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RELATIONSHIP BETWEEN QUALITY OF LIFE AND COGNITIVE STATUS IN PATIENTS WITH ALCOHOLISM

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According to the current WHO estimate, the share of alcohol in deaths in the Slovak Republic is 8.3 %, which represents 4,500 deaths per year in our country. The aim of the study was to examine the quality of life and cognitive status in patients with alcoholism. The study was attended by 100 respondents. The standardized questionnaires SF-36 (Medical Outcomes Study 36–Item Short Form) and MMSE (Mini – Mental-State-Examination) were used to process the defined research objectives. The level of quality of life of male alcoholics was lower (86.8) than that of female alcoholics (106.82), however, in the area of cognitive function, the differences between men (18.66) and women (19.86) were minimal. In alcoholics younger than 40 years, the quality of life was higher (101.02) and in those older than 40 years (90.08) it reached a lower level. Differences were also found in the level of cognitive function, which in alcoholics younger than < 40 years was at a higher level (22.49) than in alcoholics older than 40 years (15.76).

Key words: alcoholism, patient, quality of life, cognitive functions.

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ВЗАЄМОЗВ'ЯЗОК МІЖ ЯКІСТЮ ЖИТТЯ ТА КОГНІТИВНИМ СТАТУСОМ У ПАЦІЄНТІВ З АЛКОГОЛІЗМОМ

Згідно із сучасними оцінками Всесвітньої організації охорони здоров'я, частка смертей, пов'язаних із вживанням алкоголю, у Словацькій Республіці становить 8,3 %, що відповідає приблизно 4500 випадкам смерті щороку. Метою дослідження було вивчення якості життя та когнітивного статусу пацієнтів з алкоголізмом. У дослідженні взяли участь 100 респондентів. Для реалізації визначених завдань дослідження використовували стандартизовані опитувальники SF-36 (Medical Outcomes Study 36–Item Short Form) та MMSE (Mini-Mental State Examination).. Рівень якості життя чоловіків з алкоголізмом був нижчим (86,8), ніж у жінок з алкоголізмом (106,82), водночас відмінності показників когнітивних функцій між чоловіками (18,66) та жінками (19,86) були мінімальними. У пацієнтів з алкоголізмом віком до 40 років рівень якості життя був вищим (101,02), тоді як у пацієнтів віком понад 40 років він був нижчим (90,08). Відмінності також встановлено щодо рівня когнітивних функцій: у пацієнтів з алкоголізмом віком до 40 років цей показник був вищим (22,49), ніж у пацієнтів віком понад 40 років (15,76).

Ключові слова: алкоголізм, пацієнт, якість життя, когнітивні функції.

The American Psychiatric Association 2013 characterizes alcohol addiction as excessive and uncontrollable drinking of alcohol, which significantly affects a person's ability to manage normal activities at work and at home, and which can have a serious impact on their overall health. According to the World Health Organization (WHO) 2021, alcohol and drug addiction is a state of chronic or periodic intoxication with psychotropic substances [19]. Addiction can lead to a decrease in intelligence and performance, but also to a violation of personality. On a global scale, Slovakia is one of the countries with a high alcohol consumption per capita. Data from the Organization for Economic Cooperation and Development (OECD) published in 2018 show that the average annual consumption of pure alcohol per adult (including abstainers) in Slovakia was 10.1 liters, while the average among developed countries associated with the OECD was 8.9 liters [10]. WHO data (2018) show that the annual incidence of addiction in the Slovak population over 14 years of age is approximately 5.5 % (10 % for men and 1 % for women) [18]. More than 100,000 outpatient examinations with a diagnostic conclusion of alcohol dependence (F10.2 in MKCH-10) are carried out annually in the Slovak Republic, while 99.9 % of them are adult patients and more than 70 % of them are men (NCZI 2023).

Long-term exposure to alcohol causes neurocognitive disorders, in which the influence of ethanol and its reactive metabolites leads to nutritional and vitamin deficiency, liver damage, as well as head trauma and intoxication. The symptoms of addiction do not have to be present in the clinical picture of a person with addiction at the same time, they can occur separately. Craving is a symptom of the psychological component of addiction, which manifests as a strong desire, craving or compulsion to drink [20]. The use of alcohol has negative effects on the individual not only from the health aspect, but also psychological health, social relationships, subjective experience and the environment. For individuals dependent on alcohol, the quality of life and interpersonal relationships are relatively low. In treatment programs, it is recommended to use psychosocial interventions focused on motivational, psychological, social and environmental factors that contribute to reducing alcohol use and are effective in promoting abstinence and preventing relapse. Psychosocial interventions have also been used to increase overall treatment adherence [6].

The purpose of the study was to confront the difference in the quality of life and cognitive functions of alcoholics in relation to age and gender, and in the next line to find out if there is a relationship between the quality of life and the cognitive state of alcoholics.

Materials and methods. The sample consisted of 100 dispensary alcoholics with determination for abstinence and willingness to cooperate, of which 56 men (56 %) and 44 women (44 %). The average age of the respondents was 40.14 years (15 to 72 years). The survey was carried out in the time horizon from March 2023 to June 2023. The survey was preceded by addressing representatives of individual groups of dispensary, anonymous alcoholics through a psychiatric outpatient clinic. The standardized questionnaire SF-36 (Medical Outcomes Study 36-Item Short Form) was used for data collection, which was used to assess the quality of life, and the standardized MMSE (Mini-Mental-State-Examination) questionnaire was used to assess the cognitive state. The return rate of the questionnaires was 100 %. For statistical analysis, given the investigated relationships and the nature of the data, we used the Crombach's alpha reliability test, the Kolmogorov-Smirnov normality test, the Shapiro-Wilk normality test, the Mann-Whitney U-test for 2 independent samples, the T-test for 2 independent samples and Spearman's correlation test. We used each of these tests in accordance with the nature of the specific data. We performed statistical analysis in the SPSS 22 program. We used Microsoft Word and Excel applications to generate tables and graphs.

The study was conducted in a psychiatric outpatient clinic on the basis of the written consent of the psychiatrist of the psychiatric outpatient clinic, as well as with consent for the publication of the obtained results. The questionnaire survey was anonymous and voluntary. Permission to indicate the name of the outpatient clinic in the publication was not granted. During the study, the authors were guided by Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (GDPR), as well as by Act No. 18/2018 Coll. of the Slovak Republic on the Protection of Personal Data and on Amendments and Supplements to Certain Acts.

Results of the study. In the intentions of the first objective of the empirical investigation, we determined the difference in the quality of life and the level of cognitive functions of alcoholics in relation to the gender of the studied group. These data are presented in Table 1.

Table 1

Comparison of quality of life and level of cognitive functions in alcoholics in relation to gender – men and women

Parameter	Sex	Mean rank	Statistical deviation	Median	Min.	Max.	Mann-Whitney U test	P
Quality of life	men	86.89	12.605	90.00	57	112	326.000	0.000
	women	106.82	11.596	108.00	82	126		
Cognitive functions	men	18.66	5.577	21.00	7	28	1071.500	0.263
	women	19.86	5.028	21.00	11	29		

Analyzing the results, we found that the quality of life for men was 86.8 and for women 106.82. Statistical analysis of the results showed a significant difference in the quality of life of alcoholics between men and women ($p<0.000$). When verifying the differentiation in the level of cognitive functions of alcoholics, we noted that cognitive functions in men were at the level of 18.66 and in women at the level of 19.86. Differences in the level of cognitive functions between men and women are unnoticeable and reach low statistical significance ($p<0.263$).

The second empirical aim was to verify the differentiations in the quality of life and the level of cognitive functions of alcoholics with filiation by age group. Table 2 presents this comparison.

Table 2

Comparison of the level of quality of life and cognitive functions in alcoholics in relation to age

Age	Mean rank	Statistical deviation	Median	Minimum	Maximum	T-test	P
Quality of life							
< 40 years old	101.02	14.014	100.00	75	126	3.708	0.000
> 40 years old	90.08	15.476	91.00	57	120		
Cognitive functions						Mann-Whitney U test	P
< 40 years old	22.49	2.976	22.00	12	29	340.500	0.000
>40 years old	15.76	5.117	15.00	7	28		

The level of quality of life for alcoholics under the age of 40 reached the value of 101.02, but for alcoholics over the age of 40 it reached the value of 90.08. By testing the results through a parametric T-test for independent 2 samples, we note a significant statistical significance ($p<0.000$). When verifying the level of cognitive functions, we observe a value of 22.49 for alcoholics under 40 years of age and 15.76 for alcoholics over 40 years of age. In this case too, we can state high statistical significance ($p<0.000$).

Another aim of the empirical investigation was to map the existence of a relationship between the quality of life and the level of cognitive functions in alcoholics (Fig. 1).

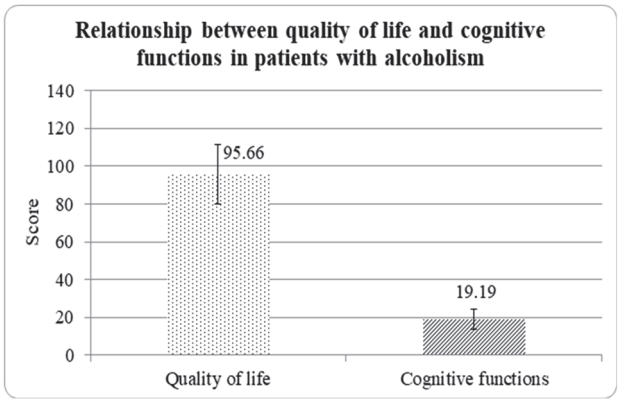

Fig. 1. Relationship between quality of life and cognitive functions in alcoholics.

Data analysis records discrepancies between the quality of life, which reached a value of 95.66, and the level of cognitive functions, which was at the level of 19.19. Considering the distribution of the data and the nature of the variables through which we wanted to determine the relationship between the quality of life and the level of cognitive functions, we used the non-parametric Spearman correlation test. By evaluating the test, we found a weak statistical relationship between the quality of life and the level of cognitive functions in alcoholics ($p<0.001$).

Discussion. In the context of health care, alcohol use disorder represents a significant challenge, which includes a spectrum of problems from moderate drinking to severe dependence [9]. The World Health Organization (WHO) categorizes alcoholism as a major contributor to the global burden of disease, emphasizing its impact not only on physical health but also on psychological well-being and social functioning [15]. In 2020, 1.03 billion men and 312 million women worldwide consumed amounts of alcohol that exceeded the alcohol-free equivalent, contributing to a total of 1.78 million deaths in the same year. Excessive alcohol consumption has been shown to be the primary risk factor for mortality in men aged 15–49 years [2]. The goal of alcoholism therapy is not only to stop excessive drinking or achieve abstinence, but also to improve biopsychosocial functioning and quality of life in people with alcoholism [4].

Many authors in their studies appeal to the importance of integrating quality of life assessment into treatment and management strategies for substance use disorders of all types, emphasizing a paradigm shift toward patient-centered care. This approach is not only aimed at reducing alcohol consumption and treating comorbid conditions, but also emphasizes improving the overall quality of life of these individuals [8].

Recent studies have found a significant deterioration in the quality of life in individuals with alcohol use disorder, especially with regard to their physical and psychological health [11, 17].

The aim of our study was to find out if there is a difference in the quality of life between male and female alcoholics. Based on our results, we can state statistically significant differences in the quality of life between men and women ($p<0.000$), in which men showed a lower level of quality of life (86.89) than women (106.82). The results of the study by the authors Robles-Martínez et al. [14], however, point (112 respondents, 85 men and 27 women) to a lower quality of life in women, especially in the categories of social function and emotional role than in men, the results of Peters, Millward, Foster (2003) show that almost of all measured WHOQOL (The World Health Organization Quality of Life) parameters, the quality of life in women with alcoholism was worse than in men. A particular sign of impaired WHOQOL in women who use alcohol is disturbed sleep with depression. Individuals with an alcohol use disorder also show deficits in the entire spectrum of cognitive processes [7]. Studies suggest that excessive alcohol consumption has a more negative effect on cognition in women than in men. According to Van den Berg et al. (2017) who investigated differences in cognition between men and women did not prove to be significant, which correlates with the findings in our study [16]. When examining the level of cognitive functions between male alcoholics and female alcoholics, we note a small statistical significance due to the p value, which was <0.263. Correlations in the results are also recorded in the study by Zanjani et al. (2013), which did not show a statistically significant difference between men and women addicted to alcohol in the level of the investigated cognitive functions. Other findings are presented by Valmas et al. (2014), who concluded that cognitive impairment in alcoholics is more severe in men than in women.

Quality of life is a dynamic index that is perceived as an individual's well-being. It can be affected by various factors, including age. Some evidence suggests that age as one of the demographic indicators is important not only for the classification of the onset of alcoholism, but also for the assessment of the level of quality of life of alcoholics and their cognitive functions. Measuring the quality of life and the level of cognitive functions with respect to the age structure of alcoholics has a significant prognostic value in therapeutic conditions; for example, when choosing and evaluating the effectiveness of a specific treatment procedure or nursing interventions [12]. Considerable statistical significance in the quality of life of alcoholics due to the age structure ($p<0.000$) is also noted in our study. In the research observation of alcoholics under the age of 40, it reached a value of 101.02, while for alcoholics over the age of 40 it reached a value of 90.08. Jeyalaksmi, Kalaiyarasi (2015) addressed this issue in their study (100 alcoholics), whose results point to other findings in connection with the quality of life in relation to the age structure ($p<0.087$). In the research observation of alcoholics, there was a minimal difference in the level of quality of life between the ages of 40 and over. The authors of Chikkerahalla (2019) (100

alcoholics) came to similar conclusions in their cross-sectional descriptive studies, who presented that the quality of life in alcoholics with an average age of 39.08 was significantly affected, but was significantly bad in the domain of physical health, and Daeppen et al. (2014) also record a poor quality of life and significance in the domain of physical health, but in alcoholics with an average age of 45.6 years [1]. I record a high statistical significance ($p<0.001$) in the area of cognitive functions in alcoholics, who at the age of less than 40 showed a higher level of cognitive functions (22.49) than alcoholics older than 40 (15.76). We note a significant connection with the results of our study with the results of the study by Han, Jia (2021), where it was demonstrated that alcohol consumption has a negative and long-term effect on cognitive functions in seniors compared to younger adult alcoholics [5]. We register partial correlations in the results in the study by George et al. (2022), where alcoholics with an average age of 51 years had poor cognitive performance [3]. The subject of our empirical investigation was also to find out if there is a relationship between the level of quality of life of alcoholics and the level of cognitive functions in alcoholics. The results show that there is a weak statistical relationship between the level of quality of life of alcoholics and the level of cognitive functions of alcoholics ($p<0.001$), which corresponds to the results of the study by Gür et al. (2017), where quality of life significantly influenced the level of cognitive functions of patients with with alcoholism. Our findings are also confirmed by the study by Piekarski et al. (2022), where the results of the survey point to a deteriorated level of quality of life in relation to the negative level of cognitive functions in patients with alcoholism [13].

Limitations. The study was limited by its single-center design and by the inclusion of only dispensary patients with alcoholism who were motivated to maintain abstinence and willing to cooperate.

Conclusions

1. Alcohol dependence negatively affects patients' mental and physical health, family and interpersonal relationships, as well as occupational functioning, resulting in a marked deterioration in quality of life.

2. Alcoholism also has an adverse effect on cognitive status, which may substantially impair daily functioning, work performance, and social interaction.

3. Improvement in the quality of life of patients with alcoholism requires a comprehensive approach that includes addiction treatment, psychological support, and consideration of individual patient needs.

4. The obtained results may contribute to the implementation of appropriate therapeutic and nursing interventions aimed at preventing further deterioration in quality of life and cognitive functioning among patients with alcoholism.

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Conflict of interest. The authors have no conflicts of interest to declare.

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PERIPAPILLARY MICROVASCULAR ALTERATIONS AFTER SILICONE OIL TAMPONADE ASSESSED BY OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY

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Silicone oil tamponade is widely used in the surgical treatment of complex retinal disorders; however, its possible influence on the microcirculation of the optic nerve remains insufficiently investigated. This exploratory longitudinal study evaluated changes in peripapillary microcirculation after silicone oil removal in patients who underwent vitreoretinal surgery with prolonged silicone oil tamponade. Twenty eyes of nineteen patients were followed after silicone oil removal and divided into two groups according to tamponade duration of one to six months and six to twelve months. Peripapillary microvascular parameters were assessed repeatedly during a twelve-month follow-up period. Both peripapillary vessel density and blood flow index demonstrated gradual improvement after silicone oil removal in both groups. Eyes with a shorter duration of silicone oil tamponade showed a more favorable pattern of microvascular recovery throughout follow-up. These findings suggest that prolonged silicone oil tamponade may be associated with slower restoration of peripapillary microcirculation after surgery.

Key words: vitreoretinal surgery, peripapillary microcirculation, optical coherence tomography angiography, optic nerve, retinal detachment, silicone oil tamponade.

Хаджи І.Ф.

ПЕРИПАПІЛЯРНІ МІКРОСУДИННІ ЗМІНИ ПІСЛЯ ТАМПОНАДИ СИЛІКОНОВОЮ ОЛІЄЮ, ВИЗНАЧЕНІ ЗА ДОПОМОГОЮ ОПТИЧНОЇ КОГЕРЕНТНОЇ ТОМОГРАФІЇ-АНГІОГРАФІЇ

Тампонада силіконовою олією широко застосовується в хірургічному лікуванні складних захворювань сітківки; однак її можливий вплив на мікроциркуляцію зорового нерва залишається недостатньо вивченим. У цьому пошуковому продольному дослідженні оцінювали зміни перипапілярної мікроциркуляції після видалення силіконової олії у пацієнтів, які перенесли вітреоретинальну операцію з тривалою тампонадою силіконовою олією. Після видалення силіконової олії під наглядом перебували двадцять очей дев'ятнадцяти пацієнтів, яких було розподілено на дві групи залежно від тривалості тампонади: від одного до шести місяців та від шести до дванадцяти місяців. Перипапілярні мікросудинні параметри оцінювали повторно протягом 12-місячного періоду спостереження. Як щільність перипапілярних судин, так і індекс кровотоку демонстрували поступове поліпшення після видалення силіконової олії в обох групах. В очах із коротшою тривалістю тампонади силіконовою олією відзначалася сприятливіша динаміка відновлення мікроциркуляції протягом усього періоду спостереження. Отримані дані дають підстави припустити, що тривала тампонада силіконовою олією може бути пов'язана з повільнішим відновленням перипапілярної мікроциркуляції після операції.

Ключові слова: вітреоретинальна хірургія, перипапілярна мікроциркуляція, оптична когерентна томографія-ангіографія, зоровий нерв, відшарування сітківки, тампонада силіконовою олією.

Silicone oil (SO) has been widely used as a long-term intraocular tamponade for several decades in vitreoretinal surgery [5, 6, 9]. Since the introduction of intravitreal silicone oil in 1962, SO has become an integral component of modern vitreoretinal procedures, particularly in the management of complex retinal detachments associated with proliferative vitreoretinopathy, giant retinal tears, proliferative diabetic retinopathy, ocular trauma, and viral retinitis [3, 8, 9].