, the quality of the patient's speech deteriorated. The patient exhibited motor aphasia, perseverations, difficulty in formulating sentences, and impaired nominative function. However, language comprehension remained adequate. There was also an increase in inappropriate behaviour. Patient was abruptly swiping food from her family members' plates or impulsively taking items from a store without paying. In addition, notable restlessness was observed, with the patient unable to sit still, pacing around the room and repeatedly stating that she wanted to run a marathon, which led her to psychiatric hospitalization. During the psychiatric hospitalization the small doses of Quetiapine were administered, which led to improved sleep quality, and reduced restlessness. Despite the cognitive disturbances patient retained the abilities to read and write without significant difficulties. Only five years after the onset of first psychiatric symptoms, Pick's disease was diagnosed.

DISCUSSION

Diagnosing possible behavioral variant frontotemporal dementia (bvFTD) is based on identifying early behavioral changes that are characteristic of the condition. The process involves recognizing a combination of symptoms, such as impulsive or socially inappropriate actions, a lack of interest or motivation, and difficulty in understanding or caring about other people's feelings. Patients may also show repetitive or compulsive behaviors, have an increased focus on eating or putting things in their mouth, and experience problems with planning or problem-solving. These signs are used to detect the disease even in its mildest stages, before more obvious symptoms appear [4]. Behavioral variant frontotemporal dementia (bvFTD) is the most prevalent form of frontotemporal dementia (FTD), making up about 50% of all FTD cases. The average age of onset is around 58 years, and individuals typically live for about 8 years after diagnosis. However, there is considerable variation in the disease's progression. Those with a genetic cause tend to experience an earlier onset and a faster progression of symptoms, while patients who also have amyotrophic lateral sclerosis (ALS) often have a significantly shorter life expectancy. Early and accurate diagnosis of frontotemporal dementia (FTD) is vital for providing patients and their families with valuable information about the disease, avoiding unnecessary treatments, and determining eligibility for appropriate clinical trials. However, distinguishing FTD from other common neurodegenerative and psychiatric disorders remains a significant challenge, even with updated diagnostic criteria. For instance, behavioral symptoms similar to FTD are often seen in Alzheimer's disease (AD), particularly in cases with early onset, such as frontal or behavioral variant

Alzheimer's. Moreover, early memory problems, which were once considered a key exclusion criterion for FTD, are now recognized as a potential feature of the disease in some cases and may even meet the diagnostic criteria for Alzheimer's disease. It is also common for younger patients with FTD, especially those with marked personality changes and behavioral issues, to initially be misdiagnosed with a primary psychiatric disorder, such as schizophrenia, bipolar disorder, or major depression. FTD is often only correctly identified as the disease progresses. The heterogeneity of both clinical symptoms and underlying pathology adds further complexity to diagnosing FTD. While a patient may initially present with a relatively straightforward FTD subtype, additional symptoms related to behavior, language, psychiatry, or motor function frequently develop as the disease advances, leading to overlapping FTD phenotypes [7].

The occurrence of depressive symptoms in FTD is notably high. However, in clinical practice, approximately 50% of patients with bvFTD are mistakenly diagnosed with a primary psychiatric disorder, particularly major depression, rather than a neurodegenerative disease. Both conditions share features such as reduced interest, diminished motivation, low energy, and impaired concentration. However, sustained depressive mood, a hallmark of major depression, is not a defining characteristic of FTD. Instead, patients with FTD typically report apathy, occasionally accompanied by mood fluctuations, but these descriptions are often superficial. Furthermore, major depression can manifest as anhedonia without pervasive sadness, which can be difficult to differentiate from apathy. It is important to highlight that apathy in FTD is frequently not distressing or associated with dysphoria. Additionally, the relatively young age at onset of FTD can lower clinicians' suspicion for a neurodegenerative disorder, further complicating the diagnostic process. The first depressive episode, especially with significant severity, develops at later age but under age 65, should alert the physician to look for a potential neurodegenerative etiology specific for FTD [8,9]. The relationship between dementia and anxiety symptoms remains unclear, with some studies finding no significant difference in the prevalence of anxiety symptoms between older adults with dementia and those without, while others report a positive association [9,10]. The overlap of symptoms such as restlessness, fatigue, and poor concentration in both anxiety disorders and dementia complicates the differentiation of anxiety within the context of dementia. Nevertheless, recent research suggests a connection between chronic anxiety or severe worry and cognitive decline. Clinically, anxiety symptoms can be harder to identify in older adults, as they may struggle to recognize them accurately, often downplaying their symptoms and attributing them to physical health issues. Selective serotonin reuptake inhibitors (SSRIs) are considered the first-line treatment for anxiety in older adults, although benzodiazepines remain the most frequently prescribed medication for anxiety in this age group. Diagnosing anxiety in older adults is challenging, as diagnostic criteria and screening tools often lack sensitivity and may fail to detect anxiety symptoms. Both older adults and clinicians may mistakenly attribute anxiety, fear, or avoidance to normal aging. Older adults often underreport anxiety, use different language to describe it, or link it to physical illnesses. Additionally, they

may experience anxiety differently due to age-related changes in physiology. Functional impairment from anxiety should be addressed according to the individual's limitations. [11] The differential diagnosis for FTD is broad. Hypothyroidism shares several clinical features with FTD, which can complicate the differential diagnosis between the two conditions. Both hypothyroidism and FTD may present with cognitive decline, personality changes, and behavioral disturbances, leading to diagnostic challenges. Both conditions can manifest with apathy, where individuals show a lack of interest or motivation, a core feature of bvFTD. In hypothyroidism, apathy may arise due to low energy levels and reduced initiative. Similarly, patients with FTD may present with apathy, but it is typically more pronounced and often accompanied by other behavioral changes like disinhibition or impulsivity. The presence of abnormal thyroid function tests and the reversible nature of symptoms with appropriate treatment for hypothyroidism can help distinguish it from FTD. Although FTD is classified as a neurodegenerative disease, one of its most common variants begins with psychiatric symptoms before notable language or cognitive impairments emerge [3,4]. We present this case to highlight that, despite the established diagnostic criteria for Pick's disease and the documented symptoms of the bvFTD, the disease can easily be misdiagnosed and mistaken for depression or anxiety disorders. Even though the patient displayed typical bvFTD symptoms like disinhibition, apathy, and decreased motivation [4], these were viewed as indicators of depression. Apathy, which is often misdiagnosed as a manifestation of depression, is associated with atrophy in the medial prefrontal cortex and the anterior cingulate gyrus [12,13]. While socially inappropriate behaviour and changes in personality are not typical characteristic of depression, the absence of cognitive decline resulted in a failure to consider a neurodegenerative condition. Treatment with an antidepressant was initiated. Studies show that selective serotonin reuptake

inhibitors may improve behavioural symptoms of FTD [14]. However, the prescription of benzodiazepines is not advisable for neurodegenerative disorders [15], yet in this case, they were continued for an extended period to alleviate anxiety symptoms. It is worth noting that the MMSE did not reveal any cognitive impairment; however, it is always important to consider the patient's verbal expression during the assessment. In this case, even in the absence of cognitive dysfunction, diagnosing a neurodegenerative disorder was challenging. Nevertheless, attention to verbal communication, and changes in behaviour (such as socially inappropriate actions) should be carefully evaluated without dismissing the possibility of dementia. Like all presentations of frontotemporal dementia, language variants are diverse, and in later stages, symptoms can overlap as neurodegenerative pathologies affect different brain regions [3]. Typically, in FTD, behaviour and language are the most affected areas, while cognitive function impairments are less pronounced. That is the reason why MMSE is not sensitive enough for diagnosing bvFTD. More sensitive diagnostic tools include the Addenbrooke's Cognitive Examination, the INECO Frontal Screening Test, the Neuropsychiatric Inventory (NPI), and the Frontal Assessment Battery (FAB) [16]. Late diagnosis can lead to inappropriate treatment and create challenges for the patient and their environment.

CONCLUSION

This case report focuses on a patient whose main symptoms—insomnia, anxiety, and apathy—masked an underlying neurodegenerative condition. It highlights the challenges in distinguishing between primary psychiatric disorders and neurodegenerative diseases, emphasizing the necessity for a thorough clinical assessment. By analysing this case, we seek to deepen our understanding of Pick's disease and its various manifestations, ultimately aiming to improve diagnostic accuracy and patient care in similar instances.

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Sveikatos būklės klausimynas (angl. *Health Questionnaire, EQ-5D-5L*)

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EQ-5D – tai standartizuotas 5 lygių su sveikata susijusios gyvenimo kokybės (SSGK) matas, kurį sukūrė „EuroQol“ grupė, tikslu pateikti paprastą klausimyną, tinkamą naudoti bendram gyvenimo kokybės vertinimui gyventojų sveikatos tyrimuose. EQ-5D-5L klausimynas vertina sveikatos būklę pagal penkias sveikatos dimensijas ir yra laikomas „bendruoju“ klausimynu, nes šios dimensijos yra tinkamos vertinti visoms pacientų grupėms ar esant įvairioms sveikatos būklėms. EQ-5D-5L taip pat gali būti vadinamas paciento savęs vertinimo rezultatų matu, nes pacientai patys gali užpildyti klausimyną ir pateikti informaciją apie savo dabartinę sveikatos būklę bei jos pokyčius laikui bėgant.

SSGK itin svarbi žmonių sveikatai [1,2]. Nors yra tam tikrų nesutarimų, kylančių dėl visuotinio SSGK apibrėžimo [3], ji paprastai apibūdinama kaip kasdienio funkcionavimo lygis ir suvokiama kai individuali asmens su sveikata susijusi gerovė [4]. Daugialypis SSGK konstruktas apibūdinamas kaip ligos ir jos gydymo poveikis fizinei, psichinei ir socialinei asmens funkcionavimo sritims [5]. Daroma prielaida, kad SSGK įvertinimas gali padėti pasiekti geresnę į pacientą nukreiptą sveikatos priežiūrą negu tradicinis biomedicininis modelis, kuris visų pirma orientuotas į ligų diagnostiką ir gydymą [6].

EQ-5D-5L klausimynas SSGK vertinimui

Nors praktikoje yra įdiegta daug SSGK priemonių, ankstesnių tyrimų duomenimis, nėra „geriausias“ ar „blogiausias“ priemonės; pasirinkimas turėtų priklausyti nuo matavimo tikslo. Vienas iš tokių instrumentų yra EQ-5D instrumentų rinkinys, kurio naujausia versija EQ-5D-5L pasižymi geresnėmis psichometrinėmis savybėmis (padidėjęs didesnis patikimumas ir jautrumas) negu ankstesnė EQ-5D-3L versija [7].

Kalbant apie psichometrinės EQ-5D-5L savybes, šis instrumentas yra tinkamas ir patikimas sveikatos būklės vertinimui įvairiose populiacijose. Tačiau jis turi tam tikrų trūkumų, įskaitant polinkį į „lubų“ efektą ir gerai vertinamos sveikatos aspektų stoka [7].

Remiantis EQ-5D-5L klausimyno struktūra, bent vienas tyrimas parodė, kad jį sudaro du latentiniai veiksniai – fizinis ir psichologinis funkcionavimas [8]. Kita vertus, kiti tyrimai siūlo vieną faktorių struktūrą [9]. Pastaruoju metu susirūpinta, kad skalėje trūksta socialinio aspekto, tačiau nepaisant šio apribojimo, EQ-5D-5L plačiai naudojama dėl paprastumo, nemokamos nekomercinės prieigos, prieinamumo daugeliu kalbų ir pritaikymo įvairiomis sąlygomis. EQ-5D-5L pasižymi puikomis psichometrinėmis savybėmis įvairiose populiacijose, sąlygoje ir aplinkoje [10].

EQ-5D-5L struktūra

Klausimynas EQ-5D-5L sudarytas iš dviejų dalių:

1. Aprašomoji dalis – penkios sveikatos dimensijos (judėjimas, savęs priežiūra, įprasta veikla, skausmas/bloga savijauta ir nerimas/depresija), su penkiomis atsakymų parinktimis (1 – nėra problemų; 2 – nedidelės problemos; 3 – vidutinės problemos; 4 – didelės problemos; 5 – negali atlikti).

Ši struktūra leidžia tiksliau apibūdinti paciento bendrą sveikatos būklę, lyginant su trijų lygių sistema EQ-5D-3L.

Antrą klausimyno dalį sudaro vizualinė analoginė skalė (EQ-VAS) – Tai vertikali 20 cm ilgio skalė, kurios apačioje yra žyma „blogiausia įsivaizduojama sveikata“ (0 balų), o viršuje – „geriausia įsivaizduojama sveikata“ (100 balų). Respondentai pažymi savo dabartinę sveikatos būklę šioje skalėje, suteikdami kiekybinį savo sveikatos įvertinimą. Respondentas pažymi skalėje „X“, kur žymė vėliau patikslinama skaičiumi, atspindinčiu dabartinę sveikatos būklę.

Lietuvių kalba klausimynas yra prieinamas nuo 2014 m. Lietuvos gyventojams nėra nustatytos specifinės EQ indekso reikšmės, todėl naudojami Vokietijos gyventojų duomenys [11]. EQ-5D-5L instrumentas buvo validuotas Lietuvos imtyje, tirtoje asmenų grupėje, sergančioje išeminiu insultu [12]. Tyrimo rezultatai parodė, kad Cronbacho alfa rodiklis buvo 0,81, o „McDonald’s Omega“ – 0,83, patvirtindami aukštą instrumento patikimumą. Šiuo tyrimu papildytos žinios apie EQ-5D-5L psichometrinės savybės asmenims, patyrusiems išeminių galvos smegenų infarktą (IGSI) Lietuvoje. Tyrimas patvirtino, kad EQ-5D-5L klausimynas yra galiojanti ir patikima priemonė, skirta asmenų SSGK vertinimui po IGSI pirmosios savaitės pabaigoje. Be to, analizė atskleidė, kad EQ-5D-5L sveikatos profilį sudaro du veiksniai, galintys turėti fizinę ir emocinę dimensijas.

Naudojimas ir pritaikymas

EQ-5D-5L yra plačiai naudojamas klinikiuose tyrimuose ir kituose sveikatos apklausose. Siekiant pritaikyti EQ-5D-5L įvairioms šalims ir kultūroms, buvo sukurti nacionaliniai vertinimo rinkinių modeliai, atspindintys gyventojų sveikatos būklės vertinimus. Šis instrumentas yra prieinamas daugiau nei 130 kalbų, įskaitant lietuvių kalbą, todėl jis tinkamas naudoti skirtingose šalyse ir kultūrose.

Papildoma informacija

Daugiau informacijos apie EQ-5D-5L, įskaitant vartotojo instrukcijas ir pavyzdinius klausimynus, galima rasti oficialioje „EuroQol“ svetainėje: [EuroQol](http://euroqol.org)

Assessment Scales

Kiekvienoje teiginių grupėje varnele pažymėkite po VIENĄ langelį, esanti greta teiginio, tiksliausiai apibūdinančio Jūsų sveikatos būklę ŠIANDIEN.

Geriausia sveikata, kokią tik galite įsivaizduoti

JUDEJIMAS	
Man vaikščioti nesunku	1
Man vaikščioti sunkoka	2
Man vaikščioti vidutiniškai sunku	3
Man vaikščioti labai sunku	4
Aš negaliu vaikščioti	5
SAVĖS PRIEŽIŪRA	
Man visiškai lengva nusiprausti ar apsirengti	1
Man sunkoka nusiprausti ar apsirengti	2
Man vidutiniškai sunku nusiprausti ar apsirengti	3
Man labai sunku nusiprausti ar apsirengti	4
Aš nesugebu nusiprausti ar apsirengti	5
ĮPRASTA VEIKLA (pvz.: darbas, mokslas, namų ruoša, šeimos ar laisvalaikio užsiėmimai)	
Man visiškai lengva užsiimti savo įprasta veikla	1
Man sunkoka užsiimti savo įprasta veikla	2
Man vidutiniškai sunku užsiimti savo įprasta veikla	3
Man labai sunku užsiimti savo įprasta veikla	4
Aš nesugebu užsiimti savo įprasta veikla	5
SKAUSMAS / BLOGA SAVIJAUTA	
Aš nejaučiu skausmo ar diskomforto	1
Aš jaučiu šiek tiek skausmą ar diskomfortą	2
Aš jaučiu vidutinišką skausmą ar diskomfortą	3
Aš jaučiu smarkų skausmą ar diskomfortą	4
Aš jaučiu nepaprastą skausmą ar diskomfortą	5
NERIMAS / DEPRESIJA	
Nesu sunerimęs (-usi) ar apimtas (-a) depresijos	1
Esu šiek tiek sunerimęs (-usi) ar apimtas (-a) depresijos	2
Esu vidutiniškai sunerimęs (-usi) ar apimtas (-a) depresijos	3
Esu smarkiai sunerimęs (-usi) ar apimtas (-a) depresijos	4
Esu nepaprastai sunerimęs (-usi) ar apimtas (-a) depresijos	5

Norėtume žinoti, kiek gera ar bloga

Jūsų sveikatos būklė ŠIANDIEN.

Ši skalė sunumeruota nuo 0 iki 100.

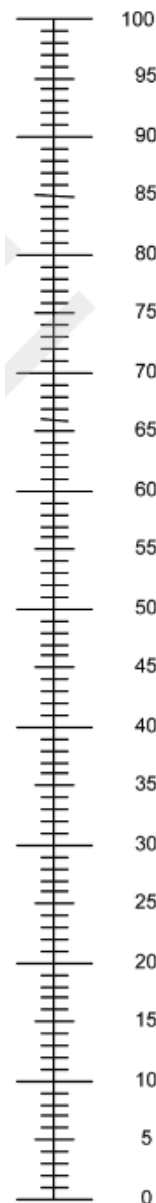
100 reiškia geriausia sveikatą, kokią tik galite įsivaizduoti.

0 reiškia blogiausią sveikatą, kokią tik galite įsivaizduoti.

Pažymėkite skalę X ženklu taip, kad nurodytumėte, kokia Jūsų sveikatos būklė ŠIANDIEN.

Prašome dabar užrašyti žemiau esančiame langelyje Jūsų pažymėtą numerį.

JŪSŲ SVEIKATOS BŪKLĖ ŠIANDIEN



Blogiausia sveikata, kokią tik galite įsivaizduoti

Pastaba: Norint naudoti EQ-5D-5L klausimyną, reikia užregistruoti savo tyrimą / bandymą / projektą užpildant EQ-5D registracijos formą. Patvirtinus registraciją, EQ-5D-5L gali būti nemokamai naudojamas nekomerciniais akademiniiais, švietimo, visuomenės sveikatos ir panašiais tikslais. Registracija „EuroQol“ svetainėje: [EuroQol](https://euroqol.org/).

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C O N T E N T S

T U R I N Y S

Valdemaras Misevičius

Priklausomybių konsultantai: galimybės ir ribos iš „Atvirojo rato“ priklausomybių konsultantų ruošimo patirties.....66

Aurimas Peleckas

Priklausomybė nuo psichiką veikiančių medžiagų kaip viena iš pagrindinių priežasčių, ribojančių asmens galimybes grįžti atgal į darbo rinką.....67

Aušra Norė

Priklausomybių konsultanto vaidmuo pagalbos teikimo grandinėje.....68

Vesta Steiblienė

Naujosios elgesio priklausomybės – kur esame šiandien?.....69

Gianluca Esposito

New addictions in the digital age: supporting families through the challenges. New behavioral addictions.....70

Ornella Corazza

From exercise to addictions: performance enhancement in the digital era.....71

Julius Burkauskas, Rasa Jauniškienė, Renata Gaudinskaitė, Naomi A. Fineberg

Probleminis interneto naudojimas.....72

Mindaugas Jasulaitis, Brigita Miežienė, Arūnas Emeljanovas

Probleminio interneto naudojimo ir fizinio aktyvumo poveikis vyresnių klasių mokinių miego kokybei, mieguistumui dienos metu bei psichosomatiniams simptomams.....73

Liudas Vincentas Sinkevičius

Jaunas amžius ir psichoaktyvių medžiagų vartojimo rizikos veiksniai.....74

Sandra Jakė

Tarp paauglystės iššūkių ir pasirinkimų: naujos psichoaktyvios medžiagos.....75

Darius Tolušis

Mano priklausomybės klystkeliai ir 1000 dienų kelias į blaivybę.....76

Austėja Lukošiuūtė, dr. Justė Lukoševičiūtė-Barauskienė

Ar subjektyviai jaučiama parama padeda gydantis alkoholio priklausomybę?.....77

Šarūnas Janušas, Aušra Norė

MDMA vartojimo ypatumų sąsajos su empatiškumu tarp jaunų žmonių.....78

Priklausomybių konsultantai: galimybės ir ribos iš „Atvirojo rato“ priklausomybių konsultantų ruošimo patirties

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Žodinis pranešimas

Kuo ypatingi ir kuo skiriasi priklausomybių konsultantai nuo kitų, šioje pagalbos grandinėje esančių subjektų, kokios jų galimybės, privalumai, ir ką daryti, kaip elgtis jau negalima – apie tai ir bus kalbama pranešime. Trumpai paminėtina, kad priklausomybės konsultantai nėra medikai, jie nėra ir psichologai, todėl konsultuoti specifinėmis temomis priklausomybės konsultantai negali. Tačiau jie yra pirmoji grandis, kuri teikia pagalbą pas jį atėjusiam ar institucijų nukreiptam žmogui. Pirmasis kontaktas įvyksta būtent su jais. Ir čia priklausomybės konsultantai yra įgalinti sudėlioti tolesnį kliento siekiamos blaivybės kelią bei savo bendravimo talentu ir specifika paveikti, ar tas kelias bus sėkmingas. Sėkmė taip pat labai priklauso, ar klientas jais patikės ir pasitikės. Kalboje jie gali būti laisvesni ir atviresni nei medicinos darbuotojai ar psichologai. Tačiau atvirumas galimas iki tam tikros ribos. Atvirauti apie save ir savo gyvenimą konsultantui nepatartina, kaip ir tapti kliento draugu. Negalima pamiršti, kad konsultantas tėra stotelė, nors ir viena iš pirmųjų ir ilgujų, kuris suteikia kryptį ir gaires, bet atlikęs savo pareigą – atsisveikina. Išsiskyrimo momentas labai svarbus konsultanto darbe, nes priklausomas žmogus sveikimo metu dažnai tampa priklausomas ir nuo konsultanto. Dar vienas svarbus aspektas – niekada nepasmerkti žmogaus, net jeigu jis atkrenta ir atkrenta ne sykį. Tegul viltis visuomet būna gyva ir yra specialistas – žmogus, kuris tiki.

O svarbiausia žinia esamiems ir būsimiems konsultantams būtų tokia: „Jei žmogui pavyksta nebegerti – tai jo, o ne jūsų nuopelnas. Jei žmogus patiria atkrypį, o gal sugrįžta į priklausomybės kelią – tai jo, o ne jūsų pasirinkimas“.

Daug subtilybių ir niuansų, susijusių su riba ir galimybėmis, savo veikloje gali patirti praktikuojantis priklausomybių konsultantas – apie tai ir bus pasakojama pranešime.

Priklausomybė nuo psichiką veikiančių medžiagų kaip viena iš pagrindinių priežasčių, ribojančių asmens galimybes grįžti atgal į darbo rinką

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Žodinis pranešimas

Šiuo pranešimu siekiama informuoti visuomenę apie darbo rinkai besirengiančių asmenų integracijos į darbo rinką problemas ir kokią įtaką šių asmenų integracijai į darbo rinką turi priklausomybė nuo psichiką veikiančių medžiagų. Kaip nurodoma Lietuvos sveikatos mokslų universiteto, Visuomenės sveikatos fakulteto, Sveikatos tyrimų instituto mokslininkų 2021 m. atliktame tyrime: „Alkoholio vartojimo sąlygota žala – tai grynoji išteklių, kurių visuomenė neteko dėl ankstesnio bei dabartinio alkoholio vartojimo, vertė ir neapčiuopiama žala, kuri buvo patirta dėl svaiginimosi šia psichoaktyvia medžiaga“ [M. Šetelemėkas, M. Grincaitė, L. Miščiukienė, 2021]. Ne viename moksliniame tyrime yra apibrėžta, kad psichiką veikiančių medžiagų žalą patiria ne tik pats geriantysis, tačiau ir aplinkiniai asmenys, o kartu ir visa visuomenė. Atsižvelgiant į TLK-10-AM ligų kodus, yra identifikuota daugiau nei 200 sveikatos būklių bei sutrikimų, kurie siejami su psichiką veikiančių medžiagų vartojimu. Psichiką veikiančias medžiagas vartojantis asmuo, be sveikatos pasekmių, kartu patiria ir kitas problemas, susijusias su jo integracija į visuomenę – tai yra, teisės pažeidimų darymu, santykiuose su aplinkiniais žmonėmis ar šeimoje, gaunamomis mažesnėmis pajamos, skolomis, suprastėjusiu požiūriu į savo sveikatos ir asmens higienos priežiūrą ir kt. Kalbant apie visuomenei daroma žalą, pirmiausiai turėtume kalbėti apie psichiką veikiančių medžiagų vartotojams atsirandančių ligų našta dėl sergamumo, neįgalumo, nedarbingumo ar priešlaikinio mirtingumo.

Lietuvos Užimtumo tarnyba, taikydama Lietuvos Respublikos Užimtumo įstatyme (toliau – Užimtumo įstatymas) numatytas priemones, ir siekdama grąžinti į darbo rinką bedarbius, dažnu atveju susiduria su bedarbių turimomis įvairiomis individualiomis problemomis, dėl kurių sėkminga integracija į darbo rinką, dažnu atveju, tampa negalima. Nepavykstant grąžinti į darbo rinką bedarbio, jam siūlomas ir pakeičiamas jo turimas bedarbio statusas į darbo rinkai besirengiančio asmens. Aptariamoms ir įtvirtinamos pagrindinės jo galimai turimos problemos, lemiančios jo negalėjimą dirbti ir gauti teisėtų pajamų.

Šiame pranešime, bus nagrinėjami Užimtumo tarnybos tinklalapyje esantis duomenis ir pateikti duomenys iš Druskininkų savivaldybės. Pastebėta, kad praktiškai visi asmenys, kuriems paslaugų teikimo metu buvo identifikuotas žalinga alkoholio ar kitos medžiagos vartojimas, susidūrė ne tik su psichiką veikiančios medžiagos problema, bet ir su kitomis, kaip, socialinių įgūdžių stoka, žema motyvacija ir t. t. Todėl laikytina, kad psichiką veikiančios medžiagos vartojimas vienas svarbiausių neigiamą įtaką darančių faktorių ne tik asmens integracijai į darbo rinką, bet ir gyvenimo kokybei.

Priklausomybių konsultanto vaidmuo pagalbos teikimo grandinėje

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Diskusija

2018 m. siekiant įgyvendinti Lietuvos Respublikos Vyriausybės programos įgyvendinimo plano priemonę „Gyventojų sveikos gyvensenos ugdymo sistemos keitimas“, buvo įtvirtinta nauja priklausomybės konsultanto pareigybė. Lietuvos Respublikos Sveikatos apsaugos ministras patvirtino „Priklausomybės konsultavimo paslaugų rizikingai ir žalingai alkoholi vartojantiems asmenims teikimo tvarkos aprašą“. Pagal šį aprašą priklausomybės konsultantas – tai asmuo, išklauses specializuotus mokymus pagal neformalaus mokymo programą, suderintą su Sveikatos apsaugos ministerija, ir turintis tai patvirtinantį dokumentą.

Priklausomybės konsultanto tikslas – teikti individualias ar grupines konsultacijas asmenims, turintiems problemų dėl alkoholio vartojimo, siekiant mažinti vartojimo apimtį ar visiškai atsisakyti alkoholio. Taip pat konsultuojami šeimos nariai, padedant spręsti problemas, kylančias dėl artimojo priklausomybės. Ši paslauga ir pareigybė – naujas žingsnis priklausomybių prevencijos ir gydymo sistemoje, tačiau jos vaidmuo pagalbos teikimo grandinėje dar turi būti aiškiau apibrėžtas ir integruotas.

Diskusijos tikslas – suburti priklausomybių srityje dirbančius specialistus ir sukurti erdvę praktinei diskusijai apie priklausomybės konsultanto vaidmenį bei bendradarbiavimo galimybes su kitais specialistais. Diskusijoje aptariamos šios pareigybės veiklos sritys, iššūkiai ir galimybės integruojant ją į esamą priklausomybės problemų sprendimo sistemą.

Naujosios elgesio priklausomybės – kur esame šiandien?

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Žodinis pranešimas

Elgesio priklausomybės psichiatrijoje yra pakankama naujos diagnostinės kategorijos ir jų koncepcija vis dar diskutuojama. Todėl kai kurios elgesio priklausomybių kategorijos vis dar vertinamos kaip ateities tyrimų reikalaujančios būklės. Nors jau dešimtmetį klinacistų ir neuromokslininkų kai kurie elgesio modeliai vertinamos kaip elgesio priklausomybės, tik 2010 metais DSM-5 klasifikacijos darbo grupė, remdamasi gausiais mokslinės literatūros duomenimis pasiūlė į atnaujintą psichikos sutrikimų klasifikaciją DSM-5 oficialiai įtraukti elgesio priklausomybių kategoriją [APA, 2013]. Elgesio priklausomybės įvardintos kaip priklausomybės sutrikimai ir įtrauktos į kategoriją “Su medžiagų vartojimo susiję ir priklausomybių sutrikimai”. Šie sutrikimai apibūdinami stiprus noru vartoti, potraukiu ir dėl šių simptomų susiformavęs sutrikimas bent vienoje funkcionavimo srityje. Tiek elgesio priklausomybėms, tiek medžiagų vartojimo priklausomybėms būdingas trumpalaikio atlygio neurobiologinis mechanizmas, kuris ir sukelia šį nuotatinį pasikartojantį elgesį, nepaisant išliekančios individo kritikos tokiam elgesiui ir suvokiamų neigiamų pasekmių [Fujiwara ir kt., 2022]. Medžiagų vartojimo ir elgesio priklausomybių sąsajos paaiškinamos bendrais biopsichosocialiniais, genetiniais ir neurobiologiniais modeliais [Leeman ir Potenza, 2013]. Visgi klasifikuojant šiuos elgesio modelius, ypatingas dėmesys buvo skiriamas klinikinio naudingumo, visuotinio pritaikomumo ir mokslinio pagrįstumo klausimams [Petry ir kt., 2018]. Amerikos psichiatrų asociacija (APA), Pasaulio sveikatos organizacijos (PSO) ir Amerikos Priklausomybių Medicinos draugijos ekspertai bendru sutarimu apibrėžė 6 pagrindinius elgesio priklausomybių klinikinius diagnostinius kriterijus: dominavimas, nuotaikos modifikavimas, tolerancija, nutraukimo simptomai, konfliktai ir atkryčiai.

Šios paskaitos tikslas – supažindinti su elgesio priklausomybės koncepcija, diagnostiniais kriterijais, etiologijos, patogenezės mechanizmais ir klinikiniais požūriais į skirtingus sutrikimus, remiantis DSM-5 ir TLK-11 psichikos sutrikimų klasifikacijų diagnostiniais kriterijais [Stein ir Lochner, 2022].

New addictions in the digital age: supporting families through the challenges. New behavioral addictions

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Žodinis pranešimas

In today's rapidly evolving digital landscape, the emergence of new addictive behaviors poses significant challenges for individuals and families alike. From social media obsession to gaming addiction and beyond, these modern dependencies can have profound effects on familial dynamics, mental health, and overall well-being.

This talk focuses into the complexities of these new addictions, exploring their underlying mechanisms, prevalence, and impact on family relationships. Drawing upon research insights and clinical perspectives, we will discuss practical strategies for families to navigate and mitigate the adverse effects of digital dependencies.

From exercise to addictions: performance enhancement in the digital era

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Žodinis pranešimas

In a society that perpetuates the strive for a perfect appearance via social media and other means, a fit body has become synonymous with success, but simultaneously hard to achieve. During this presentation, it will be argued how such cultural context of ‘aesthetic idealisation’ represents a fertile ground for the development of Exercise Addiction (EA) alongside other related psychologies.

Results from studies carried out in fitness settings in eight countries will be presented, highlighting the previously unexplored association between exercise addiction, appearance anxiety, low self-esteem and the use of a variety of fitness products, including illicit drugs. Such a phenomenon, clearly indicates the need for more informed and integrated responses targeting such vulnerable individuals.

Probleminis interneto naudojimas

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Besaikis socialinių medijų naudojimas ar srautinio internetinio turinio žiūrėjimas, nekontroliuojami internetiniai žaidimai ar azartiniai lošimai, impulsyvus apsipirkinėjimas internetu, kai išleidžiama pernelyg daug pinigų, nerimastingas elektroninio pašto tikrinimas ir kompulsyvus pornografijos turinio žiūrėjimas internete yra elgesio, galinčio smarkiai pabloginti kasdienį veikimą, pavyzdžiai [Fineberg et al., 2018]. Ši iššūkių, susijusių su ekranų naudojimu, spektrą galima apibūdinti kaip probleminį interneto naudojimą (PIN). Nustatyta, kad su PIN gali susidurti maždaug kas dešimtas/penkioliktas interneto naudotojas [Burkauskas et al., 2023; Pan, Chiu, Lin, 2020]. Nors problemų dėl interneto naudojimo patiria tik dalis nuolat internetą naudojančių asmenų, yra duomenų, kad sunkios PIN formos gali būti susijusios su sveikatai nepalankaus gyvenimo būdo pasirinkimais bei sukelti sveikatos sutrikimų, kurie ypač žalingi vaikams bei jauniems suaugusiesiems. Dėl šios priežasties PIN prevencijos ir ankstyvos intervencijos problema yra ypač svarbi tiek vietiniu, tiek pasauliniu lygiu [Fineberg et al., 2022].

Pranešimo metu bus pristatomi naujausi PIN moksliniai tyrimai. Dalyviai bus supažindinti su penkerius metus trukusiančiu projektu, pavadintu BootStRaP (angl. *Boosting Societal Adaptation and Mental Health in a Rapidly Digitalizing Post-Pandemic Europe*), kurį vykdo 22 mokslo ir medicinos institucijos Europoje, finansuoja Europos Horizontų programa. Lietuvoje projektą įgyvendina Lietuvos sveikatos mokslų universitetas, bendradarbiaudamas su Skaitmeninės etikos centru (SEC). Konsultuojantis su jaunimu ir naudojant inovatyvias technologijas, tyrėjai siekia padėti jauniems žmonėms ugdyti sveikus interneto naudojimo įgūdžius, kol interneto naudojimas netapo problema, bei padėti tėvams ir globėjams, mokytojams, medikams suprasti PIN rizikas. Tikimasi, kad projekto metu surinkti mokslinio tyrimo duomenys iš esmės keis politikos formuotojų požiūrį į PIN.

Probleminio interneto naudojimo ir fizinio aktyvumo poveikis vyresnių klasių mokinių miego kokybei, mieguistumui dienos metu bei psichosomatiniais simptomams

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Žodinis pranešimas

Įvadas. Tyrimai rodo, kad paauglių miego kokybė vis prastėja, o tai dažnai siejama su intensyviu technologijų naudojimu prieš miegą, be to nepakankamas fizinis aktyvumas gali pabloginti šią situaciją.

Tikslas – ištirti, kaip probleminis interneto naudojimas susijęs su miego kokybe, mieguistumu dienos metu bei psichosomatiniais simptomais, ir ar fizinis aktyvumas gali sumažinti šiuos neigiamus poveikius.

Metodika. Tyrime dalyvavo 287 Kauno miesto 9–12 klasių mokiniai, iš jų 54 proc. vaikinių. Buvo tiriamas mokinių probleminis interneto naudojimas, fizinis aktyvumas, miego kokybė, mieguistumas dienos metu ir psichosomatiniai simptomai. Dalyviai taip pat įvertino savo fizinį aktyvumą remdamiesi savęs vertinimo klausimu apie laiką, praleistą fiziškai aktyviai per dieną. Psichosomatiniai simptomai buvo vertinami remiantis savęs vertinimo klausimynais, kuriuose dalyviai nurodė, kaip dažnai jie patiria simptomus, tokius kaip galvos skausmai, pilvo skausmai ir pykinimas.

Rezultatai. Beveik 70 proc. mokinių vertino savo miego kokybę kaip prastą, o 48,4 proc. mokinių informavo apie dažną mieguistumą dienos metu. Tyrimo duomenys atskleidė, kad probleminis interneto naudojimas buvo statistiškai reikšmingai didesnis prasčiau vertinančių savo miego kokybę mokinių grupėje (PIUQ-9 balas 2,47 vs 2,28, $t = 1,99$, $p = 0,024$) bei dažniau patiriančių mieguistumą dienos metu grupėje (2,25 vs 2,58, $t = -3,85$, $p < 0,001$). Be to, koreliacinė analizė atskleidė teigiamą ryšį tarp probleminio interneto naudojimo ir psichosomatinų simptomų, tokių kaip galvos skausmai ir pilvo skausmai ($r = 0,367$, $p < 0,001$).

Fizinis aktyvumas atsiskleidė kaip apsauginis veiksnys mieguistumui dienos metu: pakankamai fiziškai aktyvūs mokiniai rečiau buvo mieguisti dienos metu (52,5 proc. vs 39,1 proc., $\chi^2 = 4,37$, $p = 0,037$). Tačiau su miego kokybe fizinis aktyvumas statistiškai reikšmingai nesisiejo ($\chi^2 = 1,45$, $p = 0,228$).

Išvados. 1) Probleminis interneto naudojimas siejasi su prastesne miego kokybe ir didesniu mieguistumu dienos metu bei labiau išreikštais psichosomatiniais simptomais; 2) Pakankamas fizinis aktyvumas susijęs su mažesniu mieguistumu dienos metu, tačiau su miego kokybe nesisieja; 3) Nors fizinis aktyvumas nesisieja su miego kokybe, tačiau jo sąsaja su mažesniu mieguistumu dienos metu leidžia manyti, kad jis galėtų veikti kaip potencialus apsauginis veiksnys nuo neigiamų technologijų naudojimo padarinių; 4) Tolesni tyrimai turėtų gilintis į šiuos ryšius, siekiant išsiaiškinti, kaip probleminio interneto naudojimo mažinimas ir fizinio aktyvumo skatinimas gali padėti pagerinti paauglių sveikatą ir miego kokybę.

Jaunas amžius ir psichoaktyvių medžiagų vartojimo rizikos veiksniai

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Žodinis pranešimas

Visuomenėje vis dar nėra susiformavęs aiškus požiūris kas yra priklausomybė, ar tai liga ar valios trūkumas. Priklausomybė nuo psichoaktyvių medžiagų yra sudėtingas psichikos sutrikimas, pakeičiantis galvos smegenų sistemos veiklą taip, kad mesti vartoti sunku net ir tiems, kurie to nori. Priklausomybė yra lėtinė liga, kuriai būdingas psichoaktyvių medžiagų ieškojimas ir vartojimas, kuris yra kompulsyvus arba sunkiai kontroliuojamas, nepaisant žalingų pasekmių [Koob & Volkow, 2016]. Atsižvelgiant į tai, jog šis sutrikimas pasireiškia su sąlyga, jog žmogus vartos psichoaktyvias medžiagas, lygiai taip pat kaip potrauminis streso sindromas, kuris pasireiškė tik buvus trauminiam įvykiui, taigi turi būti pakankamai aiški patogenezė kuri yra nebūdinga daugeliui psichikos sutrikimų. Nepaisant priklausomybės sindromo susiformavimo „aiškumo“, praktikoje ir tyrimuose matome, jog vieni asmenys tampa priklausomi, o kiti ne. Pagal atliktus tyrimus [Volkow & Czernin, 2019] matome, jog iš tų, kurie pavartojo psichoaktyvias medžiagas, tik apie 10–20 proc. (priklausomai nuo medžiagos) tampa priklausomi, tokiu atveju kyla klausimas, kas lemia būtent šios siauros grupės polinkį šiam sutrikimui. Iki šiol nėra aiškaus atsakymo, tačiau manoma, jog priklausomybės sindromą lemia sudėtingi biologiniai-genetiniai bei socialiniai veiksniai, kurie dinamiškai sąveikauja darydami įtaką sutrikimo rizikai, trajektorijai ir rezultatams. Norint suprasti šio sutrikimo rizikos ir apsaugos veiksnius, yra būtinas tarpdisciplininis požiūris, kuris apima biologiją, genetiką, psichologiją ir socialinį kontekstą.

Rezoliucija/rekomendacijos. Priklausomybės sindromas kyla iš sudėtingų sąveikų tarp genetinių, biologinių, psichologinių ir aplinkos veiksnių. Rizikos veiksniai, tokie kaip smegenų raida, genetinė predispozicija, neigiamos vaikystės patirtys, psichikos sutrikimai ir bendraamžių įtaka yra vieni iš pagrindinių veiksnių prisidedančių prie priklausomybės formavimosi. Priklausomybės ligų formavimosi bei gydymo ateitis remiasi multidisciplininiu požiūriu, kuris leidžia matyti rizikos ir apsaugos veiksnių sąveikas bei laiku reaguoti.

Tarp paauglystės iššūkių ir pasirinkimų: naujos psichoaktyvios medžiagos

Sandra JAKĖ

VšĮ Žmogiškųjų išteklių stebėsenos ir plėtros biuras

Žodinis pranešimas

Priklausomybės vis dažniau paliečia paauglius. Tuos, kurie išbanda ribas, eksperimentuoja. Tai laikas, kuriam būdingas netinkamas elgesys. Tuo tarpu suaugusieji nenutuokia, kad vaikas turi priklausomybę arba žino, tačiau nenori to pripažinti, bijodami pasmerkimo iš aplinkos arba naiviai tikėdamiesi, kad problema išsispręs savaime. Pasirinkimai gyvenime yra stiprūs ir galingi, bet net ir paauglys mąsto ir daro pasirinkimus. Nors mėgautis tuo, kas suteikia malonumą ir ieškoti galimybių tą pakartoti – normalu ir būdinga taip pat. Taip paauglio gyvenime atsiranda naujos psichoaktyvios medžiagos, kurios yra nekontroliuojamos Jungtinių Tautų narkotinių ir psichotropinių medžiagų konvencijomis. Tai įvairūs sintetiniai kanabinoidai, sintetiniai katinonai, naujieji benzodiazepinai, sintetiniai opioidai ir kt. Daugelis šių medžiagų platinamos kaip „legalūs“ narkotikų pakaitalai. Tie „legalūs“ narkotikų pakaitalai yra ne tik skysčių ar mitelių pavidalu, bet ir kaip guminukai, saldainiukai. Skamba ir atrodo viliojančiai. O pakanka vos 20 minučių, kad susirastum internete bei įsigytum. Tačiau tos naujos medžiagos yra ne tik pigios, bet ir daug stipresnės bei keliančios didesnių apsinuodijimų riziką. O kiekvieno, save norinčio išbandyti, paauglio „svajonė“ - pigus ir stiprus poveikis. Paaugliai iš tiesų nelabai supranta ką vartoja, specialistai negali identifikuoti, o tėvai ir mokytojai susiduria su nežinomybe.

Turime atrasti įrankius, imtis priemonių ir kuo daugiau apie tai kalbėti. Kurti santykį: su paaugliais, tėvais, mokytojais, nes ilgalaikis efektas pasiekiamas tik per santykio kūrimą. Apie tai ir bus pranešimas „Tarp paauglystės iššūkių ir pasirinkimų: naujos psichoaktyvios medžiagos“.

Mano priklausomybės klystkeliai ir 1000 dienų kelias į blaivybę

Darius TOLUŠIS

Tinkaraštis 1000dienu.lt

Atvejo aptarimas

Darius Tolušis, keliautojas, priklausomybių konsultantas ir tinklaraščio 1000dienu.lt kūrėjas, praicityje patyrė ilgametę kovą su įvairiomis priklausomybėmis, kurios ne tik žlugdė jo asmeninį gyvenimą, bet ir turėjo didelį poveikį jo karjerai. Jo kelionė buvo pažymėta skaudžiais praradimais, kai priklausomybės sutriuškino verslo pasiekimus, išsuko jį iš gyvenimo krypties ir sugriovė asmeninius santykius.

Šiandien Darius yra daugelio socialinių projektų, skirtų pagalbai pažeidžiamiems asmenims, kūrėjas ir vykdytojas, turėjęs reikšmingos praktikos priklausomybių rehabilitacijos centre, palaikymo grupių vedime bei stovyklų organizavime socialiai pažeidžiamam jaunimui. Jis ne tik metė iššūkį priklausomybėms, bet ir rado kelią atgal į pilnavertį ir prasmingą gyvenimą padėdamas kitiems dabar dirbdamas priklausomybių konsultantu. Ši ilga ir sudėtinga kelionė atsigavimo link buvo pažymėta nuolatiniu darbu su savimi, daugybe kluptelėjimų ir atkaklumo siekiant išgydyti ne tik kūną, bet ir sielą.

Pranešime „Mano priklausomybių klystkeliai ir 1000 dienų kelias į blaivybę“ Darius atskleis, kaip jo kelionė nuo tamsiausių gyvenimo momentų iki blaivybės buvo pripildyta iššūkių ir savęs pažinimo. Jis pasidalins savo ilgamete patirtimi, kaip priklausomybės žlugdė jo gyvenimą ir kaip jam pavyko rasti tikrą viltį bei tikslą savo kelionėje.

Darius aptars, kaip jis susidūrė su praradimais ir kliūtimis, kaip šie iššūkiai formavo jo atsikūrimo kelią ir kaip galų gale jis rado realias išeitis bei sveikimo kelius. Jis taip pat pasidalins įkvepiančiais momentais, kurie suteikė jėgų nepasiduoti ir kovoti toliau, net kai viskas atrodė beviltiška. Šis pranešimas ne tik suteiks svarbių įžvalgų, bet ir paskatins tuos, kurie ieško vilties ir motyvacijos savo kelyje į sveikimą.

Ar subjektyviai jaučiama parama padeda gydantis alkoholio priklausomybę?

Austėja LUKOŠIŪTĖ, Justė LUKOŠEVIČIŪTĖ-BARAUSKIENĖ

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Stendinis pranešimas

Įvadas. Alkoholio priklausomybė yra kompleksiškas sveikatos ir socialinės gerovės iššūkis, kurį sprendžia bendruomenės bei sveikatos priežiūros specialistai. Ši problema ne tik paveikia asmeninį žmogaus gyvenimą, bet turi ir daugialypį poveikį visuomenės struktūroms. Žalingas alkoholio vartojimas yra siejamas su daugiau kaip 200 įvairių ligų, traumų ir kitų sveikatos sutrikimų. Jis susijęs su didesne rizika sirgti psichikos ir elgesio sutrikimais, įskaitant priklausomybę nuo alkoholio ir pagrindinėms neinfekcinėms ligoms. Sprendžiant alkoholio priklausomybės problemas, esminis vaidmuo tenka ne tik medicinos sričiai, bet ir socialinėms paramos sistemoms bei aplinkai, kurioje gyvena priklausomybę turintys asmenys. Tačiau tyrimų, kuriuose būtų vertinama suvokiamos socialinės paramos nauda asmens pasiruošimui gydytis beveik nėra.

Tikslas – nustatyti socialinės paramos ir pasirengimo pokyčiams bei noro gydytis sąsajas tarp alkoholio priklausomybę besigydančių asmenų.

Metodika. Buvo vykdomas kiekybinis empirinis tyrimas, kuriame dalyvavo 189 asmenys, besigydantys alkoholio priklausomybę Respublikinio priklausomybės ligų centro Kauno, Vilniaus, Klaipėdos, Šiaulių ir Panevėžio filialuose. Amžiaus vidurkis $44,0 \pm 10,77$ metų (21–77 m.). Taikyta anoniminė anketinė apklausa, kurią sudarė SOCRATES skalė (pasirengimo pokyčiams bei noro gydytis vertinimui), MSPSS skalė (suvokiamos socialinės paramos vertinimui), socialiniai-demografiniai ir klinikiniai klausimai. Duomenų analizė atlikta naudojant SPSS programinį paketą.

Rezultatai. Alkoholio priklausomybę besigydantys pacientai jautė aukštesnę nei vidutinę socialinę paramą (5,3 iš 7 galimų balų). Daugiausiai palaikymo pacientai sulaukė iš šeimos narių. Pastebėta, kad aukščiausia socialinė parama buvo tarp dirbančių, santuokoje gyvenančių ir mažiau nei 10 metų alkoholį vartojančių asmenų ($p < 0,05$). Taip pat paaiškėjo, kad geriausiai alkoholio priklausomybę atpažino nebe pirmą kartą besigydantys ir daugiau nei 10 metų alkoholį vartojantys pacientai ($p < 0,05$). Dvejones dėl ligos pasireiškimo ir nusiteikimo gydytis daugiausia pasireiškė vyresnio amžiaus pacientams, o imtis aktyvių žingsnių gydytis ir prisiimti atsakomybę už esamą situaciją buvo linkusios moterys, dirbantys, santuokoje gyvenantys ir vyresni pacientai ($p < 0,05$). Įvertinus suvokiamos socialinės paramos ir pasirengimo pokyčiams bei noro gydytis sąsajas, paaiškėjo, kad suvokiama socialinė parama buvo susijusi su ambivalencija ir aktyvių žingsnių gydytis ėmimusi ($p < 0,05$).

Išvados. Suvokiama socialinė parama padeda pacientams, besigydantiems alkoholio priklausomybę, susimąstyti apie alkoholio vartojimą ir imtis aktyvių žingsnių gydytis priklausomybę, tačiau nėra susijusi su ligos atpažinimu.

MDMA vartojimo ypatumų sąsajos su empatiškumu tarp jaunų žmonių

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Stendinis pranešimas

Įvadas. 3–4-metilenodioksimetamfetaminas (MDMA) arba kitaip „ekstazis“, sukelia euforijos jausmą, skatina energijos padidėjimą, galinti padidinti emocinį atvirumą bei galimai skatinanti kurti artimesnius santykius su aplinkiniais. Yra manoma, jog didesnės ir dažnesnės MDMA dozės drastiškai sumažina serotonino kiekį organizme, taip paveikiant miegą, atmintį, termoreguliaciją, kognityvines funkcijas bei taip didinant psichinių ligų atsiradimo tikimybę. MDMA medžiaga labiausiai paplitusi jaunų žmonių tarpe, 2015–2022 metais Europos sąjungoje, šešiuose atliktuose tyrimuose, buvo nustatyta, jog per pastaruosius 12 mėnesių šią medžiagą vidutiniškai vartojo 1,8 mln. jaunų žmonių 15–34 metų amžiaus. Moksliniuose šaltiniuose rašoma, jog eksperimentinėje aplinkoje MDMA vartoję asmenys pasižymi aukštesniu empatijos jausmu, geresniu pasitikėjimu kitais žmonėmis bei aukštesniu prosocialiu elgesiu. Kadangi yra stebimas pozityvus atsakas žmonių empatiškumui psichoterapijoje pasitelkiant MDMA medžiagą ir MDMA vartojant eksperimentinėje aplinkoje, svarbu nustatyti kiek MDMA, kaip medžiaga, gali turėti įtakos žmogaus atsivėrimui ir empatiškumui ne terapinėje aplinkoje.

Tyrimo tikslas – širti, kaip siejasi jaunų žmonių MDMA vartojimo ypatumai su jų empatiškumu.

Metodika. Tyrimas pradėtas 2023 gruodžio mėn, baigtas 2024 sausio mėn. Į tyrimą buvo įtraukti 245 respondentai. Buvo pasirinkta netikimybinė atranka, pagal patogųjį principą. Į atranką buvo kviečiamos dvi grupės, viena grupė buvo vartoję MDMA, kita grupė nevirtojusių MDMA. Tyrimą sudarė 105 asmenys, vartoję MDMA ir 130 nevirtojusių MDMA medžiagos.

Rezultatai. MDMA medžiagą respondentai dažniausiai pirmą kartą pabandė būdami 17–21 metų amžiaus (60,0 proc.), daugiausiai ji yra vartojama su draugais (86,7 proc.) klubuose (64,8 proc.), o 84,6 proc. tyrimo dalyvių nesitestuota MDMA medžiagos prieš vartojimą. Moterys labiau reiškia užuojauta nei vyrai ($U = 5118$, $p = 0,001$), o vyresnius tyrimo dalyvius labiau liūdino, kai matydavo, jog su kuo nors elgiamasi nesąžiningai negu jaunesnius ($\rho = 0,218$, $p = 0,001$). Asmenys, kurie vartojo mažiau nei 150 mg MDMA buvo labiau empatiškesni negu tiriamieji, kurių startinė MDMA dozė buvo didesnė nei 150 mg ($U = 286$, $p = 0,005$).

Išvados. Empatiškumas nesikoreliuoja su MDMA pabandymo laikotarpiu, vartojimo dažniu, vartojimo vieta, vartojimo laiko intervalu bei šios medžiagos testavimosi faktoriumi, tačiau didesnės startinės MDMA medžiagos dozės buvo siejamos su žemesniu tyrimo dalyvių empatiškumu.

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