Perceptions of sexual harassment experience during residency training: relations with gender, marital status, anxiety and depressive symptoms and quality of life

Gydytojų rezidentų patirto seksualinio priekabiavimo suvokimas: sąsajos su lytimi, šeimine padėtimi, nerimastingumu, depresiškumu ir gyvenimo kokybe

Aringas VAGONIS[1,2], Agne GECIENE[1,3], Vesta STEIBLIENE[1]

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

[2]Klaipeda Center for Addictive Disorders, Klaipeda, Lithuania

[3]Republican Kaunas Hospital branch, Psychiatry Hospital, Kaunas, Lithuania

SUMMARY

Background. Sexual harassment (SH) – discrimination based on gender, has become increasingly recognized in the field of medicine and reported as common in the residency training.

The aim of this study was to evaluate the prevalence of experienced SH during residency training among the residents in Lithuanian University of Health Sciences and the relations with self-reported anxiety and depressive symptoms and quality of life.

Methods. The study included 193 residents (response rate – 47%). A self-report anonymous survey was used to evaluate socio-demographic characteristics. The Sexual Experiences Questionnaire (SEQ) was used to identify the experience of gender harassment, unwanted sexual attention and sexual coercion; The WHO Quality of Life-HIV BREF scale – to evaluate the quality of life; the Hospital Anxiety and Depression Scale (HADS) – for self-reported depressive and anxiety symptoms.

Results. One hundred fifty one (78.2% of study participants) resident, according the responses to the Questionnaire, were evaluated as experienced SH at least once during residency training: 119 females (83.8%) and 32 males (62.7%), p=0.002. According the answers to the questioner, 74.6% of respondents had experience of Gender Harassment; followed by 53.4% – Unwanted Sexual Attention and 20.7% – Sexual Coercion. All three types of SH were evaluated significant more prevalent among females than males (Gender Harassment – 81% vs. 56.9%, p= 0.001, respectively; Unwanted Sexual Attention – 58.5% vs. 39.2%, p=0.014, respectively and Sexual Coercion – 23.9% vs. 11.8%, p=0.046, respectively).The residents who experienced Gender Harassment and Unwanted Sexual Attention had reported significant lower Quality of Life (QOL) psychological health score on in comparison to subjects without such experience of SH (64.27±11.08 vs. 67.88±8.80, p=0.04, respectively; 63.23±10.81 vs. 67.42±10.02, p=0.006, respectively). The subjects with experience of Sexual Coercion reported significant lower QOL social relationship score in comparison to subjects who did not experience Sexual Coercion (66.70±17.54 vs. 72.74±15.24, p=0.032, respectively). Significant more severe symptoms of anxiety were reported among subjects with subjectively evaluated occurrence of SH (p=0.004), experienced Gender Harassment (p=0.014) and Unwanted Sexual Attention (p=0.002). Significant more severe depressive

SANTRAUKA

Įvadas. Seksualinis priekabiavimas (SP) – diskriminacijos dėl lyties forma, vis dažniau nustatoma tarp medicinos darbuotojų ir tampa įprastu reiškiniu rezidentūros studijų metu.

Tyrimo tikslas. Ištirti ir įvertinti Lietuvos sveikatos mokslų universiteto gydytojų rezidentų patiriamo SP dažnius, sąsajas su nerimastingumu, depresiškumu bei gyvenimo kokybe.

Metodai. Anoniminės anketinės apklausos būdu vertinti 193 rezidentų duomenys (atsakymus pateikė 47 proc. pakviestųjų). Naudota sociodemografinių duomenų anketa; su lytimi susijusio priešiškumo, nepageidaujamo seksualinio dėmesio ir seksualinės prievartos patyrimui nustatyti - seksualinės patirties klausimynas (angl. Sexual Experience Questionnaire); gyvenimo kokybė vertinta Pasaulio Sveikatos Organizacijos Gyvenimo kokybės klausimyno trumpąja forma (angl. *WHO Quality of Life-HIV BREF*). Hospitaline nerimo ir depresijos skale (angl. *Hospital Anxiety and Depression Scale*) vertintas subjektyvaus nerimastingumo ir depresiškumo išreikštumas.

Rezultatai. Šimtas penkiasdešimt vienas rezidentas (78,2 proc. pateikusių duomenis) pagal atsakymus į klausimyno teiginius vertintas kaip bent kartą patyręs SP rezidentūros studijų metu: 119 moterų (83,8 proc.) ir 32 vyrai (62,7 proc.); p=0,002. Iš tiriamųjų 74.6 proc. nurodė patyrę su lytimi susijusį priešiškumą, 53,4 proc. – nepageidaujamą seksualinį dėmesį ir 20,7 proc. – seksualinę prievartą. Visas tris SP formas dažniau patyrė moterys, nei vyrai (su lytimi susijusį priešiškumą – 81 proc. vs. 56,9 proc., p=0,001, atitinkamai; nepageidaujamą seksualinį dėmesį – 58,5 proc. vs. 39,2 proc., p=0,014, atitinkamai; ir seksualinę prievartą – 23,9 proc. vs. 11,8 proc., p=0,046, atitinkamai). Rezidentai patyrę su lytimi susijusį priešiškumą ir nepageidaujamą seksualinį dėmesį nurodė reikšmingai žemesnius Gyvenimo kokybės (GK) psichologinės sveikatos rodiklius, lyginant su nepatyrusiais SP (64,27±11,08 vs. 67,88±8,80, p=0,04, atitinkamai; 63,23±10,81 vs. 67,42±10,02, p=0,006, atitinkamai). Asmenys patyrę seksualinę prievartą nurodė reikšmingai žemesnį GK socialinių santykių rodiklį, lyginant su nepatyrusiais seksualinės prievartos (66,70±17,54 vs. 72,74±15,24, p=0,032, atitinkamai). Reikšmingai sunkesnį nerimastingumą sau priskyrė tiriamieji, subjektyviai nurodę SP (p=0,004), patyrę su lytimi susijusį priešiškumą (p=0,014) ir nepageidaujamą seksualinį dėmesį (p=0,002). Reikšmingai sunkesnį depresiškumą sau priskyrė

Address for correspondence: Vesta Steibliene, Mickeviciaus 9, Kaunas, Lithuania, phone no.: +37037326363, e-mail: vsteibliene@gmail.com

symptoms was reported among subjects with experience of Gender Harassment (p=0.028) and Unwanted Sexual Attention (p=0.008).

Conclusions. Over three-fourth of the residents-study participants were evaluated as having experience of SH during residency training; with significantly higher prevalence of this experience among female. Residents who experienced SH reported greater severity of anxiety and depressive symptoms and worse QOL in comparison to residents without experience of SH.

Keywords: residents, sexual harassment, anxiety symptoms, depressive symptoms, quality of life.

tiriamieji patyrę seksualinę prievartą (p=0,028) ir nepageidaujamą seksualinį dėmesį (p=0,008).

Išvados. Trys ketvirtadaliai tyrimo dalyvių – rezidentų pagal klausimyno duomenimis buvo vertinti kaip patyrę SP; moterys reikšmingai dažniau nei vyrai. Patyrę SP sau priskyrė reikšmingai sunkesnį nerimastingumą ir depresiškumą bei blogesnę gyvenimo kokybę, lyginant su neturėjusiais SP patirties.

Raktažodžiai: rezidentai, seksualinis priekabiavimas, nerimastingumas, depresiškumas, gyvenimo kokybė.

INTRODUCTION

Sexual harassment (SH) is known as one of the most sensitive problems of discrimination based on gender and it is considered as the violation of human rights. SH in the workplace has been defined as "unwelcome conduct of a sexual nature that detrimentally affects the work environment or leads to adverse job-related consequences for the victims of the harassment" [1]. SH has negative impact on victims' physical and mental health and quality of life, it effects economic and social situation [2]. SH has become increasingly recognized in the field of medicine [3]. Physiological abuse, discrimination on the basis of gender and SH has reported as common in the residency training [4-6]. Although there are reports of the SH of medical trainees, a little information about the prevalence of this problem and whether it is adequately addressed by training institutions.

The study in the University of California, USA reported that 73% of female and 22% of male in residency program of internal medicine had been sexually harassed at least once during their training [6]. Perceived abuse or harassment during the residency training has a negative impact on residents' health, well-being, but even study results [7, 5]. Most of the respondents experienced SH, especially in the form of sexist jokes, flirtation and unwanted compliments on their dress or figure. On average, 40% of respondents, especially women, reported experiencing offensive body language and receiving sexist teaching material and unwanted compliments on their dress. Significantly more female respondents than male indicated that they have been sexually harassed of someone. The most frequent emotional reactions on SH were embarrassment, anger and frustration [4, 8].

Despite the reports of the social scientists about the negative effect of SH on mental health, only few longitudinal studies have investigated the association between SH and depressive symptoms [9, 10]. SH experienced has a negative effect on poor self-esteem, depression, psychological consequences requiring therapy, and in some cases, transferring training programs [11]. In the later life periods SH predicts a fear of the recurrence in a workplace, which in turn, predicts negative mood (anxiety and anger) and perceptions of injustice [12].

The aim of this study was to evaluate the prevalence of experienced SH during residency training among the residents in Lithuanian University of Health Sciences (LUHS) and evaluate the relations with gender, marital state, feelings of anxiety and depressive symptoms and quality of life.

MATERIAL AND METHODS

Study population

This cross-sectional study took place in the Psychiatry Clinic at LUHS in a period from November 2014 till January 2015. The study and its consent procedures were approved by the Ethics Committee for Biomedical Research of the LUHS, Kaunas, Lithuania. We were planning to invite all 408 residents of LUHS hospital to participate in the study. The main inclusion criterion was the consent to participate. All heads of 30 Clinical departments were informed about the aim of the study. It is important to mention that two heads of departments did not allow to perform this study and to examine their residents, due to explanation that "sexual harassment in their departments did not exist" or etc. We distributed 408 anonymous questionnaires, but only 193 were returned. The study participants represented approximately 47.25% of residents at University hospital.

Methods

We used a self-report survey to evaluate socio-demographic characteristics (age, gender, marital status, residency program and year of residency).

The perception of the experienced SH from doctors, teaching staff or head of residency during their residency training were measured using The Sexual Experiences Questionnaire (SEQ). SEQ was designed to identify and evaluate the prevalence of gender harassment, unwanted sexual attention and sexual coercion [13], as a self-report questionnaire containing 20 items. In the first 19 items respondents were asked to indicate whether they had experienced a particular behavior. First 6 items pertain to gender harassment: "Have you ever been in a situation where a professor told suggestive stories/ offensive jokes, made crudely sexual remarks, used sexist or suggestive teaching materials, treated you "differently" because of your gender, made remarks about your appearance, body or sexual activities and etc.?"

Next 5 items pertain to unwanted sexual attention: "Have you ever been in a situation where a professor was staring, leering or ogling you, made unwanted attempts to draw you into a discussion of personal sexual matters, engaged in what you considered seductive behavior towards you, you received unwanted sexual attention and etc.?"

Next 8 items are questions about sexual coercion: "Have you ever been in a situation where a professor attempted to establish a romantic sexual relationship with you, "propositioned" you, made deliberate attempts to touch, fondle, kiss you, subtly bribed with some sort of "rewards" and etc.?"

The last 20th item was asking whether the respondents

had been sexually harassed (the subjective opinion of the respondents – have they ever experienced SH during residency training). All responses were divided into two groups (0 – "never" and 1 – "at least once during residency training") to indicate prevalence of such experience.

To evaluate the quality of life (QOL) the World Health Organization Quality of Life (WHOQOL-HIV BREF) scale – a shorter version of the original instrument was used. The WHOQOL-HIV BREF is a 26-item self-report instrument, which measure the following broad domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items); it also evaluates the scores of general health items. Participants' responses were based on their experience over the past week. Each item is rated using a 5-point Likert scale (ranking from 1 – "not at all" to 5 – "extremely"). Domain scores are scaled in a positive direction (i.e., higher scores denote higher QOL). The mean score of items within each domain is used to calculate the domain score. After computed the scores, they transformed linearly to a 0–100 – scale [14, 15].

For self-rating of severity of current depressive and anxiety symptoms the Hospital Anxiety and Depression Scale (HADS) was used [16, 17]. HADS is a 14-item self-rating scale, each with four response options valued from 0 to 3 points. Residents' responses were based on their experience over the past week The HADS is comprised of two 7-item subscales: 7 questions to evaluate depressive symptoms and 7 – anxiety symptoms. Scoring amount of depressive and anxiety symptoms group may range from 0 to 21. The score represents the estimate severity of depressive symptoms or severity of anxiety symptoms.

Statistical analysis

Statistical data analysis was performed using SPSS 17.0 software. All continuous data was represented as mean (SD, standard deviation), all categorical data – as number and percent. Comparison of frequency rates were assessed using chi squared test or Fisher exact test.

The Spearman correlation was calculated to evaluate the associations among age of study participants, frequency of SH, anxiety and depressive symptoms scores and QOL scores. To compare differences in anxiety/depressive symptoms scores and QOL scores among the subjects with and without experience of SH an independent sample t-test was used. Statistical significance level was set at 5% ($P<0.05$).

Table 1. **The sociodemographic characteristics of study participants according gender, n=193**

Characteristics	Total, n=193	Female n=142, (73.6 %)	Male n=51, (26.4 %)	p Value*
Age, mean±SD (range), years	27.4±2.7 (24–47)	27.2±2.3 (24–40)	27.8±3.7 (24–47)	0.199
Marital status, n (%)				0.966
Single	84 (43.5)	61 (43)	23 (45.1)	
Married	72 (37.3)	54 (38)	18 (35.3)	
Cohabited	31 (16.1)	23 (16.2)	8 (15.7)	
Divorced	6 (3.1)	4 (2.8)	2 (3.9)	
Years of residency, n (%)				0.915
1st	48 (24.9)	36 (25.4)	12 (23.5)	
2nd	54 (28)	37 (26.1)	17 (33.3)	
3rd	46 (23.8)	35 (24.6)	11 (21.6)	
4th	34 (17.6)	26 (18.3)	8 (15.7)	
5th	10 (5.2)	7 (4.9)	3 (5.9)	
6th	1 (0.5)	1 (0.7)	0 (0)	
Residency programs, n	22	20	14	

*female vs. male

RESULTS

One hundred ninety three residents – 142 females (73.6%) and 51 males (26.4%) from 22 different residency programs and from all six years of residency were included into the study. Mean age of study participants was 27.4±2.7 years old, ranged from 24 to 47. More than half of participants (53.4%) were married or cohabited with partner, other – were single or divorced. As shown in Table 1, there were no significant differences between female and male study participants according age, marital state and years of residency.

The results of the SEQ showed that 78.2% of study participants (n=151) had experienced at least one type of SH: 83.8% of females (n=119) and 62.7% of males (n=32), p=0.002. Evaluating the frequency of exposure to sexual harassing behaviors, three domains of the SEQ were analyzed. As shown in Table 2, the biggest part of study participants (74.6%) had experienced Gender Harassment; followed by 53.4% experienced Unwanted Sexual Attention and 20.7% – Sexual Coercion. The answers to the subjective question "Have you been sexually harassed" showed that only 14.5% of study participants subjectively had perception about experienced SH. These results showed that the subjective perception of sexual harassment significant differs from the objective one (based on the answers of the questionnaire), (p=0.001). Gender differences were found in subjectively evaluation of SH, as well as in all three domains of SEQ. Significant more females than males subjectively reported SH (19% vs 2%, p=0.001, respectively); all three types of SH were evaluated significant more prevalent among females than males (Gender Harassment – 81% vs. 56.9%, p=0.001, respectively; Unwanted Sexual Attention – 58.5% vs. 39.2%, p=0.014, respectively and Sexual Coercion – 23.9% vs. 11.8%, p = 0.046, respectively). The evaluation of the SH in relation to residents' marital status revealed significant greater prevalence of subjectively reported SH among single/divorced respondents in comparison to married/cohabited (64.3% vs 35.7%, p=0.034); and significant greater prevalence of Sexual Coercion (67.5% vs. 31.5%, p=0.03, respectively). This difference was statistically significant among single/divorced females, but not males in the same marital state. No statistically significant association was found between the age of study subjects, residency training years, residency programs and sexual harassment experience.

After transforming all QOL subscales into 100 scores, the comparison in four domains of QOL scale among residents with and without evaluated SH experience was done (Table 3). The subjects, who experienced Gender Harassment and Unwanted Sexual Attention had reported significant lower psychological health score in comparison to subjects without such experience of SH (64.27±11.08 vs. 67.88±8.80, p=0.04, respectively; 63.23±10.81 vs. 67.42±10.02, p=0.006, respectively).

Table 2. **Prevalence of Sexual Harassment, Once or More times during residency training**

Characteristics		Subjectively evaluated occurrence of SH, n (%)	p Value*	Gender Harassment (6 items), n (%)	p Value*	Unwanted Sexual Attention (5 items), n (%)	p Value*	Sexual Coercion (8 items), n (%)	p Value*
All participants, n = 193		28 (14.5)		144 (74.6)		103 (53.4)		40(20.7)	
Gender	Female, n=142	27 (19)	**0.001**	115 (81)	**0.001**	83 (58.5)	**0.014**	34 (23.9)	**0.046**
	Male, n=51	1 (2)		29 (56.9)		20 (39.2)		6 (11.8)	
Marital status	Married/Cohabited	10 (35.7)		75 (52.1)		50 (48.5)		13 (31.5)	
	Female	10 (37)		60 (52.2)		40 (48.2)		11 (32.4)	
	Male	0 (0)	**0.034**	15 (51.7)	0.328	10 (50)	0.098	2 (33.3)	**0.030**
	Single/Divorced	18 (64.3)	**0.038a** 0.490b	69 (47.9)	0.061[a] 0.569[b]	53 (51.5)	0.061a 0.569b	27 (67.5)	**0.003**[a] 0.367[b]
	Female	17 (63)		43 (51.8)		43 (51.1)		23 (67.6)	
	Male	1(100)		10 (50)		10 (50)		4 (66.7)	
Years of residency		0.241		0.770		0.221		0.261	
Residency programs		0.080		0.052		0.294		0.171	

SH, sexual harassment. * The comparison "Never" vs. "Once or More times"; a female; b male. In bold p values < 0.05.

The subjects with experience of Sexual Coercion reported significant lower QOL social relationship score in comparison to subjects who did not have Sexual Coercion experience (66.70±17.54 vs. 72.74±15.24, p=0.032, respectively).

The evaluation the severity of subjectively reported affective symptoms and comparison among respondents with and without SH experience shown in Table 4. Significant higher severity of anxiety symptoms on HADSA scale mean score reported among subjects with subjectively evaluated occurrence of SH (p=0.004), experienced Gender Harassment (p=0.014) and Unwanted Sexual Attention (p=0.002). Significant higher severity of depressive symptoms on HADSD mean score was reported among subjects with experience of Gender Harassment (p=0.028) and Unwanted Sexual Attention (p=0.008).

Our study did not aim to assess the legal aspects of sexual harassment.

DISCUSSION

This is the first study evaluated the SH experienced by medical residents' in Lithuania. The most important finding of the study that the experience of SH was evaluated as common among medical residents, participated in the study: over three-fourth (78.2%) of the respondents were evaluated as experienced at least one type of SH during their residency training. The SH did not related to the respondents' age or residency program, but females experienced SH one and a half times more often than males; the most of the SH suffered by single/divorced females. It was reported significant negative emotional effect of SH experience, with subjectively reported higher severity of anxiety/depressive symptoms and lower QOL in psychological and social relations level. The rate of SH experience and gender differences among medical residents – study participants corresponds to the results in other studies from different countries, hospitals and universities.

To the best of our knowledge there are no similar studies about experience of SH among medical residents in three Baltic countries. Therefore we did not have the possibility to compare our results with the studies relevant to Lithuania. But a lot of similar studies were done in the Universities of other countries. So we tried to compare the data of SH experience from different countries, with different culture, types of social behavior and to present the importance of the problem, regardless of the cultural context.

Similar to our study results were reported from 186 residents (93 males and 93 females) of seven residency programs affiliated with McMaster University, Ontario, Canada: more than 73% of all residents participated in the study reported having experience discrimination on the basis

Table 3. **The comparison of the four domains of Quality of Life among residents with and without evaluated Sexual Harassment**

SH	Domain of QOL	Physical Health, score	t-test, p	Psychological Health, score	t-test, p	Social Relationship, score	t-test, p	Environmental, score	t-test, p
Subjectively evaluated occurrence of SH	Yes, n=28	52.82±11.00	0.730	65.54±11.11	0.854	68.96±17.29	0.365	72.46±15.66	0.407
	No, n=165	53.58±10.73		65.13±10.58		71.92±15.65		70.14±13.35	
Gender Harassment	Yes, n=144	53.21±10.58	0.561	64.27±11.08	**0.040**	70.28±15.94	0.071	69.59±13.97	0.123
	No, n=49	54.24±11.33		67.88±8.80		75.02±15.34		73.08±12.59	
Unwanted Sexual Attention	Yes, n=103	52.91±10.80	0.441	63.23±10.81	**0.006**	69.43±16.06	0.054	68.88±13.31	0.084
	No, n=90	54.11±10.72		67.42±10.02		73.84±15.44		72.30±13.95	
Sexual Coercion	Yes, n=40	53.08 ±10.89	0.794	63.88±11.67	0.382	66.70±17.54	**0.032**	69.80±14.95	0.726
	No, n=153	53.58±10.75		65.53±10 35		72.74±15.24		70.65±13.38	

SH, sexual harassment; QOL, Quality of life. In bold p values < 0.05.

Table 4. **The Comparison of Anxiety and Depressive Symptoms Severity among Residents with Evaluated vs. Not-evaluated Experience of the Sexual Harassment**

Self-reported severity of affective symptoms SH		Severity of anxiety symptoms, mean ±SD, score	t-test, p	Severity of depressive symptoms, mean ± SD, score	t-test, p
Subjectively evaluated occurrence of SH	Yes, n=28	7.18±3.97	**0.004**	3.39±3.24	0.105
	No, n=165	5.16±3.30		2.52±2.50	
Gender Harassment	Yes, n=144	5.18±3.55	**0.014**	2.89±2.69	**0.028**
	No, n=49	4.41±3.03		1.94±2.33	
Unwanted Sexual Attention	Yes,n=103	6.18±3.72	**0.002**	3.12±2.83	**0.008**
	No, n=90	4.62±2.97		2.11±2.27	
Sexual Coercion	Yes, n=40	6.10±3.99	0.184	3.20±3.13	0.241
	No,n=153	5.29±3.31		2.50±2.47	

SD, standart deviation; SH, Sexual Harassment. In bold p values < 0.05.

of gender; significant more were female than male (89.1% vs 61.1%). Most (92.9%) of the residents reported experiencing one or more types of SH during their residency training: sexist jokes were more commonly reported by female (79.4%) than by male (64.4%), but more male residents reported explicit sexual proposals (11.0%), with no relation between residency programs. The evaluation of the impact of SH on quality of life showed that 26.3% of residents, SH expressed negative effect on their work, for 3.3% SH impaired performance and for 2.6% – changed work routine. Every fourth of residents reported negative emotional reactions in relation of SH: embarrassment, anger and frustration were reported the most often (24%, 23.4% and 20.8% respectively) [4].

Japanese study which evaluated the abuse and harassment during residency, 355 participants (228 men and 127 women) from 55 hospitals across Japan (of which 17 were directly affiliated with a university) were recruited. The prevalence of SH was lower in comparison to our study – overall 42.5% of respondents reported having experienced some type of SH at least once during residency. But among female respondents the prevalence of sexual harassment was significantly higher (58.3%) and corresponds to our study results. In this study doctors were most frequently reported as the abusers (34.9%). The abuse was most likely to have occurred in the surgery department (27.6%) [5]. Our study sample was not representative to find some significant relations between SH and residency programs, eventually we can't leave behind the fact that some departments refused to participate in the study.

The results from two Canadian studies, similar to our results, showed that gender discrimination and sexual harassment are prevalent problems during residency training. Of 543 residents in 13 internal medicine programs in Canada participating in the discrimination and abuse in internal medicine residency study 70% of females and 23% males experienced gender discrimination by attending physicians; females reported being sexually harassed more often than males (35% vs. 4%, respectively) [18]. Other Canadian "Happy Docs study", which examined stress and well-being in residency, included 1999 residents and 54% of them reported intimidation and harassment most often from nursing staff (54%) and from the staff physicians (39%); in 18% gender was reported as perceived basis for the intimidation and harassment [19]. In the US study of 4501 physician women, overall 47.7% reported ever experiencing gender – based harassment, and 36.9% reported SH. Harassment was more common during internship, residency, or fellowship (29% for gender – based and 19% for SH) than in clinical practice (25% for gender – based and 11% for SH). Similar to our study, the divorced or separated marital state of study females correlated with reporting ever experiencing SH [20].

The results of presented studies showed that there no significant differences among prevalence of SH during residency, gender differences and correlations with marital status among different universities in different countries. Despite this fact, subjective perception of SH was even three times lower than objective evaluation, based on the answers from the questioner. We could suggest that most forms of SH among medical residents in Lithuania is considered as "normal" behavioral pattern or innocent flirtation; it is not considered as an unacceptable form of communication among medical staff. This is confirmed by our knowledge that any ethical or legal issue of SH has never been raised. There were some limitations in our study. Low reversibility of the questionnaires negatively effects and could distort data about the prevalence of SH; larger sample of medical residents from other hospital is needed to fully evaluation. Our study sample composition were uneven by gender in a different departments, e.g. some departments had only 5 residents women, other 6–7 residents were men only, moreover most of doctors and lectures in these departments' were the same gender as the residents. It unambiguously affect the understanding and evaluation of SH and real possibility to experience it. Unfortunately there was the possibility to reject the study by heads of departments what causes unequal access for all residents to participate our study.

CONCLUSIONS

Over three-fourth of the residents, participated in the study were evaluated as having experience of SH during residency training; significant higher prevalence of SH was evaluated among single/divorced female. Residents who experienced SH reported greater severity in feelings of anxiety and depressive symptoms and worse QOL in comparison to residents without such experience of SH.

Conflicts of interest

Authors declare no conflicts of interest

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