Neurologijos seminarai 2021; 25(89): 158–165
DOI: 10.29014/ns.2021.22

Early Subjective Cognitive Disorders and Their Relationship with Chronic Diseases, Subjective Hearing Difficulties, Burnout Syndrome, and Depression Among Middle-Aged Women

J. Pečeliūnienė*
I. Žukauskaitė**
V. Dovydėnas***

**Clinic of Internal Diseases, Family Medicine and Oncology, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University; Pharmacy Center, Institute of Biomedical Sciences, Faculty of Medicine, Vilnius University*

***Institute of Psychology, Faculty of Philosophy, Vilnius University*

****Faculty of Medicine, Vilnius University*

Summary. *Introduction.* With the increase in cognitive impairment among young people, it is important to timely identify and modify risk factors.

The aim of the study was to evaluate early cognitive disorders in relationship with subjective hearing disorders, burnout syndrome, and depression among middle-aged women.

Methods. The study involved 310 women aged 26 to 59 years (M=38.6). An online survey was created. Respondents filled in the Cognitive Failures Questionnaire (CFQ), Subjective Cognitive Complaints (SCCs) questionnaire, Shirom-Melamed Burnout Measure (SMBM), and Geriatric Depression Scale (GDS). Sociodemographic factors, addictions, subjectively reported presence of chronic diseases, and subjective hearing disorders were registered by the study questionnaire. Student's t-test, Chi-square test, Fisher's exact test, and logistic regression analysis (LRA) were used for data analysis.

Results. 34 females (11%) had subjective cognitive failures (CF+ group) and 276 (89%) had not (CF- group). 28.7% of respondents had subjective cognitive complaints (SCC+ group) and 71.3% had not (SCC- group). 23 females (7.4%) had depression and 62 females (20%) were likely to be depressed. 34 (11%) females had significant symptoms of burnout. 30.6% (N=95) self-reported having chronic diseases. 14.84% of females had subjective hearing disorders. The CF+ group had higher GDS scores than the CF- group (M=6.88 vs. M=3.78, p<0.001). Hypothyroidism was the only disease in which differences between the SCC+ and the SCC- groups were found (12.4% vs. 4.5%, p=0.022). Respondents in the CF+ group more often had subjective hearing disorders compared to the CF- group (35.3% vs. 12.3%, p=0.001). The CF+ and the CF-, also the SCC+ and the SCC- groups did not differ by comparing alcohol and drug consumption habits.

Conclusions. Depression, burnout syndrome, and subjective hearing disorders are related to subjective experienced cognitive dysfunction, and cognitive complaints are related to hypothyroidism in middle-aged women.

Keywords: subjective cognitive disorders, complaints, burnout, depression, hearing, middle-aged, women.

INTRODUCTION

Dementia is a syndrome with heterogeneity acknowledged at the phenotypical and molecular levels [1], which has a significant impact on the medical and economical burden. Early cognitive disorders or mild cognitive impairment (CI) may be the beginning of dementia. Three-year rates of conversion to dementia are possible for 46% of persons with CI compared to only 3.3% of those without

Address:
Jūratė Pečeliūnienė
Vilnius University, Faculty of Medicine
M. K. Čiurlionio St. 21, LT-03101 Vilnius, Lithuania
E-mail: jurate.peceliuniene@mf.vu.lt

impairment converted to dementia [2]. A 1-year conversion rate from mild CI to dementia is estimated to be from 5% to 20% for persons with mild CI [3].

Based on the World Health Organisation data, 50 million people worldwide currently live with dementia, and by 2050 three times more people will be diagnosed with dementia [4]. In 2019, there were 11.67 cases per 1,000 population in Lithuania, while in 2001 there were only 2.01 cases, thus, the number of cases increased more than a 5-fold [5].

Cognitive impairment is described as a status when a person has trouble remembering, learning new things, concentrating, or making decisions that affect his or her everyday life. Cognitive impairment ranges from mild to severe. With mild impairment, people may begin to notice changes in cognitive functions but still be able to perform their everyday activities. Severe levels of impairment can lead to losing the ability to understand the meaning or importance of something, as well as the ability to speak or write, resulting in the inability to live independently [6, 7]. Subjective cognitive decline, subjective cognitive complaints (SCCs) or failures are defined as self-perceived cognitive issues that may be associated with mild CI or dementia [8, 9].

Older age is one of the most important risk factors. Approximately 10% to 20% of people aged 65 years and older have mild CI from any cause [10], but some abilities peak and begin to decline in the 30s, for example, working memory [11]. According to the Alzheimer's Association, brain changes begin 20 or more years before symptoms arise, therefore timely diagnostics of CI is important [10].

Female gender is another risk factor for dementia because incidence rates of any form of dementia and Alzheimer's disease (AD) are greater in females than in males [12]. Education has a significant impact on the progression of dementia symptoms. There are data that conversion rates from mild CI to dementia are higher in people with fewer years of education [13]. Depression is another risk factor for CI and the development of dementia. Female sex is also a risk factor to have depression because females are almost twice as likely as males to suffer from episodes of depression, and the difference begins in midlife [14]. Cognitive functions in patients with depression decline significantly faster [15], and the risk for developing dementia in women with depression increases at the age of 45 years [16].

Burnout is related with clinically significant cognitive failures [17]. Females are exposed to more work-related pressures, they have higher expectations and more responsibilities which leads to an increased risk for burnout [18]. Younger males and females aged between 20–35 years are at a higher risk for burnout [19], and burnout at a younger age is related with significantly worse cognitive functions [17].

Metabolic syndrome, diabetes, cardiovascular disease [20], and chronic obstructive pulmonary disease [21] are related with an increased incidence of mild CI. Patients with multimorbidity also have a higher risk of mild CI [22]. Infectious diseases, oncology, cardiovascular diseases are more often diagnosed in males than in females, while metabolic diseases, musculoskeletal diseases are more often diagnosed in females than in males; also, chronic diseases in females are diagnosed at an older age than in males [23]. There are also data that chronic diseases are more often diagnosed in females than in males [24]. CI in females also tends to be diagnosed at an older age than in males, and cognitive decline is faster. The reason for the difference is thought to be better female verbal memory functions [25].

Hearing impairment is related with a faster cognitive decline with age [26]. Even modest hearing impairment impacts auditory speech comprehension, and hearing loss is related with increased cognitive demand during speech comprehension [27]. However, hearing disorders can develop due to changes in the central nervous system and impaired cognitive functions [28].

It is proven that management of risk factors such as artery hypertension, diabetes, obesity, and smoking reduces the probability of CI and the development of dementia [29]. Poor educational attainment, low socioeconomic status, heavy alcohol use, and poor cardiovascular health may be key targets for the prevention or delay of young-onset dementia [30]. Males are more likely than females to have harmful habits such as smoking or drinking alcohol, which increases the risk for comorbidities [31], but worse socioeconomic status has a significant impact on the development of comorbidities in females [32].

We hypothesised that chronic diseases, depression, burnout, sociodemographic factors, smoking, and alcohol consumption are positively related to subjective cognitive issues in middle-aged women.

THE AIM

The study aimed to evaluate early cognitive disorders and their relationship with chronic diseases, subjective human speech understanding difficulties, burnout syndrome, and depression among middle-aged women.

Main objectives:

1. To evaluate the relationship between subjectively reported (SR) cognitive functions, SCC, and chronic diseases.

2. To compare SR cognitive functions between middle-aged women with and without chronic diseases.

3. To evaluate the relationship between SR cognitive functions, SCC, and depression.

4. To evaluate the relationship between SR cognitive impairment and sociodemographic factors.

5. To evaluate the relationship between SR cognitive functions and smoking, alcohol, and drug consumption habits.

6. To compare SR cognitive functions in middle-aged women with and without burnout.

METHODS

The study was conducted from September to November 2020. An online survey was created and uploaded to www.apklausa.lt. Before starting the survey, the participants were introduced to the researchers, the aim of the study, and were informed that they agree to participate in the study by submitting answers. The survey could only be completed once. Respondents filled in the Cognitive Failures Questionnaire (CFQ), Subjective Cognitive Complaints (SCCs) questionnaire, Shirom-Melamed Burnout Measure (SMBM), and Geriatric Depression Scale (GDS). For self-reported chronic diseases, a list of diseases was provided. Also, data on sociodemographic factors, smoking, alcohol and drug consumption habits, sleep disorders, and the use of supplements and medications were collected using the Patient questionnaire. Subjective hearing disorders were registered by answering the following six questions: which gender voice (male or female) is easier to understand; whether they have received recommendations to have their hearing checked; whether there are any difficulties in understanding what is being said when several people speak; whether they get tired faster when communicating with other people; whether additional efforts are needed to understand other people; and whether there are any difficulties in understanding children voice.

310 respondents aged 26 to 59 years (M=38.6) took part in the study. Groups were formed depending on the results of CFQ and SCCs: CF+ group – respondents with subjectively reported cognitive impairment, scored 45 and more points in CFQ; CF- group – those without subjective cognitive impairment; SCC+ group – those with subjective cognitive complaints; and SCC- group – those without subjective cognitive complaints.

Microsoft Excel and IBM SPSS software, Student t-test, Chi-square test, Fisher's exact test, and logistic regression analysis (LRA) were used for data analysis.

RESULTS

241 (77.7%) females had a university degree, 54 (17.4%) had upper secondary, 10 (3.3%) – secondary, and 5 (1.6%) had lower secondary education. 184 (59.4%) females were married, 59 (19%) – single, 39 (12.6%) lived in partnership, 25 (8.1%) were divorced, and 3 (1%) were widows. Most of respondents were employed – 294 (94.8%), 11 (3.5%) were unemployed, 2 (0.6%) were secondary school students, and 3 (1%) were students. The CF+ and the CF-, also the SCC+ and the SCC-groups did not differ in sociodemographic factors.

34 females (11%) had subjective cognitive failures assessed by the Cognitive Failures Questionnaire and were included in the CF+ group. 28.7% of respondents (N=89) had subjective cognitive complaints and were included in the SCC+ group.

23 females (7.4%) had depression by GDS, 62 (20%) were likely to be depressed. 8 (23.5%) respondents in the CF+ group had depression, 10 (29.4%) were likely to be depressed. CF+ group had higher GDS scores than CF- group (M=6.88 vs. M=3.78, p<0.001). More than 4.4 points in SMBM and significant symptoms of burnout were observed in 34 (11%) females. CF+ group had a higher level of burnout than CF- group (M=4.04 vs. M=2.76, p<0.001). CF+ group also had higher levels of physical fatigue (M=4.33 vs. M=3.26, p<0.001), cognitive weariness (M=4.07 vs. M=2.46, p<0.001), and emotional exhaustion (M=3.38 vs. M=2.15, p<0.001). CF+ group more often than CF- group complained about insomnia (41.2% vs. 20.3%, p=0.006) and used sedatives (26.5% vs. 10.5%, p=0.007). LRA with all study variables revealed that CI by CFQ could only be predicted by cognitive weariness (Negelkerke R^2=0.245, correct classification of data is 88.7%) by using the SMBM.

30.6% (N=95) females reported they had chronic diseases (ChD). 46 respondents in the SCC+ group reported to have no ChD, 33 – one ChD, 5 – two ChD, 2 had three ChD, another 2 had four ChD, and 1 had five ChD. Most often self-reported ChD in the SCC+ group was hypothyroidism (18.03%, N=11) (Fig.). This was the only disease in which differences were found between SCC+ and SCC- groups (12.4% vs. 4.5%, p=0.022). Both groups did not differ compared to other self-reported diseases. CF- group more often reported the absence of ChD than CF+ group (71.4% vs. 52.9%, p=0.028). Both CF+ and CF- groups did not differ by other ChD.

14.84% of females had subjective hearing disorders. Respondents in the CF+ group more often had subjective hearing disorders compared to the CF- group (35.3% vs. 12.3%, p=0.001). CF+ group more often reported a better understanding of male than female voice compared to CF- group (17.6% vs. 1.4%, p<0.001). CF+ group was more likely to get recommendations from family or friends to have their hearing checked than CF- group (50.0% vs.

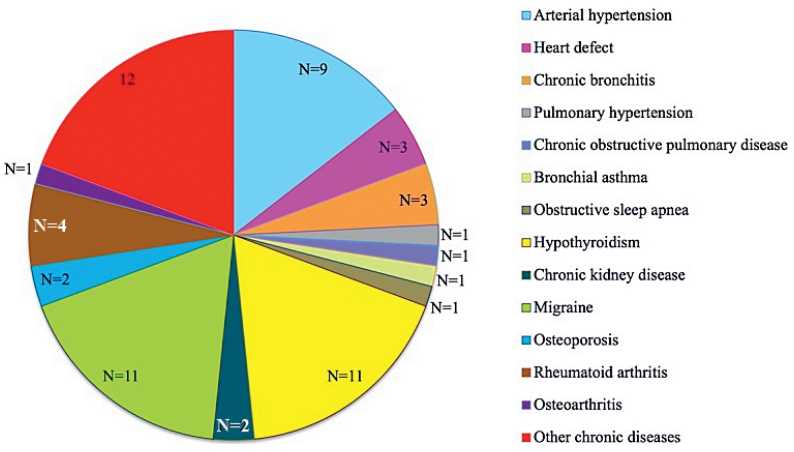

Fig. **Distribution of chronic diseases among those with subjective cognitive complaints, N=62**

22.1%, p=0.001). CF+ group had more difficulties than CF- group in understanding everything when several people spoke (47.1% vs. 10.9%, p<0.001). Faster fatigue when communicating was reported by more respondents in the CF+ group than in the CF- group (55.9% vs. 16.3%, p<0.001). Females in the CF+ group had more often to put effort when listening to a companion than in the CF- group (41.2% vs. 9.8%, p<0.001). More difficulties with understanding children voice reported CF+ group than CF- group (32.4% vs. 2.2%, p<0.001).

59 females (19%) reported to be current smokers, 39 (12.6%) had smoked in the past. CF+ group had a history of smoking more often than CF- group (35.5% vs. 9.8%, p<0.001). 254 (81.9%) females reported drinking alcohol and 4 (1.3%) females reported using drugs. The CF+ and CF-, also SCC+ and SCC- groups did not differ by comparing alcohol and drug consumption habits.

DISCUSSION

Subjective cognitive complaints are common in older adults. In population-based studies including both cognitively normal subjects and those with probable cognitive impairment, the prevalence of SCCs ranges from 10% to 81%. A higher rate of SCCs is usually associated with older age, poorer cognitive performance, and a higher level of depressive symptomatology. However, little is known about how specific SCCs may relate to each of these conditions, and this might account for some authors remaining skeptical about the importance of SCCs in preclinical 50 stages of AD [9]. A 2015–2016 study in the United States found that 11.2% of adults aged 45 years reported having subjective cognitive decline and between women – 11.0%. Results were similar to our findings, but C. A. Taylor et al.'s study involved patients aged 45 years and older and no comparison by the chronic diseases was performed [33].

The most common cause of cognitive decline beyond normal aging is AD. Pathological changes associated with AD begin decades before the clinical diagnosis of cognitive impairment, and biomarkers can be detected by positron emission tomography imaging of amyloid-beta (Abeta) or magnetic resonance imaging of the hippocampus or cerebrospinal fluid A together with a subtle cognitive decline. In early stages, highly educated subjects can compensate for a subtle cognitive decline, resulting in a normal performance on standard cognitive tests. However, the use of compensatory cognitive mechanisms does not prevent such individuals from self-experience of cognitive decline [9].

The Lancet Commission in 2020 upgraded the list of modifiable risk factors for dementia stating that hearing impairment has a major impact on the prevention of dementia in middle-aged and older adults (45–65 years) [34]. Yu An et al. also found a significant relationship between older age and worse cognition, as well as arterial hypertension, stroke, and cognitive impairment [35]. We did not find similar results perhaps due to the differences in sample size and age compared to Yu An et al.'s study which analyzed more than 2000 subjects aged 50–70 years. The same study also found a significant relationship between higher education and cognitive functioning [35].

The link between chronic diseases and cognitive impairment, as well as dementia, is well documented in scientific literature sources, however, our study showed the only significant relationship between subjective cognitive complaints and hypothyroidism. There were also more studies that confirmed the same relationship. C. Rieben et al. completed a meta-analysis that revealed a significant impact of subclinical hypothyroidism on the development of dementia [36].

P. Dawes et al. study showed that overall, 10.7% of adults aged 40 to 69 years had significant hearing impairment based on speech recognition and that female sex was related with small increased odds for insufficient speech reception, however, females tended to have slightly better mean performance at an older age [37]. Based on The Lancet Commission, 31.7% of middle-aged people have hearing impairment [34]. We found that 14.84% of females had subjective hearing disorders and 35.3% of those with cognitive failures (CF+ group). The relationship between cognitive decline and subclinical hearing loss was also observed in J. S. Golub et al.'s study [38]. S. G. Curhan et al. also confirmed the relation of hearing loss with cognitive failures by finding that self-reported hearing loss was related with a higher risk of subjective cognitive decline in women [39]. The relationship between hearing loss and cognitive impairment, as well as depression, was confirmed by G. Keidser et al.'s study in which 23–25% of females aged 40 to 60 years had hearing loss [40]. Almost 15% of our study participants had subjective hearing disorders, also there were differences in mean age and sample size compared to G. Keidser et al.'s study results (our study patients were younger); the prevalence of depression in patients with mild cognitive impairment was 32% in G. Keidser et al.'s study [40] compared to 23.5% in our population with cognitive failures. However, metaanalysis data showed that the prevalence of depression in patients with mild cognitive impairment is high, with the overall pooled prevalence of depression being 32% [41]. Adding the group of patients with probable depression (29.4%), we would suggest that mood disorders often occur in young patients with subjective cognitive issues.

A number of cross-sectional studies found SCCs in subjects without dementia to be associated with depressive symptomatology rather than with objective cognitive status [42–44], therefore the relevance of SCCs as a marker of cognitive decline due to neurodegeneration has been questioned by some authors [45]. However, it seems that the relationship between SCCs, objective cognition, and depressive symptomatology is much more complex. This complexity and absence of long-term longitudinal studies using biomarkers could be one of the reasons why the causal relationship between these factors remains

poorly understood. It has been proposed that depressive symptoms can be an early prodrome of dementia, that depression may lead to hippocampal dysfunction similarly as AD does [45–47], or that depressive symptoms may rather be a consequence of awareness of SCCs [48]. The limitation of our study is that we did not perform an objective cognitive evaluation. We found 29.4% of depression by the GDS, and 23.5% were found as possible depression cases. In D. W. Choi et al. study, a significant relationship was found between cognitive failures and depression in middle-aged women, while women with worse cognitive functioning had more severe depressive symptoms [49].

Other possible sources of incongruent findings among existing SCC studies are different approaches to assessing SCCs and cognition: some studies have applied screening tools to evaluate global cognitive status and only a few studies have administered complex cognitive batteries comprising traditional neuropsychological tests at the population level [9]. We did not perform objective cognitive evaluation. The use of screening tools to evaluate global cognitive function may have led to an underpowering of the relationship between SCCs and cognition, and we were not the first to point to this approach [9]. To date, there is no consensus or guidelines for "golden standard" tactics or instrument selection to assess SCCs. The Subjective Cognitive Complaints Questionnaire has been used to evaluate SCCs. It is a relatively brief and easy-to-administer tool for assessing SCCs that was originally developed to help primary care physicians identify subjects with cognitive impairment or depression, and has been applied to populations of patients with mild cognitive impairment (MCI), mild to moderate dementia due to AD, and patients with depressive syndrome [50, 51].

Burnout as a stress-related disorder is known to have mental exhaustion. The Cognitive Failures Questionnaire was first used by van der Linden and his colleagues to assess the level of self-reported attentional difficulties in daily life. The level of burnout symptoms was found to be significantly related to the number of cognitive failures in daily life and to inhibition errors and performance variability in the attentional tasks [52]. A study by G. Styraitė et al., in which 86.1% of the participants were women with a mean age of 43.95 years, revealed that 8.9% of the respondents had a significant burnout and 6.9% had cognitive burnout. A significant relationship between depression and overall burnout, as well as cognitive and emotional burnout, was confirmed [53]. The relationship between cognitive failures and burnout was also found in Ann Rudman et al. study: 12.3% of female participants had burnout, 11.4% had cognitive failures, and 5.6% had depression. Data revealed that those with burnout had 3.5-fold more often cognitive failures and 3-fold more often diagnosis of depression [54].

In our study, no relationship between subjective cognitive failures and alcohol, drug consumption, and smoking habits was found. Only those with smoking anamnesis in the past had significantly worse cognitive functioning. However, there are data confirming the relationship between cognitive failures and harmful habits: by the findings of J. Wu et al., middle-aged smokers and regular alcohol consumers had a 17% to 20% higher risk of cognitive impairment at an older age [55]. Also, our study found no significant relationship between sociodemographic factors and cognitive functions. A study by W. Chung et al. showed that middle-aged female homemakers were found to have a 5-fold higher risk of cognitive failures than working females [56]. Also, cognitive decline was found to be slower in those with higher education than among those with no education [57]. In our study, 80% of participants had a university degree and 95% were employed which would allow speculation on the results that showed no difference in cognitive failures and sociodemographic factors.

CONCLUSION

Our study revealed that a significant number of females had SCC as early as middle age. We found a significant relationship between SCC and hypothyroidism. Also, a significant relationship between subjective cognitive functions and depression was found emphasizing the importance of mood disorders for cognitive impairment. Finally, burnout was found to be related with subjective cognitive impairment, however, subjective cognitive failures could only be predicted from cognitive weariness. The results suggest that attention should be paid to depression, burnout, subjective hearing disorders, and hypothyroidism in young female patients with subjective cognitive issues.

References

1. Assal F. History of dementia. Front Neurol Neurosci 2019; 44: 118–26. https://doi.org/10.1159/000494959
2. Tschanz J, Welsh-Bohmer K, Lyketsos C, Corcoran C, Green R, Hayden K, et al. Conversion to dementia from mild cognitive disorder: The Cache County Study. Neurology 2006; 67(2): 229–34. https://doi.org/10.1212/01.wnl.0000224748.48011.84
3. Langa K, Levine D. The diagnosis and management of mild cognitive impairment. JAMA 2014; 312(23): 2551–61. https://doi.org/10.1001/jama.2014.13806
4. World Health Organization. Towards a dementia plan: a WHO guide [Internet]. Apps.who.int. 2018 [cited 22 Oct 2021]. Available from: https://apps.who.int/iris/handle/10665/272642
5. Higienos instituto Sveikatos informacijos centras. Lietuvos gyventojų sveikata ir sveikatos priežiūros įstaigų veikla 2019 m. [Internet]. Hi.lt. 2020 [cited 22 Oct 2021]. Available from: https://www.hi.lt/lt/lietuvos-gyventoju-sveikata-ir-sveikatos-prieziuros-istaigu-veikla-2013-m.html
6. Gauthier S, Reisberg B, Zaudig M, Petersen R, Ritchie K, Broich K, et al. Mild cognitive impairment. Lancet 2006; 367(9518): 1262–70. https://doi.org/10.1016/S0140-6736(06)68542-5

7. CDC. Cognitive impairment: a call for action, now! Available from: https://www.cdc.gov/aging/pdf/cognitive_impairment/cogimp_poilicy_final.pdf
8. van Harten A, Mielke M, Swenson-Dravis D, Hagen C, Edwards K, Roberts R, et al. Subjective cognitive decline and risk of MCI. Neurology 2018; 91(4): e300–12. https://doi.org/10.1212/WNL.0000000000005863
9. Markova H, Andel R, Stepankova H, Kopecek M, Nikolai T, Hort J, et al. Subjective cognitive complaints in cognitively healthy older adults and their relationship to cognitive performance and depressive symptoms. J Alzheimer's Dis 2017; 59(3): 871–81. https://doi.org/10.3233/JAD-160970
10. Alzheimer's Association. 2019 Alzheimer's disease facts and figures. Alzheimers Dement 2019; 15(3): 321–87. https://doi.org/10.1016/j.jalz.2019.01.010
11. Hartshorne J, Germine L. When does cognitive functioning peak? The asynchronous rise and fall of different cognitive abilities across the life span. Psychol Sci 2015; 26(4): 433–43. https://doi.org/10.1177/0956797614567339
12. Beam C, Kaneshiro C, Jang J, Reynolds C, Pedersen N, Gatz M. Differences between women and men in incidence rates of dementia and Alzheimer's disease. J Alzheimer's Dis 2018; 64(4): 1077–83. https://doi.org/10.3233/JAD-180141
13. Göthlin M, Eckerström M, Rolstad S, Kettunen P, Wallin A. Better prognostic accuracy in younger mild cognitive impairment patients with more years of education. Alzheimers Dement (Amst) 2018; 10(1): 402–12. https://doi.org/10.1016/j.dadm.2018.05.001
14. Sassarini J. Depression in midlife women. Maturitas 2016; 94: 149–54. https://doi.org/10.1016/j.maturitas.2016.09.004
15. Riddle M, Potter G, McQuoid D, Steffens D, Beyer J, Taylor W. Longitudinal cognitive outcomes of clinical phenotypes of late-life depression. Am J Geriatr Psychiatry 2017; 25(10): 1123–34. https://doi.org/10.1016/j.jagp.2017.03.016
16. Yu O, Jung B, Go H, Park M, Ha I. Association between dementia and depression: a retrospective study using the Korean National Health Insurance Service-National Sample Cohort database. BMJ Open 2020; 10(10): e034924. https://doi.org/10.1136/bmjopen-2019-034924
17. He S, Zhang Y, Zhan J, Wang C, Du X, Yin G, et al. Burnout and cognitive impairment: associated with serum BDNF in a Chinese Han population. Psychoneuroendocrinology 2017; 77: 236–43. https://doi.org/10.1016/j.psyneuen.2017.01.002
18. Aldossari M, Chaudhry S. Women and burnout in the context of a pandemic. Gend Work Organ 2020; 28(2): 826–34. https://doi.org/10.1111/gwao.12567
19. Marchand A, Blanc M, Beauregard N. Do age and gender contribute to workers' burnout symptoms? Occup Med 2018; 68(6): 405–11. https://doi.org/10.1093/occmed/kqy088
20. Ng T, Feng L, Nyunt M, Feng L, Gao Q, Lim M, et al. Metabolic syndrome and the risk of mild cognitive impairment and progression to dementia. JAMA Neurol 2016; 73(4): 456–63. https://doi.org/10.1001/jamaneurol.2015.4899
21. Liao K, Ho C, Ko S, Li C. Increased risk of dementia in patients with chronic obstructive pulmonary disease. Medicine (Baltimore) 2015; 94(23): e930. https://doi.org/10.1097/MD.0000000000000930
22. Vassilaki M, Aakre J, Cha R, Kremers W, St. Sauver J, Mielke M, et al. Multimorbidity and risk of mild cognitive impairment. J Am Geriatr Soc 2015; 63(9): 1783–90. https://doi.org/10.1111/jgs.13612
23. Westergaard D, Moseley P, Sørup F, Baldi P, Brunak S. Population-wide analysis of differences in disease progression patterns in men and women. Nat Commun 2019; 10(1): 666. https://doi.org/10.1038/s41467-019-08475-9
24. Abad-Díez J, Calderón-Larrañaga A, Poncel-Falcó A, Poblador-Plou B, Calderón-Meza J, Sicras-Mainar A, et al. Age and gender differences in the prevalence and patterns of multimorbidity in the older population. BMC Geriatrics 2014; 14(1): 75. https://doi.org/10.1186/1471-2318-14-75
25. Sundermann E, Maki P, Biegon A, Lipton R, Mielke M, Machulda M, et al. Sex-specific norms for verbal memory tests may improve diagnostic accuracy of amnestic MCI. Neurology 2019; 23(20): e1881–9. https://doi.org/10.1212/WNL.0000000000008467
26. Alattar A, Bergstrom J, Laughlin G, Kritz-Silverstein D, Richard E, Reas E, et al. Hearing impairment and cognitive decline in older, community-dwelling adults. J Gerontol: Series A 2019; 75(3): 567–73. https://doi.org/10.1093/gerona/glz035
27. Lee Y, Wingfield A, Min N, Kotloff E, Grossman M, Peelle J. Differences in hearing acuity among "normal-hearing" young adults modulate the neural basis for speech comprehension. eNeuro 2018; 5(3): ENEURO.0263-17.2018. https://doi.org/10.1523/ENEURO.0263-17.2018
28. Lister J, Bush A, Edwards J, Andel R, Fulton S. Mechanisms of the hearing-cognition relationship. Semin Hear 2015; 36(03): 140–9. https://doi.org/10.1055/s-0035-1555117
29. Baumgart M, Snyder H, Carrillo M, Fazio S, Kim H, Johns H. Summary of the evidence on modifiable risk factors for cognitive decline and dementia: a population-based perspective. Alzheimers Dement 2015; 11(6): 718–26. https://doi.org/10.1016/j.jalz.2015.05.016
30. Cations M, Withall A, Draper B. Modifiable risk factors for young onset dementia. Curr Opin Psychiatry 2019; 32(2): 138–43. https://doi.org/10.1097/YCO.0000000000000475
31. Cui Y, Zhu Q, Lou C, Gao E, Cheng Y, Zabin L, et al. Gender differences in cigarette smoking and alcohol drinking among adolescents and young adults in Hanoi, Shanghai, and Taipei. J Int Med Res 2018; 46(12): 5257–68. https://doi.org/10.1177/0300060518807292
32. Alimohammadian M, Majidi A, Yaseri M, Ahmadi B, Islami F, Derakhshan M, et al. Multimorbidity as an important issue among women: results of a gender difference investigation in a large population-based cross-sectional study in West Asia. BMJ Open 2017; 7(5): e013548. https://doi.org/10.1136/bmjopen-2016-013548
33. Taylor C, Bouldin E, McGuire L. Subjective cognitive decline among adults aged 45 years – United States, 2015–2016. Morb Mortal Wkly Rep 2018; 67(27): 753–7. https://doi.org/10.15585/mmwr.mm6727a1
34. Livingston G, Huntley J, Sommerlad A, Ames D, Ballard C, Banerjee S, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. Lancet 2020; 396(10248): 413–46. https://doi.org/10.1016/S0140-6736(20)30367-6
35. An Y, Feng L, Zhang X, Wang Y, Wang Y, Tao L, et al. Patterns of cognitive function in middle-aged and elderly Chinese adults-findings from the EMCOA study. Alzheimers Res Ther 2018; 10(1): 93. https://doi.org/10.1186/s13195-018-0421-8
36. Rieben C, Segna D, da Costa B, Collet T, Chaker L, Aubert C, et al. Subclinical thyroid dysfunction and the risk of cognitive decline: a meta-analysis of prospective cohort studies. J Clin

Endocrinol Metab 2016; 101(12): 4945–54. https://doi.org/10.1210/jc.2016-2129

37. Dawes P, Fortnum H, Moore D, Emsley R, Norman P, Cruickshanks K, et al. Hearing in middle age. Ear Hear 2014; 35(3): e44–51. https://doi.org/10.1097/AUD.0000000000000010
38. Golub J, Brickman A, Ciarleglio A, Schupf N, Luchsinger J. Association of subclinical hearing loss with cognitive performance. JAMA Otolaryngol Head Neck Surg 2020; 146(1): 57–67. https://doi.org/10.1001/jamaoto.2019.3375
39. Curhan SG, Willett WC, Grodstein F, Curhan GC. Longitudinal study of self-reported hearing loss and subjective cognitive function decline in women. Alzheimers Dement 2020; 16(4): 610–20. https://doi.org/10.1016/j.jalz.2019.08.194
40. Keidser G, Seeto M. The influence of social interaction and physical health on the association between hearing and depression with age and gender. Trends Hear 2017; 21: 2331216517706395. https://doi.org/10.1177/2331216517706395
41. Ismail Z, Elbayoumi H, Fischer C, Hogan D, Millikin C, Schweizer T, et al. Prevalence of depression in patients with mild cognitive impairment. JAMA Psychiatry 2017; 74(1): 58–67. https://doi.org/10.1001/jamapsychiatry.2016.3162
42. Balash Y, Mordechovich M, Shabtai H, Giladi N, Gurevich T, Korczyn A. Subjective memory complaints in elders: depression, anxiety, or cognitive decline? Acta Neurol Scand 2013; 127(5): 344–50. https://doi.org/10.1111/ane.12038
43. Hohman T, Beason-Held L, Lamar M, Resnick S. Subjective cognitive complaints and longitudinal changes in memory and brain function. Neuropsychology 2011; 25(1): 125–30. https://doi.org/10.1037/a0020859
44. Zlatar Z, Moore R, Palmer B, Thompson W, Jeste D. Cognitive complaints correlate with depression rather than concurrent objective cognitive impairment in the successful aging evaluation baseline sample. J Geriatr Psychiatry Neurol 2014; 27(3): 181–7. https://doi.org/10.1177/0891988714524628
45. Dubois B, Hampel H, Feldman H, Scheltens P, Aisen P, Andrieu S, et al. Preclinical Alzheimer's disease: definition, natural history, and diagnostic criteria. Alzheimers Dement 2016; 12(3): 292–323. https://doi.org/10.1016/j.jalz.2016.02.002
46. Jorm A. History of depression as a risk factor for dementia: an updated review. Aust N Z J Psychiatry 2001; 35(6): 776–81. https://doi.org/10.1046/j.1440-1614.2001.00967.x
47. Green R, Cupples L, Kurz A, Auerbach S, Go R, Sadovnick D, et al. Depression as a risk factor for Alzheimer disease. Arch Neurol 2003; 60(5): 753–9. https://doi.org/10.1001/archneur.60.5.753
48. Mendonça M, Alves L, Bugalho P. From subjective cognitive complaints to dementia. Am J Alzheimers Dis Other Demen 2015; 31(2): 105–14. https://doi.org/10.1177/1533317515592331
49. Choi D, Han K, Jeon J, Jang S, Kim S, Park E. Association between depressive-symptom trajectories and cognitive function in the late middle-aged and older population: results of the Korean Longitudinal Study of Ageing. Sci Rep 2019; 9(1): 7807. https://doi.org/10.1038/s41598-019-44158-7
50. Thomas-Antérion C, Ribas C, Honoré-Masson S, Berne G, Ruel P, Laurent B. Le questionnaire de plainte cognitive (QPC): un outil de recherche de plainte suspecte d'evoquer une maladie d'Alzheimer. Année Gérontol 2003; 17: 56–65. https://doi.org/10.1016/S0035-3787(04)70946-7
51. Thomas-Antérion C, Honoré-Masson S, Laurent B. The cognitive complaint interview (CCI). Psychogeriatrics 2006; 6(s1): 18–22. https://doi.org/10.1111/j.1479-8301.2006.00129.x
52. Linden D, Keijsers G, Eling P, Schaijk R. Work stress and attentional difficulties: an initial study on burnout and cognitive failures. Work Stress 2005; 19(1): 23–36. https://doi.org/10.1080/02678370500065275
53. Styraitė G, Pečeliūnienė J. Tyrimas parodė: kas dešimtas šeimos gydytojas Lietuvoje patiria perdegimą darbe | VU naujienos [Internet]. Naujienos.vu.lt. 2019 [cited 22 Oct 2021]. Available from: https://naujienos.vu.lt/tyrimas-parode-kas-desimtas-seimos-gydytojas-lietuvoje-patiria-perdegima-darbe/
54. Rudman A, Arborelius L, Dahlgren A, Finnes A, Gustavsson P. Consequences of early career nurse burnout: a prospective long-term follow-up on cognitive functions, depressive symptoms, and insomnia. EClinicalMedicine 2020; 27: 100565. https://doi.org/10.1016/j.eclinm.2020.100565
55. Wu J, Dong W, Pan X, Feng L, Yuan J, Pan A, et al. Relation of cigarette smoking and alcohol drinking in midlife with risk of cognitive impairment in late life: the Singapore Chinese Health Study. Age Ageing 2018; 48(1): 101–7. https://doi.org/10.1093/ageing/afy166
56. Chung W, Kim R. Which occupation is highly associated with cognitive impairment? A gender-specific longitudinal study of paid and unpaid occupations in South Korea. Int J Environ Res Public Health 2020; 17(21): 7749. https://doi.org/10.3390/ijerph17217749
57. Liu Y, Lachman M. Education and cognition in middle age and later life: the mediating role of physical and cognitive activity. J Gerontol: Series B 2019; 75(7): e93–104. https://doi.org/10.1093/geronb/gbz020

J. Pečeliūnienė, I. Žukauskaitė, V. Dovydėnas

ANKSTYVIEJI, SUBJEKTYVIAI PATIRIAMI KOGNITYVINIAI SUTRIKIMAI IR JŲ SĄSAJOS SU LĖTINĖMIS LIGOMIS, SUBJEKTYVIAIS KLAUSOS SUNKUMAIS, PERDEGIMO SINDROMU IR DEPRESIJA VIDUTINIO AMŽIAUS MOTERŲ IMTYJE

Santrauka

Įvadas. Daugėjant kognityvinių sutrikimų tarp jaunų žmonių, svarbu laiku identifikuoti ir koreguoti rizikos veiksnius.

Tyrimo tikslas – įvertinti subjektyviai patiriamus ankstyvus kognityvinius sutrikimus ir jų sąsajas su subjektyviais klausos sunkumais, perdegimo sindromu ir depresija vidutinio amžiaus moterų imtyje.

Tiriamieji ir tyrimo metodai. Tyrime dalyvavo 310 moterų nuo 26 iki 59 m. amžiaus (vid. amžius – 38,6 m.). Užpildytas internetinis klausimynas, kurį sudarė pažintinių funkcijų įvertinimo (angl. *The Cognitive Failures Questionnaire*, CFQ), subjektyvus kognityvinių skundų klausimynai (angl. *Subjective Cognitive Complaints*, SCCs), Shirom-Melamed perdegimo skalė (angl. *The Shirom-Melamed Burnout Measure*, SMBM), geriatrinė depresijos skalė (angl. *The Geriatric Depression Scale*, GDS), klausimai apie sociodemografinius veiksnius, žalingus įpročius, diagnozuotas lėtines ligas, subjektyvius klausos sunkumus. Taikyti Stjudento t-testas, Pirsono Chi kvadratu, Fišerio testai, logistinės regresijos analizė.

Rezultatai. 34 moterys (11 %) turėjo subjektyviai patiriamų kognityvinių sutrikimų (CF+ grupė), 89 % neturėjo (CF- grupė). Subjektyvių kognityvinių skundų turėjo 28,7 % respondenčių (SCC+) grupė, o 71,3 % neturėjo (SCC- grupė). 23 respondentėms (7,4 %) nustatyta depresija, 62 (20 %) – galima depresija. Išreikštų perdegimo simptomų turėjo 34 (11 %) respondentės. Anketoje pažymėjo, kad lėtinėmis ligomis serga 30,6 % (N = 95) respondenčių. Iš visų respondenčių 14,84 % turėjo subjektyvių klausos sunkumų. CF+ grupė surinko vidutiniškai daugiau balų pagal GDS negu CF- grupė (6,88 vs. 3,78, p < 0,001). CF+ grupė surinko reikšmingai didesnį vidutinį balų skaičių perdegimo skalėje negu CF- grupė (4,04 vs. 2,76, p < 0,001). Iš lėtinių ligų tik hipotiroidizmas reikšmingai dažniau pasitaikė SCC+ grupėje nei SCC- grupėje (12,4 % vs. 4,6 %, p = 0,022). Subjektyvių klausos sunkumų dažniau turėjo CF+ grupė negu CF- grupė (35,3 % vs. 12,3 %, p = 0,001). Pagal sociodemografinius faktorius, alkoholio, narkotinių medžiagų vartojimą CF+ ir CF- bei SCC+ ir SCC- grupės reikšmingai nesiskyrė.

Išvados. Depresija, perdegimo sindromas ir subjektyvūs klausos sunkumai reikšmingai siejasi su subjektyviai patiriamų kognityvinių funkcijų sutrikimu vidutinio amžiaus moterų imtyje, o vertinant sąsajas su lėtinėmis ligomis, kognityviniai skundai reikšmingai siejasi su hipotiroidizmu.

Raktažodžiai: subjektyviai patiriami kognityviniai sutrikimai, skundai, perdegimas, depresija, klausa, vidutinis amžius, moterys.

Gauta: 2021 05 02

Priimta spaudai: 2021 06 29