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ir Palangos klinikos

LEIDĖJAI
Lietuvos biologinės psichiatrijos draugijos (LBPD)
Tvirtovės al. 90A LT-50154 Kaunas. Tel. (8 7) 331009, faksas (8 7) 331534
Lietuvos sveikatos mokslų universiteto Neuromokslų instituto
Elgesio medicinos laboratorija
Vydūno al. 4 LT–00135 Palanga. Tel. (8460) 30017

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Editorial

Dear Readers,

Presenting the December issue of the journal, I would like to review and summarize the activities of the Lithuanian Society of Biological Psychiatry (LSBP) during the last year period and to present some future events.

An important achievement is that LSBP has reached the 19th anniversary of its activity and remains a member of the World Federation of Societies of Biological Psychiatry. Despite the loss of our first President Dr. Robertas Bunevicius five years ago, our members have continued to spread ideas of biological psychiatry through activities and training for healthcare professionals, and by publishing our open access peer-reviewed psychiatric journal.

In June 2018 the new President and board members of the Society were elected. In my opinion- they form an excellent team. They are leaders of the main associations of psychiatrists, experienced neuroscientists and representatives of the principle medical Faculties of Lithuania, who joined to encourage closer cooperation. I would like to introduce our new Board members.

Dr. Vesta Steibliene, the president of LSBP is a doctor-psychiatrist and associated professor at a Psychiatric clinic, senior researcher and deputy director at the Neuroscience institute (NI) of the Lithuanian University of Health Sciences (LUHS). The Vice president of the LSBP is a young doctor-psychiatrist, and assistant lecturer at the Psychiatry clinic LUHS Edgaras Dirzius. At the moment Edgaras is a PhD student at the Vision neurophysiology laboratory at the Institute of Biology Systems and Genetic Research of LUHS and the president of the Association of Young Psychiatrists (YPA). The third board member, doctor-psychiatrist Prof., Dr. Arunas Germanavicius, who is working at the Psychiatry clinic of Vilnius University Medical faculty and leading Republican Vilnius Psychiatric hospital. Dr. Adomas Bunevicius is a neurosurgeon, senior researcher and the leader of the laboratory of Behavioral Medicine at NI LUHS. Adomas is also the Editor of the LSBP journal "Biological Psychiatry and Psychopharmacology". The fifth Board member is an experienced doctor-psychiatrist Dr. Ramune Mazaliauskiene, the leader of private medical clinic "Neuromeda", assistant lecturer at the Psychiatry Clinic, LUHS and the President of the Lithuanian Psychiatric Association.

Although the new Board have only been working together for six months, their achievements are obvious. In September 2018, a very successful scientific-clinical conference 'Psychotropic drug treatment – challenges and results' was organized in NI Palanga clinic. During the conference the important issues of the insomnia treatment and the role of benzodiazines in everyday practice were discussed. The incredible attendance in the conference hall showed once again the great interest of health care professionals in psychopharmacology and the future needs for such types of conferences.

The publication of the journal "Biological psychiatry and psychopharmacology" continues in 2018, and the periodicity has been maintained. This issue is already the second. We traditionally publish original scientific articles, reviews, psychiatric treatment recommendations and diagnostic instruments.

In the research article Vilma Liaugaudaite and her co-authors presented an investigation into the impact of the presence of mental disorders on a GP's workload, number of visits and number of involved specialists. Young neurosurgeon Domantas Tamasauskas with his colleagues from the Hospital of LUHS Kaunas Clinics presented a comparison of two different surgical approaches for resection of Olfactory Groove meningiomas.

In this issue we welcome a new section, dedicated to the research of young scientists. In the first article students of the Medical faculty of LUHS Goda Daugelaite and Greta Domantaite reported peoples' attitudes towards patients with depressive disorder and schizophrenia in relation with respondents' socio-demographic characteristics. In the second article by young scientists – doctor-psychiatrist resident Algirdas Musneckis and doctor-psychiatrist Ina Rybakova presented the evaluation of the relationship between among alcohol consumption habits of healthy Lithuanian men and their current sexual function.

Doctor psychiatrist resident Jonas Montvidas prepared a review of Patient Health Questionnaire-9 (PHQ-9) for use by Lithuanian clinicians.

I am pleased to mention the doctoral dissertation of Alicja Juskiene who evaluated the relationships between psychological and biological factors and obstructive sleep apnea in patients with coronary heart disease.

Looking to 2019, the Society lives in anticipation of new events. On February 8th, 2019 the LSBP in partnership with NI and the Psychiatry Clinic of LUHS and YPA are organizing an International conference in Vilnius titled: 'Current trends and future directions in Psychiatry'. Four international scientists – experts in psychiatry and neuroscience have been invited to give presentations: Prof. Eduard Vieta from Barcelona University, Prof. Eduard Maron, from the University of Tartu, Prof. Jari Tiihonen from the Karolinska Institute and Prof. Ingrid Melle from Oslo University. During this conference the members of LSBP will also present topics of their own scientific interests: Dr. Julius Burkauskas will speak about cognitive behavioral therapy in the treatment of depressive disorders. Doctor-psychiatrist Edgaras Dirzius – will present new indications of transcranial magnetic stimulation and Dr. Vesta Steibliene will discuss endocrinological disorders in schizophrenia. I hope it will be a great scientific event for our community and I am looking forward to meeting you in Vilnius.

At the same time, our team invites all those interested in biological psychiatry and psychopharmacology to visit our homepage www.biological-psychiatry.eu and become a member of the LSBP.

We wish you pleasant reading!

President of Lithuanian Society of Biological Psychiatry
dr. Vesta Steiblienė

The impact of mental disorders on workload in primary care

Psichikos sutrikimų poveikis pirminės sveikatos priežiūros apkrovai

Vilma LIAUGAUDAITE[1], Jurate PECELIUNIENE[2], Nijole RASKAUSKIENE[1], Narseta MICKUVIENE[1], Robertas BUNEVICIUS[3]

[1]Lithuanian University of Health Sciences, Neuroscience Institute, Kaunas, Lithuania

[2]Vilnius University, Faculty of Medicine, Vilnius, Lithuania

[3]Lithuanian University of Health Sciences, Kaunas, Lithuania

SUMMARY

Background. The general practitioners (GPs) state that patients with mental health problems make heavy demands on their available time. To what extent these perceived problems correspond with reality needs more investigation.

Objectives. To investigate the impact of the presence of mental disorders on GP's workload, expressed in number of visits, and number of specialists involved reported by primary care patients.

Methods. Data were derived from a cross-sectional survey in primary-care. For 12-week period, all patients' contacts with primary-care physician and other health care professionals were registered by using visits' frequency questionnaire. Current mental state was evaluated by using the Mini International Neuropsychiatric Interview (MINI). Workload measures were the number of visits, number of specialist(s) involved, reported by patients. Patients with documented psychiatric diagnoses established by GP were compared to patients with only somatic diagnosis, and patients with a mental disorder established by MINI were compared to patients without respective diagnosis.

Results. More than half (53.6%) of patients attending their GP had a current mental disorder during the previous 12-week period established by MINI. Most frequent mental disorders were generalized anxiety disorder (10.7%), major depressive disorder (8.1%) and suicidal ideation (8.5%). Patients with documented mood disorder diagnosed by GP visited psychiatrist about nine fold more often (adjusted OR=9, 2.7–29.5) than patients without respective disorder. Patients with documented mood disorder diagnosed by GP had been consulted by more specialists and had more contacts with them compared with patients with only somatic problems. Patients with current major depressive episode diagnosed by MINI visited psychiatrist more than four times frequently (adjusted OR=4.1, 1.6–10.4) than patients without respective diagnosis.

Conclusion. The presence of a mental disorder of any kind was significantly associated with patients' visits number so we can suppose also with GPs workload in primary care. Further research is needed to clarify possible association between patients' reported visits and statistical numbers confirmed by physicians to comprehensively evaluate GPs' workload.

Keywords. Primary care, general practitioner, workload, mental disorder, patient.

SANTRAUKA

Įvadas. Šeimos medicinos gydytojai (ŠMG) teigia, kad pacientai, turintys psichikos sveikatos sutrikimų, didina jų darbo krūvį. Kokiu mastu ši problema atitinka tikrovę, reikalingi išsamūs tyrimai.

Tikslas. Įvertinti psichikos sutrikimų buvimo sąsają su šeimos gydytojų darbo krūviu, išreikštu gydytojų specialistų ir kontaktų su pacientais skaičiumi, pagal besikreipiančių į pirminės sveikatos priežiūros grandį pacientų apklausą.

Metodai. Skerspjūvio tyrimas atliktas pirminės sveikatos priežiūros grandyje. Pacientų apklausos metu buvo pildomas apsilankymų dažnio klausimynas: 12 savaičių laikotarpiu buvo registruojami pacientų apsilankymai pas šeimos gydytojus ir kitus sveikatos priežiūros specialistus. Dabartinė psichikos sveikatos būklė buvo įvertinta naudojant MINI tarptautinę neuropsichiatrinę apklausą (MINI). Darbo krūvis buvo vertinamas apsilankymų pas šeimos gydytojus skaičiumi, gydytojų specialistų ir kontaktų su jais skaičiumi. Pacientų, kuriems šeimos gydytojai nustatė psichiatrinę diagnozę, duomenys buvo palyginti su pacientų, turinčių tik somatinius sutrikimus, duomenimis. Duomenys pacientų, kurių psichikos sutrikimai buvo nustatyti pagal MINI, buvo lyginami su pacientų be atitinkamos diagnozės duomenimis.

Rezultatai. Daugiau nei pusei (53,6 proc.) pacientų, besikreipiančių į ŠMG, buvo nustatytas dabartinis psichikos sutrikimas pagal MINI. Dažniausi psichikos sutrikimai buvo generalizuotas nerimo sutrikimas (10,7 proc.), dabartinis didžiosios depresijos epizodas (8,1 proc.) ir mintys apie savižudybę (8,5 proc.). Pacientai, kuriems buvo ŠMG diagnozuotas nuotaikos sutrikimas, lankėsi pas psichiatrą apie devynis kartus dažniau (OR=9,0; 2,7–29,5), nei pacientai, neturintys atitinkamo sutrikimo. Pacientai, kuriems buvo ŠMG diagnozuoti nuotaikos sutrikimai, buvo konsultuojami skirtingų gydytojų specialistų ir turėjo daugiau kontaktų su jais, nei pacientai tik su somatinėmis problemomis. Pacientai, kuriems diagnozuota depresija, lankėsi pas psichiatrą keturis kartus dažniau (OR=4,1; 1,6–10,4) nei pacientai, neturintys atitinkamos diagnozės.

Išvados. Bet kokio psichikos sutrikimo buvimas buvo reikšmingai susijęs su pacientų apsilankymų skaičiumi, kas didino ir ŠMG darbo krūvį. Ateityje reiktų įvertinti galimas sąsajas tarp subjektyvių pacientų apklausos rezultatų ir objektyvios gydytojų patvirtintos statistikos.

Raktažodžiai. Pirminė sveikatos priežiūra, šeimos medicinos gydytojas, darbo krūvis, psichikos sutrikimai, pacientas.

Corresponding author: Vilma Liaugaudaitė, Laboratory of Behavioral Medicine, Neuroscience Institute, Lithuanian University of Health Sciences, Palanga, Lithuania. Telephone number: +370 460 30028; E-mail: Vilma.Liaugaudaite@lsmuni.lt

INTRODUCTION

Increasing demands on general practice over the past years – not just a heavier workload but the increasing complexity and intensity of work – have been reported [1] . GPs report that patients' psychosocial problems play a part in 20% of all consultations [2]. GPs complain about the workload that patients' mental health problems induce: consultations with patients with psychosocial problems may be more time-consuming [3-6] under and the perceived burden is higher [7]. A higher workload due to patients' mental health problems is, for example, expressed in longer consultations [4, 8-11] and a higher contact rate for patients with mental health problems [9, 10]. The prevalence of mental disorders in primary care in Europe has been estimated to range approximately between 20% and 55% [12-14]. The most prevalent mental disorders presenting in primary care settings are depression, 5% to 20% [13], generalized anxiety disorder, 4% to 15%, [15], harmful alcohol use and dependence, 5% to 15% [16] and somatization disorders 1% to 5% [17]. Despite this high prevalence, primary care practitioners have difficulties in detecting about one third of those with mental health problems [18-20] and often have limited time to obtain a psychiatric history [21, 22]. General practitioners (GPs) treat more than 90 per cent of patients with mental disease [23].

Recognition of a patients' psychological problems by a general practitioner (GP) is important and challenging because it is the first critical step towards finding the appropriate care for the patient [11]. It has been shown that patients with mental health problems contact their general practice more often than patients with physical problems [8]. Additionally, discussing a patient's mental health problems requires specific communication skills that encourage the patients to disclose their psychological problems [24]. GPs report that mental health care is one of the components of their job that places particular demands on their time and increases their perceived burden [7]. And the GP workload has been for a while one of the most important already an important topic because GPs often raise concerns about their increasing workload and lack of time with their patients [7, 25].

The background to this subject is that dealing with patients' mental disorders is an essential part of the GP's job, although these problems are perceived as being very demanding. In this paper we investigate how mental disorders affect GPs workload in primary care.

METHODS

Subjects

A cross-sectional study of adults attending a primary care center was performed. During a 4-week period all (N=583) patients who visited their primary care physician were consecutively invited to participate in the study. The approval to conduct biomedical research was given by the Lithuanian Bioethics Committee. All patients gave their written consent. Response rate was 85% (N=496). Any acute status which required urgent medical care was the only one restriction on the patients' selection. For each patient sociodemographic data were obtained (age, sex, marital status and occupation). Number of patients' self-reported contacts with GP, psychiatrist and other specialists (cardiologist, gastroenterologist, dermatologist and other) per last 12 weeks was registered.

Measurements

Workload measures were the self-reported number of visits to primary care specialist, number of specialists involved in the patient's care. For screening of mental disorders in primary care we chose MINI [26, 27]. The MINI is a standardized and structured diagnostic interview that provides an extensive evaluation of psychiatric diagnoses according to the DSM-IV-TR criteria [28] and ICD-10 criteria, and is widely used in clinical trials and for non-research purposes [29]. The MINI is a validated instrument for evaluation of mental disorders in psychiatric populations and in general medical populations [30]. Administration of these modules of the MINI takes from 2 to 20 minutes, depending on the presence and complexity of psychiatric diagnoses.

Statistical analysis

Patients diagnosed with one or more mental disorders by MINI were compared to patients without respective diagnosis. Univariate analyses relied on parametric (Student's t-test) or non-parametric (Mann-Whitney's test) methods depending on the distribution of the characteristic considered. Multiple logistic regression was used for analysis; a probability value of <0.05 was considered significant. Social and demographic covariates in the analyses included age, sex, education (any post-secondary vs not), marital status (currently married vs not). The Statistical Package for Social Sciences for Windows program ver. 17.0 was used for statistical analysis.

RESULTS

Patient characteristics (N=496) included in our analyses are given in Table 1. The response rate was 85%. The mean age of the participants was 48.7±17.2 (range 18–89) years.

In Table 2 the main reasons for consultation are presented, with cardiovascular (22.6%), musculoskeletal system and the connective tissue problems (13.5%) and respiratory system (12.7%), being the most frequently cited. A mental problem as the main reason to the GP visit was not mentioned. Documented psychiatric diagnoses had 15.7 percent of patients, including more prevalent mood disorder (5.2%), insomnia (5%), and anxiety disorder (2.2%). Patients with a documented psychiatric diagnosis established by GP were on average significantly ($p<0.01$) older (55±16 years) than those in the only somatic group (47±17 years), especially patients with sleep disorders (62±14 years; $p<0.001$). In general, they were more often female (73% vs 61%), especially patients

Table 1. **Socio-demographic characteristics of the primary care patients (N=496)**

Characteristics	n (%)
Age, mean (range)	48.7 (17.2) (18–89)
Female	311 (62.7)
Marital status, currently married	330 (66.5)
Education, any postsecondary	384 (77.4)
Employed	322 (64.9)

Table 2. **Clinical characteristic of the primary care patients**

Characteristic	n (%)
The main reason for the consultation	
Cardiovascular system	112 (22.6)
Acute colds	11 (2.2)
Musculoskeletal system and the connective tissue	67 (13.5)
Digestive system	31 (6.3)
Respiratory system	63 (12.7)
Eye	10 (2.0)
Endocrine (Diabetes mellitus)	3 (0.6)
Administrative reason	97 (19.6)
Other	102 (20.6)
Psychiatric treatment	118 (23.8)
Documented psychiatric disorders by GP	78 (15.7)
Including:	
Psychosis	4 (0.8)
Mood disorder	26 (5.2)
Anxiety disorder	11 (2.2)
Insomnia	25 (5)
Other	12 (2.4)
Current mental disorders by MINI	266 (53.6)
Major depressive episode	40 (8.1)
Generalized anxiety disorder	53 (10.7)
Panic disorder	13 (2.6)
Social phobia	13 (2.6)
Posttraumatic stress disorder	8 (1.6)
Suicidal ideation	42 (8.5)
Excessive alcohol use	191 (38.5)

GP – general practitioner
MINI – Mini International Neuropsychiatric Interview

with mood disorders (92%). Patients with documented psychiatric diagnosis were more often unemployed (54% vs 32%, p<0.001), especially patients with mood disorders (46%, p<0.05) and insomnia (72%, p<0.001) diagnosed by GP. In general, the patients' characteristics in the specific categories of documented psychiatric diagnoses reflected the same differences compared to the only somatic group of patients as the total group of psychiatric diagnoses. Patients with 'other psychiatric diagnoses' and with sleep disorders were less well educated than patients with only somatic problems (p<0.001) (data not shown).

More than half (53.6%) of people attending their GP had a current mental disorder established by MINI. Most frequent mental disorders established by MINI were generalized anxiety disorder (10.7%), major depressive disorder (8.1%) and suicidal ideation (8.5%) (Table 2).

Table 3 summarizes the mean 12-week contact frequency reported by patient and number of specialists for consultation among patients with only somatic diagnoses and patients with documented psychiatric disorders diagnosed by GP. A distinction is made between patients with documented psychiatric disorders in the category 'mood disorder' and 'only somatic problem'. Patients with "mood disorder" contacted more specialists and had more contacts with them, compared to patients with only somatic problems (number of specialist, 1.81 vs 1.14; number of contacts, 4.50 vs 2.10, both p<0.05).

Table 3. **The mean 12-week contact frequency and number of specialists among patients with only somatic diagnoses and patients with documented psychiatric disorder diagnosed by GP**

Documented psychiatric disorder	Number of the specialists Mean (SD)	Contact frequency Mean (SD)
No (Only somatic problems)	1.14 (0.99)	2.10 (2.43)
Psychosis	1.75 (1.25)	2.25 (1.71)
Mood disorder	1.81 (1.17)*	4.50 (4.73)*
Anxiety disorder	1.64 (1.03)	2.54 (1.80)
Insomnia	1.64 (0.76)	3.32 (2.54)
Other	1.87 (1.72)	2.37 (2.44)

*p<0.05 compared with "only somatic problems" by general practitioner

Table 4 describes the results of a multiple logistic regression analysis, to test the age, gender and education adjusted relationship between documented psychiatric disorders diagnosed by GP and subjective workload (number of visits) of GP, psychiatrist or other specialists, reported by patients.

Patients with documented mood disorder diagnosed by GP visited nine fold more often psychiatrist (adjusted OR=9.0, 2.7–29.0) than patients without respective disorder (Table 4).

Table 5 describes the results of a multiple logistic regression analysis, to test the age, gender and education adjusted relationship between unrecognized current mental disorders established by MINI and subjective workload (number of visits) of GP, psychiatrist or other specialists.

The number of visits per 12 week reported by patient to GP, psychiatrist or other specialist was higher among patients with unrecognized MDE and GAD than among patients without respective mental disorder. Patients with panic disorder as established by the MINI visited psychiatrist about three times more often (adjusted OR=2.9, 1.2–7.6) and patients with MDE more than four times more often (adjusted OR=4.1, 1.6–10.4) than patients without respective diagnosis (Table 5).

DISCUSSION

Data on the impact of mental disorders on primary care doctors' workload are scarce. To our knowledge, there are no studies done to evaluate the impact of mental disorders' to GPs' workload in primary care in Lithuania. This was the first study to evaluate primary care patients' reported visits' numbers to several doctors, also their GPs in relation to mental diagnoses as time investment and workload needed to address for the management of their health issues in primary care. There was one study done recently in Lithuania to evaluate primary care doctors' attitude towards their diabetic patients' self-assessed glycemic control (SAGC) practices in relation to GPs' workload, working conditions, stress, tiredness, fatigue and perceived supervisor's support [31, 32].

Patients with mental disorders are one of the most complex challenges to face in general practice. We found that primary

Table 4. **The association between documented psychiatric disorders diagnosed by GP and the number of visits to physicians during 12-week period**

Documented psychiatric disorder	GP OR (95% CI)	p	Psychiatrist OR (95% CI)	p	Other specialist OR (95% CI)	p
Psychosis	0.76 (0.31–1.88)	0.562	–	–	1.09 (0.60–1.98)	0.771
Mood disorder	1.40 (1.16–1.71)	**0.001**	9.03 (2.75–29.5)	**<0.001**	1.30 (1.06–1.61)	**0.012**
Anxiety disorder	1.03 (0.72–1.46)	0.871	2.42 (0.81–7.25)	0.112	0.07 (0.61–1.55)	0.912
Insomnia	1.14 (0.93–1.39)	0.221	1.17 (0.17–8.01)	0.881	1.11 (0.85–1.44)	0.451
Other	0.88 (0.52–1.49)	0.640	2.4 (0.83–7.4)	0.100	1.16 (0.77–1.73)	0.482

GP – general practitioner; OR=odds ratio; CI – confidence interval
Adjusted for age, gender, education, marital status
Other specialist: cardiologist, gastroenterologist, dermatologist, LOR, other

care patients had a high demand for referrals and physician contacts. Patients with documented mood disorder diagnosed by GP had more contacts with their GP and psychiatrist compared to patients without documented mood disorder. More than half of primary care patients attending their GP had unrecognized current mental disorder during the previous 12 weeks. Patients with unrecognized mental disorders also contacted their GP about their somatic problems more frequently, compared to patients with only somatic diagnoses.

Recognition and diagnosis of mental health or social problems, often followed by treatment, are common tasks for a Lithuanian GP. In present study, of the all respondents over half were diagnosed as having at least one current mental disorder. Point prevalence of MDE and of GAD was found to be 8% and 11%, respectively. Overall, 14% of the respondents were positive for GAD and/or MD. These results are largely in line with recent findings of the Dutch National Survey of General Practice which show that about 8% of all diagnoses in general practice concern psychological or social diagnoses [33].

Our study confirmed previous findings that mental disorders, with depressive and anxiety disorders being the most frequent, are prevalent but poorly recognized in PC settings [34, 35]. The present study highlights the high prevalence of mental disorders amongst primary care patients who consult in primary care setting. GPs spend the majority of their time in direct patient care. GPs are usually patients' first contact with health care in the Lithuania, as they are in the UK, Ireland and Denmark [36]. They also play an important part in mental health care.

Mental health services are an essential element of the health care services continuum. The finding that patients with mental disorders contact their general practice more frequently is confirmed by other recent research. Studies have shown that psychosocial health problems of patients increase the demand for health care [9] and another study have shown that patients with depressive symptoms or anxiety have higher contact rates than other patients [37].

The result that patients with mental disorders contact their primary care centers more often concerning their somatic problems may be due to patterns that merit further attention. Firstly, as other authors have also demonstrated, patients with mental disorders show comorbidity: they are less healthy and more burdened with somatic problems in addition to mental problems [38-40]. Furthermore, it is well known that mental disorders are often expressed in somatic complaints [41]. Thirdly, it is possible that psychological problems are

Table 5. **The association between current mental disorders established by MINI and the number of visits to physicians during 12-week period**

Current mental disorders established by MINI[a]	GP OR (95% CI)	p	Psychiatrist OR (95% CI)	p	Other specialist[b] OR (95% CI)	p
Major depressive episode	1.25 (1.06–1.46)	**0.006**	4.1 (1.6–10.4)	**0.003**	1.28 (1.06–1.54)	**0.011**
Any anxiety disorder						
Generalized anxiety disorder	1.21 (1.04–1.39)	**0.011**	2 (0.92–4.36)	0.080	1.42 (1.19–1.71)	**<0.001**
Panic disorder	1.15 (0.86–1.53)	0.351	2.97 (1.16–7.58)	**0.023**	1.22 (0.91–1.64)	0.180
Social phobia	0.85 (0.55–1.31)	0.470	1.27 (0.29–5.45)	0.751	0.94 (0.56–1.56)	0.802
Posttraumatic stress disorder	0.99 (0.62–1.58)	0.982	–	–	1.13 (0.73–1.73)	0.591
Suicidal ideation	1.03 (0.86–1.24)	0.720	1.18 (0.36–0.85)	0.782	1.14 (0.93–1.39)	0.220
Excessive alcohol use	0.88 (0.77–0.99)	0.042	0.084 (0.01–0.70)	0.022	0.84 (0.71–1.00)	0.841

MINI – Mini International Neuropsychiatric Interview
GP – general practitioner; OR, odds ratio; CI – confidence interval
[a] In the same contacts, somatic diagnoses may also have been made
Adjusted for age, gender, education, marital status
[b] cardiologist, gastroenterologist, dermatologist, LOR, other

symptoms of a higher burden of disease in general [8]. The role of GPs often involves understanding and dealing with both a number of individual illnesses of one patient and treating that patient as the whole person who lives in a social context at the same time. For this group of patients there will often be a number of other health care professionals involved; and GP's management role will therefore include being a coordinator, facilitator and advocate.

Our study used self-reported measures which may increase the likelihood of response bias. However, these findings which suggest untreated mental disorders seem consistent with other local published studies that used different tools [8, 10, 42].

CONCLUSIONS

The presence of a mental disorder of any kind was significantly associated with patients' visits number so we can suppose also with GPs workload. Mental health issues are frequently unrecognized in primary care and contribute to increased utilization of health-care resources overall. Comorbid mental disorders are common among primary care patients, with unrecognized depression and anxiety being the most frequent. Improving mental health treatment requires enhancing the ability of the primary care physician to screen, treat and appropriately manage the psychiatric care given to patients. More studies are needed to evaluate GPs' workload in relation to mental disorders in primary care.

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Comparison of Two Different Surgical Approaches for Resection of Olfactory Groove Meningiomas in a Neurosurgery Centre

Olfaktorinės daubos meningiomų pašalinimas Neurohirurgijos klinikoje: dviejų chirurginių technikų palyginimas

Domantas TAMASAUSKAS[1], Vytenis Pranas DELTUVA[2], Kestutis SINKUNAS[1], Violeta ZALIUNAITE[2], Arimantas TAMASAUSKAS[2]

[1]Lithuanian University of Health Sciences, Department of Neurosurgery, Kaunas, Lithuania

[2]Lithuanian University of Health Sciences, Neuroscience Institute, Kaunas, Lithuania

SUMMARY

Introduction. Meningiomas are the most common primary brain tumours. Olfactory groove meningiomas (OGMs) are a subset of intracranial meningiomas. OGMs tend to grow slowly and gradually compress the frontal lobes. In the Neurosurgery Department of the Hospital of Lithuanian University of Health Sciences Kaunas Clinics two different surgical approaches for OGMs resection are practiced: the extended pterional approach and the endoscope assisted supraorbital key hole approach.

Aim. This study aimed to compare the outcomes between the extended pterional approach and the endoscope assisted supraorbital key hole approach in a Neurosurgery Centre.

Material and methods. OGM was diagnosed after magnetic resonance imaging. Patients were divided into two groups according to surgical approaches. Retrospective analysis of inpatients' medical records was performed.

Results. During the period of 2007–2016 forty-two patients with diagnosed OGM underwent surgical treatment. Frontally extended pterional approach was applied for 32 patients and endoscope assisted supraorbital key hole approach was applied for 10 patients. Mean size of tumour, duration of surgery, percentage of total tumour resection and number of complications did not differ significantly between different surgical approaches. Overall, three complications were observed.

Conclusions. Our study revealed that extended pterional and endoscope assisted supraorbital key hole craniotomies are comparably effective for resection of different size OGMs.

Key words: Olfactory groove meningioma, extended pterional approach, supraorbital key hole approach, outcomes.

SANTRAUKA

Įvadas. Meningiomos yra dažniausia pirminių smegenų navikų rūšis. Olfaktorinės daubos meningiomos auga lėtai ir palaipsniui spaudžia kaktinę smegenų skiltį. Lietuvos sveikatos mokslų universiteto ligoninės Kauno klinikų Neurochirurgijos klinikoje olfaktorinės daubos meningiomos šalinamos naudojant dvi skirtingas chirurgines technikas – išplėstinę pterionalinę kraniotomiją ir supraorbitalinę „rakto skylutės" kraniotomiją panaudojant endoskopą.

Tikslas. Palyginti išeitis tarp pterionalinės kraniotomijos ir supraorbitalinės „rakto skylutės" kraniotomijos panaudojant endoskopą.

Tyrimo medžiaga ir metodai. Olfaktorinės daubos meningiomos buvo diagnozuotos atlikus magnetinio rezonanso tyrimą. Pacientai buvo padalinti į dvi grupes pagal taikytą chirurginę techniką. Atlikta retrospektyvinė duomenų analizė iš pacientų ligos istorijų.

Rezultatai. 2007–2016 m. laikotarpiu 42 pacientams, kuriems buvo diagnozuota olfaktorinės daubos meningioma, buvo taikytas chirurginis gydymas. 32 pacientams buvo atlikta išplėstinė pterionalinė kraniotomija, 10 – supraorbitalinė „rakto skylutės" kraniotomija. Naviko dydis, operacijos trukmė, naviko pašalinimo radikalumas ir komplikacijų skaičius statistiškai reikšmingai nesiskyrė tarp tirtų grupių. Iš viso stebėtos trys komplikacijos.

Išvados. Išplėstinė pterionalinė kraniotomija ir supraorbitalinė „rakto skylutės" kraniotomija panaudojant endoskopą nesiskyrė savo saugumu ir efektyvumu šalinant įvairaus dydžio olfaktorinės daubos meningiomas.

Raktiniai žodžiai: olfaktorinės daubos meningioma, išplėstinė pterionalinė kraniotomija, supraorbitalinė „rakto skylutės" kraniotomija, išeitys.

Corresponding author: Domantas Tamasauskas, Lithuanian University of Health Sciences, Department of Neurosurgery, Kaunas, Lithuania. E-mail: domantas.tamasauskas@lsmuni.lt

INTRODUCTION

Meningiomas are the most common primary brain tumours which account for approximately 30 % of central nervous system (CNS) tumours in adults [1]. Olfactory groove meningiomas (OGMs) are a subset of intracranial meningiomas which originate from arachnoidal cells embedded in the midline dural coverings of ethmoid lamina cribrosa and frontosphenoidal suture [2, 3]. These tumours account for 8%–13% of all intracranial meningiomas [3]. OGMs tend to grow slowly and gradually compress the frontal lobes [4]. That is why these tumours usually remain clinically silent for a long period of time, and they reach a large size upon their diagnosis, so their resection can be challenging [2].

Two surgical approaches to olfactory groove meningiomas are traditionally practiced: the unilateral pterional approach and the subfrontal approach [4]. According to the scientific literature, the subfrontal approach is more suitable for large and giant OGMs, whereas the pterional approach is recommended for medium and large OGMs [5-7]. Some authors indicate that pterional approach provides quick access to the tumour with less brain exposure and allows frontal sinus preservation whereas subfrontal approach is associated with the risk of opening of the frontal sinuses [7, 8]. However it can be difficult to remove thin, long and giant tumours using pterional approach [5, 7, 9].

In the Neurosurgery Department of the Hospital of Lithuanian University of Health Sciences Kaunas Clinics two different surgical approaches for OGMs resection are practiced: the extended pterional approach and the endoscope assisted supraorbital key hole approach.

This study aimed to compare the outcomes of these two different approaches in a Neurosurgery Centre.

MATERIAL AND METHODS

Study object

During the period of 2007 and 2016 forty-two patients with newly diagnosed OGMs underwent surgical treatment in the Neurosurgery Department of the Hospital of Lithuanian University of Health Sciences Kaunas Clinics. OGM was diagnosed after magnetic resonance imaging.

Retrospective analysis of inpatients' medical records was performed. The following data were collected: demographic characteristics (age and gender), pre-operative symptoms, type of surgical approach, duration of surgery, radicality of surgical resection and complications after surgery.

The study was approved by the Kaunas Regional Biomedical Research Ethics Committee (No. P2-9/2003).

Descriptions of surgical approaches

Endoscope assisted supraorbital key hole approach

After giving full anaesthesia skull clamp is placed and head is fixed in a straight position with small recline. Incision is made right above eyebrow which starts laterally from supraorbital notch to angulus of orbit. This incision helps to preserve intact supraorbital nerve. After dissection of soft tissue and temporal muscle a small burrhole is made laterally at pterional point. Craniotomy 2x1 cm is made. Dura is opened in a "X" shape. Using retractor frontal lobe is elevated and cerebrospinal fluid is evacuated by opening basal cisterns. Because of head recline gravity helps to reduce retraction to frontal lobe. Using microscope tumour is removed from olfactory groove. During the surgery endoscope is used because it helps to visualize residual tumour, to coagulate matrix and to stop bleeding. At the end of the surgical procedure dura mater is sutured and hermetised with Tachosil. Bone fragment is replaced. Soft tissues are sutured layer by layer. Skin dermis layer is sutured with continuous subcuticular suture. Incision place post-op of supraorbital approach is shown in picture 1.

Extended pterional approach

After giving full anaesthesia skull clamp is placed and head is fixed in a slight rotated position. After skin incision and dissection of soft tissue and temporal muscle from skull a burrhole is made at pterional point. Then frontotemporal craniotomy which extends supraorbitaly is made. Dura is opened in a "C" shape. Silvian fissure is opened and using retractor frontal lobe is elevated and cerebrospinal fluid is evacuated by opening basal cisterns. Using microscope tumour is removed from olfactory groove. At the end of procedure dura mater is sutured and hermetised with Tachosil. Bone fragment is returned. Soft tissues are sutured layer by layer. Skin layer is closed with continuous locking suture.

Statistical analysis

Statistical analysis was performed using SPSS 13. Patients were divided into two groups according to surgical approaches (extended pterional approach and endoscope assisted supraorbital key hole approach). $\chi 2$ test and t test were used for the collected data comparison between these groups. A P value of <0.05 was considered statistically significant.

RESULTS

During the period of 2007-2016 forty-two patients (25 women and 17 men) with diagnosed OGM underwent surgical treatment. Their average age was 57.4±1.8 yrs. The most

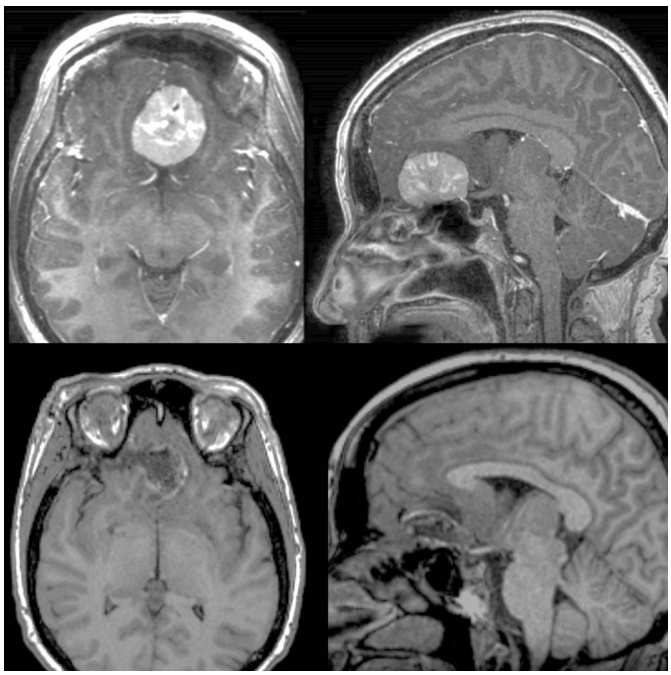
Picture 1. Incision place post-op of supraorbital approach

frequent symptoms were headache (n=24), epilepsy (n=11), visual impairment (n=8) and anosmia (n=7).

Frontally extended pterional approach was applied for 32 patients and endoscope assisted supraorbital key hole approach was applied for 10 patients. Mean size of tumour, duration of surgery, percentage of total tumour resection and number of complications did not differ significantly between different surgical approaches (table 1). Patient's who underwent endoscope assisted supraorbital key hole approach pre-operative and post-operative MRI is presented in picture 2.

According to the World Health Organization (WHO) classification of tumours, majority of OGMs were WHO grade I: meningothelial 73.8%, transitional 19.0% and microcystic 2.4%. Only two meningiomas were WHO grade II: atypical 4.8%.

Overall, three complications were observed. External cerebrovascular fluid drainage was performed for 1 patient with cerebrospinal fluid leak and for 1 patient with subcutaneous accumulation of cerebrospinal fluid in the region of previous surgery. Meningitis was diagnosed for 1 patient. Overall, 2 patients did not survive after surgical treatment and they both underwent pterional approach (table 1). Deaths were not related to surgical procedure and were caused by pulmonary embolism and cardiovascular accident.



Picture 2. **Pre-operative and post-operative MRI of supraorbital approach**

DISCUSSION

Our study revealed that the outcomes and efficacy between OGM's resection using extended pterional and endoscope assisted supraorbital key hole craniotomies did not differ. Using these two approaches the similar size tumours were resected safely and the same radicality of tumor resection was achieved (Simpson grade II).

The average age of studied patients and the main symptoms of OGMs in our study were similar to the data from scientific literature – headache, epilepsy, visual impairment and anosmia [2, 3, 4, 7, 9, 10, 11].

Results of our study are in agreement with other studies showing that extended pterional approach is simple, fast and preserving normal anatomy [10]. Lynch et al. analysed the outcomes of resection of meningiomas using extended pterional approach. Mean tumour size was similar to the data of our study. Lynch's study revealed that tumour was totally resected for 33 out of 38 patients (86 %) with anterior fossa meningiomas (30 cases of OGMs) who underwent surgery applying the extended pterional approach [10]. Seven complications were observed: 2 meningitis, 2 cerebrospinal fluid leak and 3 seizures [10]. 1 patient did not survive after surgical treatment because of pulmonary thromboembolism [10]. According to our study, tumour was resected totally for 96.9 % of patients and only 3 complications were observed. Two patients did not survive after surgery because of pulmonary embolism and cardiovascular accident.

Researches show that pterional approach can be successfully used for resection of various size meningiomas [9, 12]. Tomasello et al. revealed that in 17 of 18 patients (94.4%) with giant OGM, the tumour was resected completely using pterional approach and two deaths occurred [12]. Pallini et al. indicated that pterional approach was used for resection of different size OGMs (≤3 cm – ≥6 cm) and total tumour resection was achieved in 81 % and no death occurred [9]. Our study revealed similar results: using frontally extended pterional approach for resection of 1.5–7.8 cm OGMs high percentage of total tumour resection was achieved.

Our study showed that for all ten patients various size OGMs were resected totally applying endoscope assisted supraorbital key hole approach and no complications were observed. Banu et al. are in agreement with our results and present that total OGM resection was achieved in 100% of

Table 1. **Outcomes after different surgical approaches of OGMs**

	Frontally extended pterional approach (n=32)	Endoscope assisted supraorbital key hole approach (n=10)	P value[1]
Mean size of tumour, cm (range)	4.6±1.9 (1.5–7.8)	5.0±1.2 (3.6–6.2)	0.80
Duration of surgery, min.	233.1±49.8	222.0±81.5	0.13
Total tumour resection, %	96.9	100.0	0.46
Complications after surgery, n	3	0	0.66
Deaths after surgical treatment, n	2	0	0.30

Data are presented as mean±SEM

[1]The differences between studied groups were not significant

the supraorbital eyebrow cases with endoscopic assistance and no complications were registered [13]. The mean tumor volume was 33.5 cm(3) [13]. Results of the study performed by Igressa et al. suggest that with endoscope-assisted keyhole surgery complete resection of large anterior and middle fossa meningiomas can be achieved [14]. During this study 40 patients underwent surgery for large anterior cranial fossa meningiomas (diameter >5 cm) extending to the middle fossa. 90% patients showed a good outcome and returned at long-term follow-up to their previous occupations [14].

In conclusion, extended pterional and endoscope assisted supraorbital key hole craniotomies are comparably effective for resection of different size OGMs. Our study revealed that endoscope assisted supraorbital key hole approach is safe and determines radical tumour removal despite of the size of the meningioma.

Conflict of interest
None.

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Working age peoples' attitudes towards patients with mental disorders and the relationship with respondents' socio-demographic characteristics

Darbingo amžiaus asmenų požiūris į pacientus, sergančius psichikos sutrikimais ir sąsajos su respondentų sociodemografinėmis charakteristikomis

Goda DAUGELAITE[1], Greta DOMANTAITE[1], Vesta STEIBLIENE[2]

[1]Lithuanian University of Health Sciences, Kaunas, Lithuania

[2]Psychiatry Clinic at Lithuanian University of Health Sciences, Kaunas, Lithuania

SUMMARY

Background. There is ~1% of people suffering from schizophrenia in general population and ~20–30% of those with depressive disorder. Discrimination of these people is a significant social problem and it impacts patients' quality of life. Therefore, it is useful to investigate and improve public attitudes towards these patients. It is important to create destigmatization programs and to improve public education.

Aim. To evaluate the attitudes of different age groups, gender, education and different working groups towards people with schizophrenia and depressive disorder and the relation between respondents' socio-demographic characteristics.

Methods. The prospective cross-sectional study involved 389 Lithuanians aged from 18 to 64 years old to assess their attitudes towards patients with mental disorders. Respondents completed a questionnaire made by the authors, using four question groups: personality trait, dangerousness and isolation from society, necessity for control and stigmatization. According to the collected data, attitudes towards schizophrenic patients and patients with depressive disorders were compared between groups.

Results. Respondents with lower education, elderly people (50–64 years old) and students had more negative attitudes towards people with schizophrenia or depressive disorder compared to other respondents, who participated in this study. Also, by evaluating personality traits, dangerousness and isolation from society, stigmatization ($p \leq 0.001$) and the necessity for control (depression $p<0.001$, schizophrenia $p=0.060$), compared with other respondents, the study has shown that respondents, who knew anyone that had one of these illnesses, had more positive attitudes towards such patients. In general, respondents were more likely to stigmatize and discriminate patients with schizophrenia ($p<0.001$). In their opinion, people suffering from this disorder have less positive personality traits, they are more dangerous and they need a higher control and isolation from the society.

Conclusion. According to our study, respondents with lower education, the older ones (>50 years old) and students had a more negative attitude to both disorders – depressive disorder and schizophrenia. Respondents of all age groups, who have secondary or university education, tend to assess people with depressive disorder more positively, according to their personality traits, dangerousness and the level of control need is also lower compared to the ones suffering from schizophrenia. Those, who personally knew anybody suffering from depressive disorder and/or schizophrenia, had more positive opinions about them, compared to other respondents, although depression was still assessed as more acceptable.

Keywords: depression, depressive disorder, public attitude, risk, schizophrenia, stigma.

SANTRAUKA

Įvadas. Šizofrenija bendroje populiacijoje serga apie 1 proc., o depresiniu sutrikimu – apie 20–30 proc. gyventojų. Sergančiųjų diskriminacija iki šiol išlieka ženkli socialinė problema, bloginanti pacientų gyvenimo kokybę. Todėl naudinga ištirti visuomenės požiūrį į šiuos pacientus, o požiūrio pokyčiams vykdyti – visuomenės švietimą bei destigmatizacijos programas.

Tyrimo tikslas. Įvertinti skirtingų amžių grupių, lyčių, išsilavinimo bei skirtingų darbinių grupių asmenų požiūrį į pacientus, sergančius šizofrenija ir depresiniu sutrikimu.

Metodika. Kiekybiniu anketiniu tyrimu buvo vertintas 389 18–64 metų amžiaus Lietuvos gyventojų požiūris į pacientus. Respondentai pildė autorių sudarytą anketą, kurioje buvo naudotos keturios klausimų grupės: sergančiųjų asmenybės bruožų vertinimo, kontrolės būtinybės, stigmatizavimo, atskyrimo nuo visuomenės būtinybės ir socialinio pavojingumo. Buvo lygintas respondentų požiūris į šizofrenija ir į depresiniu sutrikimu sergančius asmenis.

Rezultatai. Gauti tyrimo rezultatai parodė, kad žemesnį išsilavinimą turintys, vyresnio amžiaus (50–64m.) bei studijuojantys respondentai turi negatyvesnį požiūrį į šizofrenija bei depresiniu sutrikimu sergančius asmenis nei kitos tyrimo dalyvių grupės. Apklaustųjų, kurie pažįsta sergančiųjų minėtomis ligomis požiūris buvo pozityvesnis nei likusiųjų, lyginant asmenybės bruožus, pavojingumą ir izoliaciją nuo visuomenės, stigmatizavimą $p \leq 0{,}001$ ir kontrolės būtinybę (depresija $p<0{,}001$, šizofrenija $p=0{,}060$). Taip pat nustatyta, kad respondentai buvo labiau linkę stigmatizuoti bei diskriminuoti pacientus, sergančius šizofrenija ($p<0{,}001$), nei sergančius depresiniu sutrikimu. Apklaustųjų nuomone, šizofrenija sergantys asmenys turi mažiau pozityvių asmenybės bruožų, yra pavojingesni bei jiems reikia griežtesnės atskirties nuo visuomenės bei kontrolės nei sergantiesiems depresiniu sutrikimu ($p<0{,}001$).

Išvados. Žemesnio išsilavinimo, vyresnio amžiaus (virš 50 m.) bei studijuojantys respondentai negatyvesnį požiūrį turėjo tiek į šizofrenija, tiek į depresiniu sutrikimu sergančiuosius. Visų amžiaus grupių bei turinčių tiek vidurinį, tiek aukštesnįjį išsilavinimą respondentai depresija sergančiuosius vertino pozityviau, atsižvelgiant į jų asmenybės bruožus kontrolės reikalingumą ir pavojingumą, lyginant su sergančiaisiais šizofrenija. Asmenys, kurių šeimos/pažįstamų rate yra nustatyta šizofrenijos ar depresijos diagnozė, turi pozityvesnį požiūrį į sergančiuosius šiomis ligomis, nei likusieji respondentai, tačiau lyginant požiūrį į šias ligas tarpusavyje, depresija išliko pozityviau vertinamas sutrikimas.

Raktiniai žodžiai: depresija, depresinis sutrikimas, rizika, šizofrenija, stigma, visuomenės požiūris.

Corresponding author: Goda Daugelaite, Medical Student at Lithuanian University of Health Sciences, Mickeviciaus str. 9, Kaunas, LT-44307, Lithuania. Telephone number: +370 686 48800. E-mail: goda.daugelaite@gmail.com

INTRODUCTION

There are many different conditions that are recognized as mental disorders. It is noticed that people often do not understand the difference between different mental disorders. The approach often depends on their social status, life experience, education and even age or gender [1]. Despite the growing flow of information regarding people with mental disorders living within our society, the possibility to receive information about different mental disorders, successful treatment, life histories, and stereotypes associated with mental disorders still remain negative in most cases [2].

Despite the growing literacy of the public, the stigma of mental illness is an old and complex phenomenon, and a devastating influence on the lives of people with mental disorders still remains [3].In addition to the symptoms, persons with mental illnesses are distressed by the stigma and discrimination associated with the disorders [4]. Many persons with mental disorders are not only aware of negative stereotypes, but they also consent with them and turn them against themselves ("Because I have a mental illness, I am stupid and will not get better"). This is called self-stigma and leads to shame, hopelessness, social isolation and low self-esteem [5]. Since the consequences of self-stigma are also predictors of suicidality, it has been hypothesized that self-stigma is a risk factor for suicidality [6]. Therefore, not only does the diagnosis of mental disorder itself, but also the stigma, created by the society, lead to self-stigmatization and lower quality of life (QoL) of such patients [7].

Schizophrenia is a severe and mostly disabling mental disorder which affects approximately 1% of the population world-wide, with little differences between genders [8,9]. Studies in patients with schizophrenia suggest that self-stigma is associated with presence of positive symptoms, general psychopathology, social anxiety, social avoidance, use of withdrawal coping, discrimination experience and emotional discomfort. Perceived and experienced stigma has been shown to be associated with higher literacy rates, belief that the illness is a disease, and a belief that the illness is a consequence of "karma" or "evil spirit", presence of nonmedical causal beliefs, disability, use of withdrawal or secrecy as coping and discrimination experience [10,11]. The other mental disorder is depression and the prevalence in different countries ranges from 20 to 30% and these rates are increasing [12,13]. Aromaa, with co-authors presented the study, where four main components of mental illnesses, according to the opinions of the respondents, were identified: (1) depression is a matter of will, (2) mental problems have negative consequences, (3) one should be careful with antidepressants and (4) it is impossible to recover from mental problems [14]. These studies show that the society had created myths about mental disorders, and the stereotypical and incorrect thinking about the origins of such diseases prevails. Thus, the individuals with mental disorders are consistently being found to be among the most socially excluded populations and continue to face substantial health, housing, and employment disparities [15].

As the studies have shown, the attitudes towards patients with mental disorders are still negative, and they impact their QoL. Therefore, the aim of this study is to evaluate and to compare the attitudes of different age groups of Lithuanian working age respondents and the relationship between their socio-demographic characteristics towards people with schizophrenia and depression. Undeniably, poor knowledge about mental illnesses and negative attitudes towards people with mental disorders is widespread in the general public. Studies like this may give an impression of the magnitude of the problem and some insights into how stigma operates in particular countries. Also, we made the hypothesis that the younger generation had a more positive attitude to these disorders, due to the increased availability of information sources.

MATERIALS AND METHODS

This study and its consent procedures were approved by the Centre of Bioethics of the Lithuanian University of Health Sciences (permission number: BEC-MF-104, Nov-28, 2017).

Study population

The working age people from Lithuania were invited to participate in the study. Authors published a questionnaire in a local website (www.apklausa.lt). Participants were taken voluntary. The sample was consisted of those who completed a questionnaire in the social media and matched the inclusion criteria.

The inclusion criteria for the study were: respondents aged between 18–64 years old; their consent to participate in the study and a signed informed consent form before the study procedures. In total, 400 people were invited to participate in this study; 11 participants were excluded from further analysis due to incomplete data. The final sample consisted of 389 people: 187 of them (48.1%) were men.

The study participants filled the socio-demographic questionnaire with information about their age, gender, education and employment status. On the basis of the widely spread attitudes towards people with mental disorders evaluating questionnaire CLAS (Community Living Attitudes Scale Mental Retardation-Short Form) [16], authors created their own questionnaire by adding some of their own questions in order to achieve a clearer reflection of general attitudes towards people with mental disorders. Questions were classified into four groups, presuming that it could be the most appropriate way to evaluate respondents' opinion influence for patients' QoL. Using four self-rating question groups, the respondents' attitudes towards the persons with depression and schizophrenia were evaluated. All 4 question groups were based on literature data [17,18] and consisted of statements, where respondents had to choose the most acceptable answers. Answers were scoring as yes – 2 points, no – 1 point and I do not know – 0. The evaluation was made by calculating the sum of the total score for each question group.

The group of questions on personality traits, which evaluates respondents' opinions about personality characteristics of persons with depression or schizophrenia (9 statements). The sum of scales was calculated by summing up the evaluations of all the answers of the statements, before answering options, such as "friendly", "inclined to communicate", "calm" and "reliable" in transcribing, so that a higher response rate reflects a more socially acceptable personality trait (for example, "would you describe a mentally ill person as friendly", yes = 2, no = 1). Thus, a higher evaluation of the personality trait scales reflects more strongly expressed socially accepted personality

traits of mentally ill people.

The group of questions on dangerousness and isolation from society (3 statements). A higher total score indicates a stronger belief in the fact that a person with mental disorder can be dangerous to others and should be separated from the rest of the society.

The group of questions on the necessity for control (4 statements). A higher total score indicates a stronger opinion that a person with a mental disorder may have difficulty planning and controlling behaviors, and this person should be hospitalized.

The group of questions on stigmatization. (12 statements). A higher total score indicates the stronger stigmatization of a mental disorder, avoidance and lower tolerance towards people with mental disorders.

Statistical analysis

Statistical methods and descriptive statistics in the assessment of distribution normality of scale data, and the Shapiro-Wilk test statistics show that distribution of scales is different from normal ($p<0.001$). Also, in some cases exceptions exist, therefore, for the data analysis, nonparametric statistical parameters, which aren't responsive to exceptions or to the demand for normality of distribution, are applied.

Data was analyzed using SPSS Statistics 22.0 software. Statistical analysis included descriptive statistics, non-parametric Kruskal-Wallis criteria, Wilcoxon signs criteria, Mann-Whitney criteria. The statistical significance level $\alpha=0.05$ – the difference of the indicator in several groups was statistically significant when $p<0.05$.

RESULTS

The final sample consisted of 389 respondents. All respondents were divided into 3 groups by age, into 2 groups by education and by employment status, respondents were divided into 3 groups. Detailed sociodemographic characteristics of study respondents are presented in Table 1. The biggest part of respondents was 25–49 year old persons (43.7%), those with higher education (56.8%), and employed (64.8%).

Evaluation of general attitudes to mentally ill people showed that respondents identify people with depression as more socially acceptable and view them as having more positive character traits than the ones who suffer from schizophrenia. As shown in Table 2, according to all 4 question groups, the attitudes towards patients with depression, in comparison to patients with schizophrenia, were rated statistically more positive ($p<0.001$).

Our results showed (table 3) that older respondents (aged 50–64 years old) tend to see people suffering from depression or schizophrenia as more socially unacceptable, and such respondents indicated that the patients must be controlled. The majority of this age group is most likely to stigmatize such people ($p<0.05$). Although, there are different attitudes talking about people with schizophrenia: as the results show, the oldest respondents of this research (group of 50–64 years old) statistically and significantly more often have stronger beliefs that the people with those disorders could be dangerous and have to be isolated from the society (6.37 ± 2.27; $p<0.001$). Therefore, the older respondents are more likely to avoid mentally ill people and to exclude them from the society.

Table 1. **The sociodemographic characteristics of study participants**

Characteristics	Total, n=398	Comparison among groups, p
Age, mean ± SD	36.7±14.06	
Age groups, n (%)		
18–24 years	109(28)	
25–49 years	170(43.7)	**<0.001**
50–64 years	110(28.3)	
Gender:		
Male	187(48.1)	0.447
Female	202(51.9)	
Education:		
Secondary	168(43.19)	
University	221(56.81)	**0.001**
Employment:		
Employed	252(64.8)	
Student	50(12.9)	
Unemployed	87(22.4)	**0.001**

As the analysis of the results shows (table 4), people with secondary education compared to those with higher education, think that the ones who suffer from depression are less socially acceptable and also, they tend to stigmatize people with depression ($p=0.047$) more than those who have schizophrenia. Although, there is an incontrovertible statistical tendency that the respondents with secondary education state that a person suffering from schizophrenia can be dangerous and has to be isolated from the society ($p=0.031$). Moreover, there is a statistically reliable connection between the education of respondents and their opinion about the necessity to control the people who have some mental disorders. To conclude, the lower the level of a person's education is, the stronger is the tendency to believe that people with mental illnesses must be kept under control.

As shown in table 5, compared to the rest of the respondents, students have stronger beliefs that people suffering from mental disorders can be dangerous and they must be isolated. They also tend to stigmatize these patients more often (depression $p=0.002$; schizophrenia $p=0.007$). Moreover, these respondents

Table 2. **The comparison of respondents' general attitudes towards patients with mental disorders**

	Patients with depression	Patients with schizophrenia	Wilxocon signed-rank test Z;
	mean±SD		P Value
The scale of personality traits [range 0–18]	14.27±2.25	11.37±2.48	-13,662; **<0.001**
The scale of dangerousness and isolation from society [0–6]	3.64±1.06	5.07±1.93	12,208 ; **<0.001**
The scale of the necessity for control [0–8]	5.71±2.07	7.51±2.55	13,031; **<0.001**
The scale of stigmatization [0–24]	16.61±5.22	21.40±5.94	15,372; **<0.001**

Table 3. **The comparison of attitudes towards patients with mental disorders among respondents of different age groups**

Questions group on	Younger-aged (18–25 years old)[a]	Middle-aged (25–49 years old)[b]	Older-aged (50–64 years old)[c]	Comparison between pairs*; P Value
	mean±SD			
Personality traits [0–18]				
Depression	14.52±2.011	14.58±2.09	13.51±2.52	**0.025 [(a-c)]; 0.005[(b-c)]**
Schizophrenia	1.89±2.49	11.76±2.55	10.24±1.94	**<0.001[(a-c)]; <0.001[(b-c)]**
Dangerousness and isolation from society [0–6]				
Depression	3.53±0.88	3.53±0.85	3.89±1.41	–**
Schizophrenia	4.66±1.53	4.48±1.46	6.37±2.27	**<0.001[(a-c)]; <0.001[(b-c)]**
The necessity for control [0–8]				
Depression	5.75±1.94	5.32±1.89	6.25±2.31	**0.001[(b-c)]**
Schizophrenia	7.22±2.32	6.89±2.32	8.74±2.66	**<0.001[(a-c)]; <0.001[(b-c)]**
Stigmatization [0–24]				
Depression	15.51±3.30	15.51±3.07	19.38±7.77	**0.001[(a-c)]; 0.001[(b-c)]**
Schizophrenia	19.38±7.77	19.82±4.46	25.80±6.73	**<0.001[(a-c)]; <0.001[(b-c)]**

*the p value is indicated only among the groups, which have a statistically significant difference
**no statistically significant difference between pairs was obtained

indicate that people with depression should be controlled more (p=0.002). No significant difference was found between employed, unemployed people and students at other scale rates. Controversial results were obtained: students evaluated people with mental disorders more negatively than respondents of other employment, but comparing results according to age, younger respondents indicated more positive attitudes. Such results may have been obtained because student sample (n=50) was lowest compared to employed (n=252) and unemployed (n=87) groups. Therefore, it is expedient to perform a study by taking equal sample groups and to compare the results.

Also, study showed that 228 (58.61%) people of our research have relatives or have known anyone suffering from depression or schizophrenia (first group). Results showed that first group respondents valuate mentally ill people more positively and assign them as more acceptable compared to the ones, who do not know any people with such disorders (second group) (the scale rate of personality trait is statistical significantly higher in the first group of respondents, p<0.01, table 6). Also, second group stated that people with those disorders may be dangerous and that they must be isolated from the public and need to be controlled.

DISCUSSION

In this study we examined and compared the attitudes of working age Lithuanian respondents towards people with schizophrenia and depression. Our results have shown that the majority of study participants evaluate people with depression more positively than the ones who suffer from schizophrenia. In general, people with depression tend to look more socially admissible and have a better feature of the character from the point of view of our respondents. Also, the attitude towards mental disorders depends on education: the lower it is, the more negative attitudes occur. It also varies according to the age of sample: stigmatization was more prevalent by older respondents (age 50–64). However, students who participated in the study, had a stronger belief that people with mental disorders may be dangerous and that they need isolation. But despite the age, education and other factors, people, who know anyone suffering from mental disorder, usually see a brighter side of his/her personality compared with the ones who don't.

While there were no studies like this in Lithuania previously, the results of our study were compared to the international ones.

Table 4. **The comparison of attitudes towards patients with mental disorders among respondents of different educational groups**

Questions group on	Secondary	University	P Value
	mean±SD		
Personality traits [0–18]			
Depression	13.90±2.31	14.80±2.13	**0.010**
Schizophrenia	11.43±2.64	11.48±2.48	0.739
Dangerousness and isolation from society [0–6]			
Depression	3.77±1.24	3.45±0.85	0.179
Schizophrenia	5.43±2.23	4.96±1.55	**0.031**
The necessity for control [0–8]			
Depression	6.24±2.32	5.43±1.88	**<0.001**
Schizophrenia	7.99±2.62	7.43±2.79	**0.002**
Stigmatization [0–24]			
Depression	18.00±7.02	15.89±2.91	**0.047**
Schizophrenia	22.40±7.20	21.28±4.73	0.056

Table 5. **The comparison of attitudes towards patients with mental disorders among respondents of different employment groups**

Questions group on	Employed	Unemployed	Students	P Value
	mean±SD			
Personality traits [0–18]				
Depression	14.31±2.26	14.58±1.83	13.48±2.64	0.075
Schizophrenia	11.34±2.55	11.68±2.38	10.96±2.24	0.099
Dangerousness and isolation from society [0–6]				
Depression	3.63±1.02	3.35±0.69	4.14±1.51	**0.003**
Schizophrenia	5.04±1.90	4.58±1.56	6.04±2.24	**0.001**
The necessity for control [0–8]				
Depression	5.50±1.98	5.65±1.72	6.83±2.64	**0.002**
Schizophrenia	7.37±2.53	7.50±2.22	8.20±3.03	0.190
Stigmatization [0–24]				
Depression	16.39±4.72	15.22±3.09	20.06±8.26	**0.002**
Schizophrenia	21.34±5.78	19.86±4.83	24.34±7.33	**0.007**

One of the statements that was included in our study scale of dangerousness and isolation from society was that people with depression are far less dangerous than my society. Our study revealed that 19.79% of respondents pointed out that they don't agree with that statement. In other study, presented by Munizza and co-authors in Italy, it was found that 1/4 of the respondents (27%) believed that people with depression are dangerous to others and 30% thought that employers should not hire them [19]. So, it can come to conclusion that about 1/4 or 1/3 of people, who participated in these studies, believed that the ones who suffer from depression can be dangerous and need to be isolated.

There is limited literature on how stigma compares across different psychiatric disorders. Limited literature suggests that higher level of stigma is reported by people diagnosed with schizophrenia compared to those diagnosed with depression [10]. In 2017, Hasan and Musleh, two doctors from Saudi Arabia, made a cross-sectional study in order to compare the attitudes towards people with schizophrenia, depression and anxiety disorder. It was found that, regarding schizophrenia, danger to others, unpredictable were the most common perceptions [20]. According to the study made in Denmark, among personal negative attitudes towards people with mental illnesses, one of the most prevalent appeared to be that they are unpredictable. This applied especially to attitudes towards people with schizophrenia (49.4%) compared to people with depression (11.9%). In the questionnaire, 20% agreed that people with schizophrenia are dangerous compared to only 1.2% in the depression case [21]. In our study, the results were relatively the same: respondents indicated people with schizophrenia as more dangerous and described them as having more negative personality traits than people with depression ($p<0.001$). Evidence shows that schizophrenia is one of the most stigmatized mental disorders, which are connected to dangerousness and instability stereotypes, to a split personality and to a greater desire for social distance [10].

As the results of the research show, attitudes towards mental disorders depend on the age of the participants. According to the eldest group of our respondents (age 50-64), people with mental disorders are more socially unacceptable, they must be controlled and the majority of this age group tends to stigmatize those people more than the younger respondents ($p<0.005$). Previous studies found that younger people were more tolerant and less stigmatizing [22,23,24]. This may be a reflection of changing knowledge and perceptions about mental illnesses. It could also be due to the fact that younger people are more

Table 6. **The comparison of attitudes in all four questions groups depending on the respondents' existing or non-existing relation with people with mental disorders**

Questions group on	Is there anyone diagnosed with depression or schizophrenia among your friends/family members?		P value
	Yes	No	
	mean±SD		
The question group on personality traits [0–18]			
Depression	15.22±1.90	13.42±2.19	**<0.001**
Schizophrenia	15.10±2.82	10.87±1.95	**<0.001**
The question group on dangerousness and isolation from society [0–6]			
Depression	3.44±0.82	3.80±1.21	**0.001**
Schizophrenia	3.93±1.45	5.22±1.93	**<0.001**
The question group on the necessity for control [0–8]			
Depression	5.26±1.71	6.09±2.26	**<0.001**
Schizophrenia	6.82±2.44	7.60±2.54	**0.060**
The question group on stigmatization [0–24]			
Depression	14.74±2.41	18.24±6.35	**<0.001**
Schizophrenia	18.73±4.48	21.75±6.02	**0.001**

informed about the causes, treatment and outcomes of mental illnesses, as a result of exposure to campaigns in educational institutions, as well as through social media [25].

Although the younger participants in our study showed a more positive attitude towards mental disorders, students had a stronger belief about dangerousness and the necessity of isolation for people with mental disorders and were more likely to stigmatize them compared to other employment respondents (depression p=0.002; schizophrenia p=0.007). In the study made in Denmark, researchers were investigating in the attitudes towards people with depression and schizophrenia among social service workers, medical and nursing students. The findings were quite the same as in our study. It was found that social service workers' attitudes are not as negative as students', who participated in the study. It has been reported that 78% of medical and nursing students considered people suffering from schizophrenia to be dangerous and violent [21].

In our study, more than a half of respondents (58.61%) indicated that they have a relative or a friend struggling with depression. The results showed that they had a more tolerant attitude and evaluated these patients more positively ($p \leq 0.001$). In Sweden in 2015 [26], it was investigated how the experience of mental illness relates to stigmatizing attitudes and social distance towards people with depression or psychosis. Among the participants, 67.6% had a personal experience of people with mental disorders. On behalf of depression, personal experience showed a lower level of personal stigma ($p<0.05$), more willingness to become a colleague ($p<0.05$), marry a person suffering from depression and having them in the family ($p<0.001$). As both studies showed, attitudes as well as the assessments of social distance are more positive among participants who have experienced mental health issues in the family or in close social surroundings, but mainly towards people with depression.

The limitations of the research could be that not all siciety groups are reflected in the study, but only those, who are active on social media or on the Internet. So it is not possible to comment all Lithuania society, because conclusions were made according to the opinion of 389 respondents from Lithuania aged between 18-64 years old.

In conclusion, despite an increasing amount of information about mental disorders and an easy access to it, the problem of society's negative attitudes towards people with mental disorders is still relevant. It is clear to see the importance of targeting anti-stigma programs, especially those particular to population groupings [27]. The more society acknowledges the problems that people with mental disorders cope with, the more understanding and supportive the public will become. It may come to conclusion, that those people become less self-stigmatizing, less afraid and more motivated to seek help from professionals and to get the best medical care.

Conflicts of interest

Authors declare no conflicts of interest.

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Sexual Function and Alcohol Consumption Peculiarities of Healthy Lithuanian Males

Sveikų Lietuvos vyrų seksualinė funkcija ir alkoholio vartojimo ypatumai

Algirdas MUSNECKIS, Ina RYBAKOVA

Psychiatry Clinic at Lithuanian university of Health Sciences, Kaunas, Lithuania

SUMMARY

Introduction. The role of alcohol in male sexual health is considered controversial Male sexual dysfunction is associated with amount of alcohol consumed per day and with the duration and severity of alcohol dependence. In some studies moderate alcohol intake was associated with a lower risk of erectile dysfunction. It is data, that alcohol reduces sexual fears, promotes sexual desire and can be beneficial to sexual functioning.

Primary hypothesis H0: Persons who regularly drink small amounts of alcohol have risk of sexual dysfunction.

The aim of this study was to evaluate the relations among alcohol consumption habits of healthy Lithuanian males and their current sexual function.

Methods. Lithuanian males who were active in social networks were invited to participate in our study. The research was conducted online using socio demographic questionnaire, the Alcohol Use Disorders Identification Test-Concise (AUDIT-C) test and European Male Aging Study (EMAS) sexual functioning questionnaire.

Results. Of 285 Lithuanian males who filled in the questionnaire 217 (76.14 %) did not have any physical or mental health disorders and were sexually active in past 4 weeks, so were included into final analysis. The age interval was from 18 to 70 years, mean age was 30.41±9.89. Only 11 respondents (5.1 %) presented themselves as non-users of alcohol, 65 (29.9 %) were identified as moderate users and remaining 141 respondents (64.9 %) were consistent with alcohol misuse according to AUDIT-C test. The mean overall sexual functioning score of frequent small quantities users was 21.18±5.9 (in limits 0–33), rare small quantities users 21.31±5.6, frequent large quantities users 21.44±4.69 and rare but large quantities users 22.95±5.61, respectively, but there was no difference.

Conclusions. Alcohol consumption of adult Lithuanian males still remains an alerting issue. Despite the fact that Lithuanian males are prone to easily overdose liquors they are quite content with their sexual health. Our study did not succeed to prove connection between alcohol consumption and male sexual functioning or detect any sexual health and alcohol.

Keywords: Sexual function, alcohol, binge drinking.

Abbreviations: IUA – international alcohol units; EMAS SFQ – The European Male Ageing Study Sexual Function Questionnaire; AUDIT-C – Alcohol Use Disorders Identification Test-Concise; AMT – Alcohol Myopia Theory

SANTRAUKA

Įvadas. Alkoholio įtaka vyrų lytinei sveikatai iki šiol išlieka kontraversiška. Seksualinė disfunkcija siejama su kasdien išgeriamu alkoholiu kiekiu ir priklausomybės alkoholiui trukme bei stiprumu. Tačiau esama duomenų, kad saikingas alkoholio vartojimas mažina erekcijos sutrikimų riziką. Netgi pristatoma, kad alkoholis mažina nerimą bei baimes susijusias su seksu, didina seksualinį potraukį ir taip gali pagerinti seksualinę funkciją.

Pirminė hipotezė H0. Stabilus mažų alkoholio dozių vartojimas neigiamai veikia vyrų seksualinę funkciją.

Tyrimo tikslas. Įvertinti vyrų alkoholio vartojimo įpročius ir jų įtaką vyrų seksualinei funkcijai.

Metodai. Lietuvos vyrai, aktyviai dalyvaujantys socialiniuose tinkluose ar laisvalaikio forumuose, buvo pakviesti dalyvauti tyrime. Tyrimas buvo vykdomas užpildant elektroninę anketą, kurią sudarė sociodemografiniai klausimai, sutrikimų, atsiradusių dėl alkoholio vartojimo, nustatymo testas, trumpoji versija (angl. *Alcohol Use Disorders Identification Test-Concise,* AUDIT-C) bei Europos vyrų senėjimo seksualinių funkcijų klausimynas (angl. *European Male Aging Study sexual functioning questionnaire,* EMAS-SFQ).

Rezultatai. Iš 285 Lietuvos vyrų užpildžiusių anketas 217 (76,14 proc.) neturėjo reikšmingų psichinės ir fizinės sveikatos sutrikimų, buvo seksualiai aktyvūs per pastarąsias 4 savaites ir buvo atrinkti tolimesnei analizei. Amžiaus intervalas buvo nuo 18 iki 70 metų, vidurkis 30,41±9,89 metų. Tik 11 respondentų (5,1 proc.) buvo abstinentai, 65 (29,9 proc.) alkoholį vartojo saikingai, o likę 141 respondentai (64,9 proc.) alkoholį vartojo viršydami nustatytas saugias normas. Dažnai ir mažai vartojančių alkoholį bendros seksualinės funkcijos vidurkis buvo 21,18±5,9 (ribose 0–33), retai ir mažus kiekius vartojančių ± 21,31±5,6, dažnai ir didelius kiekius vartojančių – 21,44±4,69 o retai, bet didelius kiekius vartojančių asmenų – 22,95±5,61. Nustatyti bendros seksualinės funkcijos rodiklių vidurkiai tarp grupių reikšmingai nesiskyrė.

Išvados. Alkoholio vartojimas išlieka aktuali problema tarp Lietuvos vyrų. Nepaisant dažnai nesaikingo alkoholio vartojimo, Lietuvos vyrai nesiskundžia savo seksualine funkcija. Šiuo tyrimu nepavyko nustatyti sąsajų tarp vyrų alkoholio vartojimo ir seksualinės funkcijos.

Raktažodžiai: Seksualinė funkcija, alkoholis.

Corresponding author: Algirdas Musneckis, Psychiatry Clinic at Lithuanian university of Health Sciences, Kaunas, Lithuania;| E-mail: agimus@gmail.com

INTRODUCTION

From ancient times drinking alcoholic beverages and endorsing in sexual adventures was somehow related. Aristophanes in his writings depicts one of many ancient Greek symposia where guests started party with wine and ended with sexual activities [1].

There are 4 main components of male sexual function: libido, erection, ejaculation and orgasm. Sexual dysfunction is a problem with one of these components that interferes with interest in or ability to engage in sexual intercourse [2].

In Lithuania in 2014 alcohol consumption was 15.2 liters of pure alcohol per one older than 15 year inhabitant which is 1.5 times more than compared to EU average [2]. Twenty-five chronic disease and condition codes in the International Classification of Disease (ICD)-10 are entirely attributable to alcohol, and alcohol plays a component-risk role in certain cancers, other tumors, neuropsychiatric conditions, and numerous cardiovascular and digestive diseases [4].

Alcohol plays key role in male sexual health. Male sexual dysfunction is associated with amount of alcohol consumed per day and with the duration and severity of alcohol dependence. [5] On the other hand, meta analysis of population based studies show that alcohol has a curvilinear association such that moderate intake was associated with a lower risk of erectile dysfunction [6]. Also, Alcohol Myopia Theory (AMT) remains the leading theory for explaining intoxicated risk-taking [7]. It posits a pharmacologically-determined tunnel vision that focuses the drinker on salient factors that impel risk-taking, so alcohol use is associated with more intense sexual behavior [8]. Alcohol intake reduces sexual fears, promotes sexual desire and in this case is beneficial to sexual function [9]. Of course, more intense sexual behavior mostly means more risky sexual behavior and higher STDs transmission rate [10]. The hypothesis that alcohol in moderation confers health benefits is controversial and has implications for estimations of the global and regional burden of diseases caused by alcohol [11]. The aim of this study was to asses different patterns alcohol consumption influence on male sexual function in Lithuania where alcohol consumption is extremely high and andrological scientific studies quite scarce [3].

MATERIALS AND METHODS

Study population

The Lithuanian males were invited to participate in the study through social networks such as 'Facebook' or 'GooglePlus'. This study was approved by the Bioethics Committee of Lithuanian University of Health sciences (LUHS) (No. BEC – LSMU(R)-43).

Methods

All study participants were invited to fill in the authors composed questionnaire of social-demographic factors, sexual orientation smoking properties, also the participants were asked to mark if they have any medical condition or are taking any medication. The participants were also asked to report mood alterations or anxiety symptoms persisting for more than two weeks. Respondents which reported physical or mental health problems were excluded from the study. Only respondents sexually active in past 4 weeks period were included into final analysis

The shortened version of Alcohol Use Disorders Identification Test (AUDIT) questionnaire Alcohol Use Disorders Identification Test-Concise (AUDIT-C) was used to evaluate the risk of alcohol consumption of study participants. It contains three questions which cover frequency of drinking, quantities used when drinking and incidence of binge drinking [12, 13]. Full AUDIT performs slightly better in identifying patients with active alcohol abuse or dependence, but we had only to identify problematic users, so AUDIT-C questionnaire was chosen. Participants who scored 0 in AUDIT-C test were qualified as non-users. Participants who gathered less than 4 AUDIT points score were identified as moderate users and remaining participants who were evaluated 4 and more AUDIT points were identified with alcohol misuse.

European Male Aging Study Sexual Function Questionnaire (EMAS SFQ) was used to evaluate sexual function of participants. EMAS-SFQ has four distinct domains (overall sexual functioning [OSF], masturbation, sexual functioning-related distress, and change in sexual functioning) [14]. The questionnaire seems very useful because it covers not only erectile function but a much broader picture of male sexuality. The questionnaire was intentionally created for older men, however it seemed handy evaluating any age respondents [15]. The consistency of questionnaire was good (Cronbach alfa 0,8) [16]. Overall sexual functioning scale had valid range between 0–33 points, sexual distress (0–20), Change of sexual function (–12 ±12) and Masturbation domain (0 to 7 points).

We distributed study participants into four groups related to alcohol consumption habits: frequent small quantities (more than twice a week, less than 3 international alcohol units(IUA)) users, rare small quantities (twice and less in a week, less than 3 IUA) users, frequent large quantities (more than twice a week, 3 and more IUA) users and rare but large quantities users aka binge drinkers (twice and less a week, 3 and more IUA). IUA contains 10 grams of alcohol, in this case 1 IUA matches 25g of strong liquor, 150g of wine or 330g of beer [17].

Statistical analysis

All the continuous data are represented as mean (SD, standard deviation); all categorical data – as numbers and percent. Frequency rates were compared using Chi-square test, mean variables – ANOVA. Linear regression model was used in predictive analysis. Statistical analysis was performed using Statistical Package for the Social Science, SPSS 19.0; the results are statistically significant at $p < 0.05$.

RESULTS

Of 285 Lithuanian males who filled in the questionnaire 217 (76.14 %) reported no physical or mental health disorders and were sexually active in past 4 weeks, so were included into final analysis. The age interval was from 18 to 70 years, mean age was 30.41±9.89. Most of respondents (132 – 60,8 %) were working, 36 – 16,6 % were studying, 38 – 17,5% studying and working at the same time, 9 (4,1 %) were jobless, 2 (0,9%) were retired. Most of the participants (134 – 61,8%) reported having university or college degree, 43 (19,8%) were undergraduates from university or college, 40 (18,4%) had high school education. Homosexual orientation was reported by 14 respondents (4.5 %), while remaining

Table 1. **Domains of sexual function in different alcohol consumption habits**

Domain of sexual functioning	Drinking habit	Count N	Average±SD	Mininum	Maximum	P
Overall sexual functioning	rarely small quantities	91	21.18±5.94	8	32	0.60
	rarely large quantities	52	21.31±5.60	6	29	
	frequently small quantities	41	21.44±4.69	11	30	
	frequently large quantities	22	22.95±5.61	10	32	
Sexual distress	rarely small quantities	91	2.01±2.63	0	15	0.80
	rarely large quantities	52	2.13±3.07	0	14	
	frequently small quantities	41	2.46±3.15	0	14	
	frequently large quantities	22	2.50±3.08	0	13	
Change of sexual function	rarely small quantities	91	0.07±2.24	–7	6	0.47
	rarely large quantities	52	0.25±2.58	–5	12	
	frequently small quantities	41	0.32±2.64	–5	9	
	frequently large quantities	22	–0.64±2.54	–9	3	
Masturbation	rarely small quantities	91	2.86±1.94	0	7	0.80
	rarely large quantities	52	3.05±2.20	0	7	
	frequently small quantities	41	3.19±2.22	0	7	
	frequently large quantities	22	3.18±2.07	0	7	

presented themselves as heterosexual. Smoking was reported by 70 participants (32.3 %).

Only 11 respondents (5.1 %) presented themselves as non-users of alcohol, 65 (29.9 %) were identified as moderate alcohol users according to AUDIT-C test and remaining 141 respondents (64.9 %) were consistent with alcohol misuse according to AUDIT-C test. Alcohol misuse with possible liver damage was detected in 75 participants (34.6 %) who scored more than 5 points in AUDIT-C score.

Homosexual men were more likely to drink rarely but heavily than heterosexual men (57.1 % Vs 22.9 %), however there were none homosexual in frequent and heavy drinker's group (0 vs. 11.5 %). The differences were significant ($p<0.05$).

Connection between different alcohol consumption habits and four domains of sexual functioning (overall sexual function, sexual distress, masturbation and change of sexual function) is depicted in table 1. The mean overall sexual functioning score of frequent small quantities users was 21.18±5.90 (in limits 0–33), rare small quantities users 21.31±5.6, frequent large quantities users 21.44±4.69 and rare but large quantities users aka binge drinkers 22.95±5.61, respectively. Paradoxically, binge drinkers had the best sexual functioning, but the difference was not significant. There were no statistically significant differences in sexual distress, function change parameters and masturbation domain, too.

Comparison of abstainers, moderate drinkers and risky users' sexual function is included in table 2. Overall sexual functioning of abstainers was better 2.54±6.42, than moderate users 21.72±5.93 and risky users 21.33±5.40, but was not significant. Other domains also did not show significant differences.

The difference in sexual functioning between smokers and non-smokers groups was not statisticaly significant in our study.

Table 2. **AUDIT C score groups in different domains of sexual functioning**

Domain of sexual functioning	AUDIT SCORE*	Count N	Mean±SD	Minimum	Maximum	P
Overall sexual functioning	Non-users	11	22.54±6.42	8	31	0.73
	AUDIT 1–3	65	21.72±5.93	8	32	
	AUDIT 4 and more	141	21.32±5,39	6	32	
Sexual distress	Non-users	11	2.27±1.95	0	6	0.22
	AUDIT 1–3	65	1.68±2.28	0	11	
	AUDIT 4 and more	141	2.42±3.11	0	15	
Change of sexual function	Non-users	11	–0.73±1.55	–4	2	0.23
	AUDIT 1–3	65	0.42±2.14	–4	6	
	AUDIT 4 and more	141	–0.06±2.56	–9	12	
Masturbation	Non-users	11	3.36±1.56	0	6	0.30
	AUDIT 1–3	65	2.71±1.93	0	7	
	AUDIT 4 and more	141	3.15±2.12	0	7	

Table 3. **Age groups and domains of sexual functioning**

Domain of sexual functioning	Age group, years	Count N	Mean±SD	Minimum	Maximum	P
Overall sexual functioning	18–24	68	19.98±6.37*	6	32	**<0.001**
	25–39	115	22.93±4.66*	10	31	
	40–54	25	21.04±5.71*	10	32	
	55 and more	9	16.00±3.57*	11	22	
Sexual distress	18–24	68	2.47±2.99	0	14	0.50
	25–39	115	1.92±2.47	0	15	
	40–54	25	2.40±3.88	0	14	
	55 and more	9	2.89±2.89	0	7	
Change of sexual function	18–24	68	0.17±2.34	–5	8	0.21
	25–39	115	0.16±2.55	–9	12	
	40–54	25	–0.32±1.67	–5	3	
	55 and more	9	–1.44±2.45	–5	2	
Masturbation	18–24	68	3.81±1.90*	0	7	**<0.001**
	25–39	115	2.89±1.93*	0	7	
	40–54	25	2.04±2.26*	0	7	
	55 and more	9	1.56±1,74*	0	5	

*Significant differences $p<0.05$

The connection between age and sexual functioning parameters is depicted in table 3. In age group from 18 to 24 years overall sexual functioning was 19.98±6.38, in 25–34 years age group 22.94±4.66, 35–54 years age group, 21.04±5.71 and in 55 years and older age group 16.00±3.57 and the differences between groups were significant ($p<0.05$). There were no statistically significant differences in sexual distress, function change and masturbation domains while testing age groups.

Men who did not have sexual intercourse in past 4 weeks were masturbating more frequently 81.3% vs. those who had a sexual partner in past 4 weeks – 58.9 % ($p<0.05$).

DISCUSSION

Our study failed to prove any connection between alcohol consumption and male sexual functioning; however alcohol misuse is prevalent in more than half of study sample which somehow correlates with harsh Lithuanian alcohol misuse statistics. Moderate drinkers did not show better sexual functioning than complete non-users, so it seems that alcohol myopia theory [7] is working only occasionally, but is not consistent for longer periods. Also, moderate drinkers did not show lower rates of sexual dysfunction that did not prove the J shape theory in our sample. The failure to prove the J shape correlation may be influenced by our study participants quite young age average, therefore curvilinear association between alcohol consumption and erectile performance was proven in study samples of quite older participants [18, 19].

Whether moderate alcohol consumption influence on sexual behavior is still debatable, heavy drinking is clearly associated with higher prevalence of sexual dysfunction [20, 21]. However, our study lacks similar evidence. It is impossible to evaluate from our study for how long respondents were overdosing alcoholic substances, but it is possible that misuse period might be too short to manifest in health issues such as sexual dysfunction. Also, the lack of connection between alcohol use and sexual health may be attributable to quite small sample size.

Overall sexual function of our respondents was better than in other healthy population studies [16, 22], it may be because of small sample size, and relatively young average age of respondents. The masturbation prevalence was quite similar as in one of the previous Lithuanian andrology studies [23]. Also, not so few respondents denied masturbating at all, about what we have quite skeptical consideration. The problem may be high defensiveness and shyness of these respondents, and perhaps not perceiving andrological studies as a separate area of science.

The connection between male aging and sexual functioning decrease is well established and mainly tied with erectile dysfunction [19, 24, 25]. On the other hand, evidence show that regular intercourse protects against the development of erectile dysfunction among older men [26]. In our study sample older men sexual functioning was relatively satisfactory which show that Lithuanian men agree with European men that aging does not mean celibacy [27].

We presume that quite small study sample and quite young average sample age did not let us to prove smoking damage to sexual health what is clearly evidenced in epidemiological studies [28, 29].

Masturbation frequency dependence on having sexual partner or not is somewhat contradictory. In our study more prone to masturbation were single men; however it is not always the rule of thumb in literature [23, 30, 31].

There are very few studies about homosexual men health and behavior patterns in Eastern Europe, however in Western World correlation between sexual orientation and binge drinking is established [32, 33]. One study has noticed that homosexuals in USA were more prone to binge drinking than

in Europe, so in this case our study gay participants are more similar to Americans than Europeans [34].

In summary, it is clear that larger scale studies in sexual health and alcohol topics are needed. Alcohol is potent biopsychoactive substance, which is in many cases detrimental and its possible benefits are still very contradictory.

CONCLUSIONS

Alcohol consumption of adult Lithuanian males still remains an alerting issue. Despite the fact, that Lithuanian males are prone to easily overdose liquors they are quite content with their sexual functioning. Our study did not succeed to prove connection between alcohol consumption and male sexual functioning or detect any sexual health and alcohol usage.

Conflicts of interest

Authors declare no conflicts of interest.

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PACIENTO SVEIKATOS KLAUSIMYNAS-9

Patient Health Questionnaire – 9

Jonas MONTVIDAS

Lietuvos sveikatos mokslų universiteto Psichiatrijos klinika, Kaunas, Lietuva

Depresija – didžiausią naštą pasaulio sveikatos priežiūros sistemai keliantis susirgimas. Remiantis 2015 m. Pasaulio Sveikatos Organizacijos (PSO) publikuotais duomenimis, šiuo psichikos sutrikimu serga 322 milijonai žmonių visame pasaulyje, tai yra net 4,4 proc. pasaulio populiacijos. Šis sutrikimas atsakingas už 7,5 proc. visų sergant praleistų metų (angl. *Years lived with disability*, YLD) [1] . Negana to, depresija sergančių asmenų skaičius nuolat didėja. Lyginant PSO 2005 ir 2015 m. publikuotus epidemiologinius duomenis, bendras depresija sergančių asmenų skaičius padidėjo 18,4 proc. [2]. Ši tendencija stebima ir Lietuvos populiacijoje, kur, remiantis Lietuvos Sveikatos Apsaugos Ministerijos Higienos Instituto Sveikatos Informacijos Centro pateikiamais duomenimis, tarp 2014 ir 2016 m. sergamumas nuotaikos sutrikimais padidėjo nuo 51,6 iki 64,4 atvejų 100 tūkstančių gyventojų [3] .

Nepaisant problemos masto, tik nedidelė dalis depresija sergančių asmenų sulaukia savalaikės ir tinkamos pagalbos. Remiantis Europos Sąjungos šalyse atliktų epidemiologinių tyrimų duomenimis, didžioji dauguma depresija sergančių asmenų pirmiausia kreipiasi į šeimos gydytoją ir tik 37 proc. sulaukia tinkamos pagalbos, o iš jų didžioji dalis toliau būna gydoma bendrosios praktikos gydytojų pirminiame sveikatos priežiūros lygyje ir tik 15–20 proc. būna nukreipiami psichiatrams [4]. Mitchell ir kt. 2009 m. atliktos meta-analizės metu buvo rasta, kad bendrosios praktikos gydytojai teisingai depresiją įtaria tik apie 47 proc. atvejų ir apie tai medicininėje dokumentacijoje pažymi maždaug 34 proc. atvejų. Rasta, kad šimto standartinių apsilankymų pas šeimos gydytoją metu klaidingai nustatytų depresijos atvejų (n=15) buvo daugiau nei nenustatytų (n=10) ar teisingai nustatytų (n=10) atvejų [5].

Siekiant sumažinti depresijos keliamą naštą, reikia tiksliau diagnozuoti afektinius sutrikimus pirminiame sveikatos priežiūros lygyje. Jungtinių Amerikos Valstijų Valstybinė Ligų Prevencijos Grupė (ang. *United States Preventative Services Task Force,* USPST) rekomenduoja bendrąją pilnamečių asmenų populiaciją reguliariai ambulatoriškai vertinti dėl galimos depresinės simptomatikos, siekiant diagnozuoti daugiau ankstyvos depresijos atvejų, laiku skirti reikiamą gydymą ir ilgainiui gerinti išeitis, mažinti ligotumą [6]. Kroenke ir kt. 2010 m. publikuotoje sisteminėje apžvalgoje įvardinama, kad standartizuotus diagnostinius įrankius naudojantys gydytojai teisingai atpažino daugiau depresija sergančių asmenų, nei tokių įrankių nenaudoję gydytojai (53 proc. vs 34 proc., $p<0,01$) [7]. Standartizuotų diagnostinių įrankių naudojimą pirminiame sveikatos priežiūros lygmenyje taip pat rekomenduoja įvairios afektinių sutrikimų diagnostikos ir gydymo gairės [8].

Nėra priimto vieningo sprendimo dėl to, koks instrumentas turėtų būti naudojamas depresijos diagnostikai pirminiame sveikatos priežiūros lygmenyje. Sutarta, kad idealus diagnostinis įrankis turėtų būti lengvai ir greitai atliekamas, suprantamas tiek pacientui tiek gydytojui, o gauti rezultatai paprastai apibendrinami. Šis įrankis turėtų būti jautrus ir specifiškas depresijos simptomams. 2017 m. El-Den ir kt. atliktoje sisteminė apžvalgoje, kurioje nagrinėti tyrimai vertinę diagnostinius įrankius skirtus depresijos diagnozės nustatymui, depresiškumo vertinimui įtraukė duomenis iš tyrimų nagrinėjusių per 55 skirtingus instrumentus ir buvo rasta, kad Paciento Sveikatos Klausimyno-9 (angl. *Patient Health Questionnaire-9*, PHQ-9) psichometrinės savybės buvo ištirtos plačiausiai, šį diagnostinį įrankį vertinimo 14 į sisteminę apžvalgą įtrauktų tyrimų. Visuose į sisteminę apžvalgą įtrauktuose PHQ-9 nagrinėjusiuose tyrimuose, šio klausimyno psichometrinės savybės išliko geros, kas įrodo šio įrankio patikimumą [9].

PHQ-9 yra platesnio paciento sveikatos klausimyno (PHQ) dalis, skirta depresijos vertinimui. Pats PHQ klausimynas buvo sukurtas 1999 metais ir validizuotas dviejų apie 6000 pacientų iš įvairių priminės sveikatos priežiūros bei ginekologijos-akušerijos klinikų įtraukusių tyrimų metu [10, 11] . PHQ-9, kaip motininis PHQ, yra savęs vertinimo klausimynai, kuriuos pacientai užpildo patys nuo pradžios iki gali. PHQ-9 sudaro 9 punktai atitinkantys DSM-IV pateikiamus depresijos (angl. *Major Depressive Disorder*) diagnostinius kriterijus. Prie kiekvieno punkto, reikia pažymėti vieną iš keturių atsakymų, nusakančių kaip dažnai per pastarąsias dvi savaites pasireiškia vienas ar kitas simptomas: „visai nekamavo“, „keletą dienų“, „daugiau nei pusė iš visų dienų“, „beveik kiekvieną dieną“. Kiekvienam iš šių atsakymų priskiriama nuo 0 iki 3 balų priklausomai nuo to kaip dažnai pasireiškia tas simptomas. Taip pat, gale klausimyno yra papildomas klausimas, kuris prašo pildančiojo įvertinti kaip jo pažymėti simptomai apsunkino jo

Corresponding author: Jonas Montvidas, Mickeviciaus str. 9, Kaunas, LT-44307, Lithuania, E-mail: jo.montvidas@gmail.com

kasdienę asmeninę ir darbinę veiklą: „visai neapsunkino“, „šiek tiek apsunkino“, „labai apsunkino“, „ypač apsunkino. Pagal surinktų balų sumą ir atsakymą į papildomą klausimą galima vertinti depresinių simptomų sunkumą: surinkus tarp 0–4 balus, depresijos simptomai minimalūs, 5–9 balus menkai išreikšti simptomai, 10–14 balų vidutiniai, 15–19 sunkūs, 20–27 labai sunkūs depresijos simptomai [11].

Yra du metodai, kuriais naudojantis galima interpretuoti gautus rezultatus. Pirmasis, kuris buvo sugalvotas kuriant PHQ-9, paremtas DSM-IV depresijos diagnostiniu algoritmu. Vadovaujantis juo, depresija diagnozuojama, jeigu prie 5 punktų respondentas pažymėjo „daugiau nei pusė iš visų dienų“ ir vienas iš šių punktų buvo apie blogą nuotaiką ar anhedoniją. Kitas metodas – apskaičiuoti tam tikrą balų sumą nuo kurios būtų galima diagnozuoti [11]. Remiantis Gilbody et at atlikta meta analize, kurioje buvo vertinamos psichometrinės PHQ-9 savybės, nustatyta, kad PHQ-9, kuomet depresija diagnozuojama esant ≥ 10 balų, jautrumas yra apie 0,8 (95 proc., PI 0,71–0,87), specifiškumas 0,92 (95 proc., PI 0,88–0,95) [12].

PHQ-9 adaptuotas visuose pasaulio žemynuose, įvairiose šalyse [13–20]. Šio klausimyno tikslumas ir specifiškumas nustatant depresija sergančius asmenis yra aukštas tiek bendrojoje į pirminę sveikatos priežiūros grandį besikreipiančių [20–22], tiek specifiniuose somatinių ligų stacionaruose gydomų [23–25], tiek į psichikos sveikatos priežiūros specialistus besikreipiančių pacientų populiacijose [26–28]. PHQ-9 gali ne tik jautriai ir specifiškai nustatyti depresijos diagnozę, tačiau taip pat galima vertinti simptomų išreikštumą tiek darbingo tiek senyvo amžiaus pacientams [29]. Taip pat, šis klausimynas tinka vertinti depresijos gydymo efektyvumą, vertinant simptomų išreikštumo kitimą gydymo dinamikoje [28].

Apibendrinant, PHQ-9, tai plačiausiai ištirtas, jautrus ir specifiškas instrumentas tinkamas tiek depresijos diagnozės nustatymui, tiek simptomų išreikštumo bei gydymo efektyvumo vertinimui. Šis klausimynas paremtas DSM-IV nomenklatūra, tačiau naudojant tam tikrą balų sumą kaip atskaitos tašką, galima diagnozuoti depresiją ir remiantis TLK-10 nomenklatūra. Pagrindinė šio instrumento silpnoji pusė Lietuvoje yra, kad kol kas nėra Lietuvos populiacijoje atlikto lietuvišką PHQ-9 variantą validizuojantis tyrimas ir nėra nustatytas Lietuvos populiacijai specifiškas atskaitos taškas nuo kurio būtų galima vertinti diagnozę, tačiau, remiantis gausiais visame pasaulyje atliktų tyrimų rezultatais, atskaitos taškas turėtų būti ≥10 balų.

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PACIENTO SVEIKATOS KLAUSIMYNAS-9
(PHQ-9)

Kaip dažnai per pastarąsias 2 savaites jus kamavo kurios nors iš šių problemų? (*Norėdami pažymėti savo atsakymą naudokite „√“*)	**Visai nekamavo**	**Keletą dienų**	**Daugiau nei pusė iš visų dienų**	**Beveik kiekvieną dieną**
1. Mažas susidomėjimas ar malonumas atliekant dalykus	0	1	2	3
2. Jautimasis nusiminusiam (-ai), prislėgtam (-ai) ar beviltiškam (-ai)	0	1	2	3
3. Sunkumas užmigti ar išmiegoti, arba per ilgas miegojimas	0	1	2	3
4. Jautimasis pavargusiam (-ai) ar energijos trūkumas	0	1	2	3
5. Prastas apetitas arba persivalgymas	0	1	2	3
6. Prasta savijauta – pojūtis, kad esate nevykėlis (-ė) arba kad nuvylėte save ar savo šeimą	0	1	2	3
7. Sunkumas susikoncentruoti ties tokiais dalykais, kaip laikraščio skaitymas arba televizoriaus žiūrėjimas	0	1	2	3
8. Judėjimas ar kalbėjimas taip lėtai, kad kiti žmonės galėjo pastebėti? Arba atvirkščiai – buvimas tokiam (-ai) neramiam (-ai) ar nenustygstančiam (-ai), kad judėjote daug daugiau nei įprasta	0	1	2	3
9. Mintys, kad jums būtų geriau būti mirusiam (-ai) arba apie savęs žalojimą kokiu nors būdu	0	1	2	3

Bendra balų suma =

Jei pažymėjote kokias nors problemas, kaip šios problemos apsunkino jums galimybes dirbti savo darbą, rūpintis namais ir vaikais arba sutarti su kitais žmonėmis?

Visai neapsunkino	**Šiek tiek apsunkino**	**Labai apsunkino**	**Ypač apsunkino**
☐	☐	☐	☐

Alicja Juskiene – "Associations of psychological and biological factors with obstructive sleep apnea in coronary artery disease patients"

Alicja Juskiene has master degree in Health Psychology (2011). In 2013 started PhD studies at the Lithuanian Univeristy of Health Sciences in Nursing and on 3rd July of 2018 defended her PhD thesis. Alicja works at Lithuanian University of Health Sciences as Research Assistant at the Neuroscience Institute and as lecturer at the Faculty of Nursing at Behavioral Medicine Clinic.

Alicja Juskiene during her PhD studies won several awards including sponsorship for Alpine Sleep Summer School at Lugano, Switzerland (2015), European College of Neuropsychology (ECNP) internship at Technische Universität Dresden led by prof. dr. Hans-Ulrich Wittchen. Scientific presentations of Alicja Juskiene were awarded at the 28th ECNP Congress (2015), at the 8th Lithuania national PhD students conference (second place, 2015), at the 9th Lithuania national PhD students conference (first place, 2015). Alicja is an active member of Lithuanian Cognitive Behavioral Therapy Association (vicepresident), Lithuanian Psychologist Society (from 2016 member of Clinical and Health Psychology Practice Committee), Lithuanian Association of Mindfulness based Psychology, International College of Obsessive Compulsive Disorder, Lithuanian Biological Psychiatry and Psychopharmacology Society, European College of Neuropsychofarmacology.

INTRODUCTION

Obstructive sleep apnea (OSA) is an independent risk factor for cardiovascular disease and it is associated increased risk for cardiovascular mortality (Gonzaga, Bertolami., 2015). Although OSA could be modifiable cardiovascular risk factor, it often remains undiagnosed, even after admission for myocardial infarction treatment (Konecny et al. 2010). Evidence shows that untreated OSA is associated with decreased cardiac function and may place CAD patients at a disadvantage in recovering from their cardiac event and may increase risk for cardiovascular complications (Pogosova, et al., 2015). Consequently, prolonged recovery after cardiac event might result in higher depression and anxiety symptoms (Pogosova, et al., 2015).

Psychological factors, such as anxiety, depression and Type D personality, affect the cardiovascular system through impaired functioning of the autonomic nervous system, neuroendocrine and behavioural pathways, which may affect normal homeostatic and inflammatory processes, endothelial function and myocardial perfusion (Mommersteeg, 2012; 2014).

AIM

To examine associations of psychological and biological factors with obstructive sleep apnea (OSA) in coronary artery disease patients undergoing cardiac rehabilitation after acute coronary syndromes (ACS).

OBJECTIVES

1) to assess symptoms of anxiety and depression symptoms in patients with and without OSA; 2) to examine the relationship between Type D personality and subjective sleep quality in patients with and without OSA; 3) to assess thyroid hormones and inflammatory biomarkers concentrations in patients with and without OSA, 4) to examine the association of symptoms of anxiety and depression with thyroid hormones and inflammatory markers in patients with and without OSA; 5) to examine the association of Type D personality with thyroid hormones and inflammatory markers in patients with and without OSA.

CONCLUSIONS

1. Obstructive sleep apnea is highly prevalent in CAD patients after acute coronary syndromes and its severity is associated with grater cognitive depression symptoms in males but not females.
2. Type D personality trait and Negative Affectivity trait are associated with worse subjective sleep quality irrespectively of obstructive sleep apnea presence both in men and women with CAD. Type D personality and Negative Affectivity in male patients and women with obstructive sleep apnea is indirectly associated with subjective sleep quality via anxiety and depression symptoms. In contrast, Type D personality and Negative Affectivity in female without obstructive sleep apnea is directly associated with subjective sleep quality.
3. Obstructive sleep apnea severity is associated with greater free triiodothyronine and with lower free thyroxine serum concentrations but not with inflammatory markers in male CAD patients. While obstructive sleep apnea severity in female CAD patients is associated with elevated high sensitivity C-reactive protein concentration, but not with thyroid hormones.
4. Affective symptoms of depression are associated with lower free triiodothyronine serum concentrations in male CAD patients without obstructive sleep apnea and with higher free triiodothyronine serum concentration in male CAD patients with obstructive sleep apnea. While in female CAD patients without obstructive sleep apnea, affective symptoms of depression are associated with lower thyroid-stimulating hormone, cognitive symptoms of depression with lower interleukin-6 and anxiety symptoms with higher free thyroxine serum concentrations. Somatic symptoms of depression are associated with higher free triiodothyronine and lower high sensitivity C-reactive protein in obstructive sleep apnea female patients.
5. Social inhibition is associated with lower interleukine-6 serum concentration in male without obstructive sleep apnea. While in women without obstructive sleep apnea, Type D personality, Negative Affectivity and Social Inhibition are associated with lower thyroid-stimulating hormone serum concentrations. No associations between Type D personality traits and thyroid hormones or inflammatory markers were found in male and female with obstructive sleep apnea.