



THE CONNECTION BETWEEN THE EXPERIENCE OF MOBBING, JOB CHARACTERISTICS AND PHYSICAL MANIFESTATIONS AMONG NURSES/TECHNICIANS WORKING IN CHILDREN'S DEPARTMENTS

Antun Bajan^{1,2,3}, Dubravka Matijašić-Bodalec^{1,2,4}, Antonija Krstačić^{1,2,5}, Petra Mamić⁶, Slavica Đorđević^{7,8}, Nikola Bajan¹, Andrea Milostić-Srb², Nika Srb¹, Vedrana Makarović^{1,9}, Tomislav Kizivat¹ and Irena Habazin¹⁰

¹Osijek Faculty of Medicine, Josip Juraj Strossmayer University in Osijek, Osijek, Croatia;

²Faculty of Dental Medicine and Health, Josip Juraj Strossmayer University in Osijek, Osijek, Croatia;

³Institute of Emergency Medicine of Osijek-Baranja County, Osijek, Croatia;

⁴Mlinarska School of Nursing, Zagreb, Croatia;

⁵Department of Traumatology, Sestre milosrdnice University Hospital Center, Zagreb, Croatia;

⁶Division of Anti-Doping, Croatian Institute of Public Health, Zagreb, Croatia;

⁷Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia;

⁸Belgrade Academy of Applied Studies, Department of School of Applied Health Science, Belgrade, Serbia;

⁹Emergency Department, Osijek University Hospital Center, Osijek, Croatia;

¹⁰CODIM, Center of Family, Children and Young People, Zagreb, Croatia

SUMMARY – Mobbing (bullying) at the workplace of nurses is a serious problem in the world today. Its manifestations can be very different, from psychological to physical manifestations, and can be related to the onset of post-traumatic stress disorder. The aim of this study was to examine the experience of mobbing at the workplace of pediatric nurses and its connection with physical manifestations. For this purpose, we conducted a study on 434 nurses/technicians in 18 hospitals in the Republic of Croatia. The research instrument consisted of two questionnaires and personal characteristics of the examinees. The examinees were between the ages of 36 and 45, those who had more than 6 years of experience, those who did not work in shifts, who did not work at the job they wanted, and examinees who believed that the conditions at their workplace were threatening their health, and those whose work was the cause of sick leave in the last year. Among the examinees who had experienced mobbing, compared to those who had not, there was a greater number of those who did not evaluate their cooperation with colleagues and their relationship with superiors positively or did not know how to evaluate that relationship. The results obtained with the Physical Symptoms Inventory

Correspondence to: *Vedrana Makarović, MD, PhD*, Emergency Department, Osijek University Hospital, Osijek Faculty of Medicine, Josip Juraj Strossmayer University in Osijek, Josipa Huttlera 4, HR-31000 Osijek, Croatia
E-mail: barabanvedrana@gmail.com

Received December 30, 2022, accepted April 13, 2023

scale showed that the examinees who had experienced mobbing had a significantly higher incidence of the examined symptoms for which they visited a doctor. In conclusion, nurses employed at children's wards had a positive association of physical manifestations with the experience of mobbing at the workplace, for which preventive programs should be developed to prevent or reduce its occurrence, but also lifelong learning programs should be developed to empower those nurses who currently show symptoms of mobbing.

Key words: *Mobbing; Bullying; Nurses, pediatric; Physical symptoms*

Introduction

Mobbing (bullying) is a term that defines abuse at work, which includes harassment, insults, social exclusion of someone, or negative impact on someone's work tasks¹. Mobbing is a distinct social stressor that implies two key parameters, a frequency of at least once a week, and duration of at least six months. Due to its high frequency and long duration, mobbing leads to mental, somatic, and psychosocial suffering of the individual and can be the cause of burnout at work (post-traumatic stress disorder)²⁻⁴.

Mobbing as a psychosocial factor of stress at work has been more intensively researched in the last twenty years. One of the first scientists who began systematically researching mobbing in the early nineties of the last century was Heinz Leymann, a German psychologist who grew up in Sweden¹⁻³. He was one of the first scientists to connect workplace violence with negative health outcomes, such as anxiety, headaches, and musculoskeletal problems³. The causes of mobbing are multiple and can be organizational in nature, reflecting characteristics of the team, as well as individual characteristics of the individual. Research has shown that mobbing is related to general health of the individuals and burnout at work⁵. Mobbing at workplace can be physical in nature, but is more commonly psychological, and can cause physical, mental, spiritual, moral, and social manifestations. Psychological violence was mostly ignored in the past, however, the same recurring events can become a severe form of violence at long term that can result in certain psychological and physical disorders⁶. According to the results of the Sixth European Working Conditions Survey (35,765 examinees), almost 17% of women and 15% of men stated that they were exposed to negative social behavior⁷.

Numerous international studies support the higher frequency of mobbing at the workplace of nurses compared to all other health workers⁴. Mobbing in nursing ranges from 27.3% to 86.5%, depending on the country where a particular research was conducted⁸⁻¹⁸. In recent years, so-called cyberbullying has been increasingly investigated because of the increasingly frequent use of computers and smartphones both in private life and for professional purposes¹⁹⁻²¹. Nursing can be considered a 'model profession' for mobbing research for many reasons. Some of them are large numbers, a predominantly female profession that is exposed to particularly demanding and stressful tasks, the nature of the work that requires increased physical and emotional engagement, 24-hour care for patients, shift work, a work environment risky for health, teamwork, and parallel leadership hierarchy²².

Since mobbing undeniably causes both mental and physical manifestations, this research was conducted with the aim of collecting data on the frequency of mobbing experiences at the workplace of pediatric nurses and its connection with job characteristics, personal characteristics, and, consequently, the occurrence of physical manifestations. Previous research that combines all the above characteristics is limited and there are no data available relating exclusively to that activity. Most researchers do not differentiate individual specialist activities, but depending on the results obtained refer to, for example, surgical or non-surgical activities, but these data cannot be used to distinguish exclusively pediatric activities.

The aim of this study was to examine the experience of mobbing at the workplace of pediatric nurses and the occurrence of physical manifestations, and to determine their connection.

Subjects and Methods

Examinees

The examinees were nurses/technicians employed at pediatric departments in 18 hospitals in the Republic of Croatia, five of which are clinical hospital centers. The examinees were guaranteed anonymity and that the data obtained could not be connected in any way with personal data of an individual respondent.

The examinees were given structured questionnaires at their workplace. The approach to solving the questionnaire was anonymous and voluntary, which the examinees confirmed with their signature. Before filling out the questionnaire, each respondent received explanation of the type of examination and purpose of the research. The questionnaire was filled out by 434 nurses/technicians.

Data were collected from March 2018 until April 2019. The inclusion criterion was full-time job at a pediatric ward. The exclusion criteria were those who worked in children's intensive care units, children's operations (otorhinolaryngology, ophthalmology, children's surgery), or children's psychiatry. Before conducting the research, approval was obtained from ethics committees of each health institution involved and Osijek Faculty of Medicine. The researchers followed ethical principles of the Declaration of Helsinki. The examinees were not rewarded in any way for participating in the research.

Instrument

The research instrument consisted of two questionnaires and characteristics of the respondents. The questionnaire on stressors at the workplace of hospital healthcare workers is an instrument that aims to identify and evaluate stress factors at the workplace. The author of the questionnaire is Milan Milošević, and it was validated by preparation of a doctoral dissertation in 2010. The author's written consent was obtained for use of the questionnaire. The questionnaire has 37 items divided into six factors. The first factor (F1) Organization of the workplace and financial issues, includes ten items (Inadequate personal income; Inadequate material resources; Inadequate workspace; Little opportunity for advancement; Sparse communication with superiors; Insufficient number of employees; Poor organization of work; Everyday contingencies;

Administrative jobs; and Work overload). The second factor (F2) Public criticism includes seven items (Threat of legal action; Inadequate expectations of the patient; Inappropriate public criticism; Misinforming the patient; Conflicts with the patient; Failure to separate professional and private life; and 24-hour responsibility). The third factor (F3) Dangers and harms at work, includes six items (Fear of ionizing radiation; Fear of anesthetic inhalation; Fear of infection; Fear of exposure to cytostatics; Fear of injury with a sharp object; and Dealing with incurable patients). The fourth factor (F4) Conflicts and communication at work, includes four items (Conflicts with co-workers; Conflicts with other colleagues; Poor communication with colleagues; and Conflicts with superiors). The fifth factor (F5) is called Shift work and includes four items (Night work; Shift work; Overtime; and 24-hour Call work). The sixth factor (F6) Professional and intellectual requirements, includes six items (Introduction of new technologies; 'Bombardment' of new information; Lack of continuous education; Deadline pressure; Inaccessibility of literature; and Time limit for examining patients). The examinees evaluated the experience of a particular stressor on a 5-point Likert scale, starting from 1 (not stressful at all) to 5 (extremely stressful). Scores greater than 60 indicate that a particular factor is stressful²³.

The second instrument was Physical Symptoms Inventory (PSI) scale, which aims to assess physical symptoms that are assumed to be related to stress. The author of the questionnaire is H. J. Wahler, and it was validated in 1968 (available at: [https://doi.org/10.1002/1097-4679\(196804\)24:2<207::AID-JCLP2270240223>3.0.CO;2-G](https://doi.org/10.1002/1097-4679(196804)24:2<207::AID-JCLP2270240223>3.0.CO;2-G)). As part of the international study entitled Investigation of Emotional Well-Being and Burnout at Work of Prison Staff, conducted at the Faculty of Education and Rehabilitation, University of Zagreb, the questionnaire was translated into Croatian, and a pilot study was conducted on a sample of 140 university employees from various faculties in the Republic of Croatia, for which the questionnaire was adapted and linguistically refined²⁴. The questionnaire contains 18 items (upset stomach, back pain, difficulty sleeping, skin rashes, lack of air (shortness of breath), chest pain, headaches, fever, problems with stomach acid, eye fatigue (redness, burning, stinging, etc.), diarrhea, abdominal cramps (not menstrual),

constipation (obstipation), heart palpitations without exercise, infection, loss of appetite, dizziness, fatigue, and sleepiness). The examinees could evaluate each symptom with one of the following possible answers: (a) no symptoms, (b) yes, but I have not been to a doctor, and (c) yes, I have visited a doctor in the last 30 days²⁵.

The characteristics of the examinees were collected by using 17 questions (age, gender, marital status, level of education, number of children, length of service, shift or rotation work, conditions at the workplace, working days of sick leave in the last two years, causes of sick leave, the most common causes of sick leave, cooperation with colleagues, relationship with superiors, exposure to mobbing, who commits the mobbing, and job satisfaction).

Statistical analysis

Standard statistical methods were used on statistical analysis. All categorical data collected were expressed with absolute and relative frequencies, whereas numerical data were expressed with arithmetic mean and standard deviation. On categorical data analysis, χ^2 -test or Fisher exact test was used, whereas differences

between two independent sets of numerical data were tested with the parametric Student's t-test and nonparametric Mann Whitney U test. The logistic regression model was built using the stepwise method to identify potential predictors for the experience of mobbing.

Statistical analysis was done either with MedCalc (version 19.1.3, MedCalc Software) or IBM SPSS Statistics (release 24.0.0.0) software tools, with statistical significance defined as $\alpha=0.05$, where all p values were two-tailed.

Results

A total of 434 examinees participated in the research, of which 12 (2.8%) were male (χ^2 -test, $p<0.001$). The largest number of examinees were between the ages of 26 and 55 ($n=319$, 73.5%), married or cohabiting ($n=305$, 70.3%), with two children ($n=192$, 44.2%) and more than half had completed secondary vocational education ($n=251$, 57.8%) (Table 1).

The highest number of examinees had working experience of more than 16 years ($n=326$, 75.1%) and

Table 1. Personal characteristics of the examinees

		n	%
Age (years)	18-25	50	11.5
	26-35	109	25.1
	36-45	114	26.3
	46-55	96	22.1
	Over 55	65	15.0
Marital status	Single	100	23.0
	Married/cohabiting	305	70.3
	Divorced	19	4.4
	Widowed	10	2.3
Number of children	None	106	24.4
	One child	88	20.3
	Two children	192	44.2
	Three or more children	48	11.1
Level of education	Medical high school	251	57.8
	Higher level of medical high school or three-year undergraduate course in nursing	162	37.4
	Two-year graduate study in nursing	16	3.7
	Other college	5	1.2

Table 2. Answer distribution of the examinees concerning job characteristics

		n	(%)
Length of work service	Up to 1 year	34	7.8
	Between 1 and 5 years	74	17.1
	Between 6 and 15 years	102	23.5
	Over 16 years	224	51.6
Shift work	No	140	32.3
	Yes	294	67.7
Desired job	No, I do this job out of necessity, but I'm looking for a better one	4	0.9
	Mostly no, but I am working on adapting myself/work to be more similar to my desires	28	6.5
	I don't know, I work for my paycheck and that's all that matters	34	7.8
	It's close enough to what I want to do, but I would change it if a better opportunity occurs	197	45.4
	This job is exactly what and how I want to work	171	39.4
Health-threatening work conditions	Yes, they are health-threatening	161	37.1
	Mostly not, although there are possible unforeseen circumstances	193	44.5
	Mostly not, although there are possible foreseen circumstances	61	14.1
	No, not at all	19	4.4
Cause of sick leave in the last two years	I haven't used sick leave	221	50.9
	My job was often the cause of my sick leave	27	6.2
	My job was occasionally the cause of my sick leave	52	12.0
	My job was not the cause of my sick leave	134	30.9

Table 3. Distribution of answers about relationships at work

		n	(%)
Cooperation with work colleagues	Bad	7	1.6
	Satisfying	150	34.6
	I don't know	20	4.6
	Good	203	46.8
	Great	54	12.4
Relationship with superiors	Bad	20	4.6
	Satisfying	156	35.9
	I don't know	26	6.0
	Good	191	44.0
	Great	41	9.4

most often worked in shifts (n=294, 67.7%). Most of them (n=368, 89.8%) declared that the work they did was exactly what they wanted or that it was very close to it, and 161 (37.1%) examinees declared that the working

conditions were dangerous for their health, but most of them (n=221, 50.9%) did not use sick leave (Table 2).

The largest number of the examinees (n=203, 46.8%) assessed their cooperation with colleagues at

Table 4. Differences between examinees regarding the experience of mobbing at work

Variable		Without mobbing n (%)	With mobbing n (%)	P	Total N (%)
Personal characteristics of examinees					
Age of examinees (years)	18-25	32 (15.5)	18 (7.9)	0.02*	50 (11.5)
	26-35	58 (28.0)	51 (22.5)		109 (25.1)
	36-45	43 (20.8)	71 (31.3)		114 (26.3)
	46-55	43 (20.8)	53 (23.3)		96 (22.1)
	>55	31 (15.0)	34 (15.0)		65 (15.0)
Job characteristics					
Length of service	Up to 1 year	25 (12.1)	9 (4.0)	<0.001*	34 (7.8)
	Between 1 and 5 years	45 (21.7)	29 (12.8)		74 (17.1)
	Between 6 and 15 years	46 (22.2)	56 (24.7)		102 (23.5)
	>16 years	90 (44.0)	133 (58.5)		224 (51.6)
Shift work	No	56 (27.1)	84 (37.0)	0.03*	140 (32.3)
	Yes	151 (72.9)	143 (63.0)		294 (67.7)
Desired job	No, I do this job out of necessity, but I'm looking for a better one	1 (0.5)	3 (1.3)	0.001†	4 (0.9)
	Mostly not, but I am working on adapting the work/myself to be more similar to my desires	10 (4.8)	18 (7.9)		28 (6.5)
	I don't know, I work for a paycheck and that's all that matters	13 (6.3)	21 (9.3)		34 (7.8)
	It's close enough to what I want to do, but I would change it if a better opportunity occurs	81 (39.1)	116 (51.1)		197 (45.4)
	This job is exactly what and how I want to do it	102 (49.3)	69 (30.4)		171 (39.4)
Health- threatening conditions at work	Yes, they are health-threatening	43 (20.8)	118 (52.0)	<0.001*	161 (37.1)
	Mostly not, although there are possible unforeseen circumstances	111 (53.6)	82 (36.1)		193 (44.5)
	Mostly not, although there are possible foreseen circumstances	41 (19.8)	20 (8.8)		61 (14.1)
	No, not at all	12 (5.8)	7 (3.1)		19 (4.4)
Causes of sick leave in the last two years	I haven't used sick leave	116 (56.0)	105 (46.2)	0.01*	221 (50.9)
	My job was often the cause of my sick leave	7 (3.4)	20 (8.8)		27 (6.2)
	My job was sometimes the cause of my sick leave	18 (8.7)	34 (15.0)		52 (12.0)
	My job was not the cause of my sick leave	66 (31.9)	68 (30.0)		134 (30.9)

* χ^2 -test; †Fisher exact test

work as good, and the relationship with superiors was equally assessed as good by the largest number of examinees ($n=191$, 44%) (Table 3).

There was a difference between the examinees who experienced mobbing compared to those who did not in the following parameters: age, length of service, shift work, desired job, health-threatening work conditions, and causes of sick leave in the last two years. Thus, the examinees between the ages of 36 and 45, those who had more than 6 years of work experience, who did not work in shifts, and who did not do the desired job, said most in favor of having experienced

mobbing. Equally, the examinees who considered that the conditions at their workplace were threatening to their health and those whose work was the cause of (occasionally or often) sick leave in the last year declared in favor of having experienced mobbing (Table 4).

Among the examinees who had experienced mobbing, compared to those who had not, there was a greater number of those who rated cooperation with their colleagues and relationship with their superiors as bad, or satisfying, and of those who did not know how to evaluate that relationship (Table 5).

Table 5. Distribution of responses concerning work relationships

Variable		Without mobbing n (%)	With mobbing n (%)	P	Total N (%)
Cooperation with their colleagues	Bad	0	7 (3.1)	<0.001†	7 (1.6)
	Satisfying	58 (28.0)	92 (40.5)		150 (34.6)
	I don't know	8 (3.9)	12 (5.3)		20 (4.6)
	Good	102 (49.3)	101 (44.5)		203 (46.8)
	Great	39 (18.8)	15 (6.6)		54 (12.4)
Relationship with their superiors	Bad	1 (0.5)	19 (8.4)	<0.001*	20 (4.6)
	Satisfying	60 (29.0)	96 (42.3)		156 (35.9)
	I don't know	7 (3.4)	19 (8.4)		26 (6.0)
	Good	107 (51.7)	84 (37.0)		191 (44.0)
	Great	32 (15.5)	9 (4.0)		41 (9.4)

* χ^2 -test; †Fisher exact test

Table 6. Differences between stressors at the workplace and results on the PSI scale

		Without mobbing (n=207) M (SD)	With mobbing (n=227) M (SD)	P
Questionnaire about stressors at the workplace	Organization and finances	54.6 (17.4)	68.7 (15.5)	<0.001*
	Public criticism and lawsuits	55.7 (20.7)	66.0 (20.8)	<0.001*
	Danger and harmfulness at work	39.7 (24.3)	52.5 (26.1)	<0.001*
	Conflicts and communication at work	35.7 (25.1)	56.1 (24.9)	<0.001*
	Shift work	47.1 (27.1)	57.7 (28.1)	<0.001*
	Professional and intellectual demands	43.3 (21.4)	52.4 (20.4)	<0.001*
	Overall stress experience	47.7 (16.5)	60.4 (15.6)‡	<0.001*
PSI scale	I have symptoms	5.5 (3.4)	7.4 (3.9)	<0.001†
	Doctor visited because of symptoms	0.6 (1.5)	1.5 (2.8)	<0.001†
	Overall symptoms	6.1 (3.6)	8.9 (4.0)	<0.001†

*Student's t-test; †Mann-Whitney test; PSI scale = Physical Symptoms Inventory scale

Data in Table 6 show how the examinees who had experienced mobbing compared to those who had not, differed in the level of the overall experience of stress, and the experience of all tested stressors at the workplace, i.e., organization and finances, public criticism and lawsuits, danger and harmfulness at work, conflicts and communication at work, shift work, and professional and intellectual demands. The examinees who had experienced mobbing expressed a significantly higher overall experience of stress. Also, examinees who had experienced mobbing expressed a significantly higher level of all mentioned stressors at the workplace. The results obtained with the PSI scale showed that the examinees who experienced mobbing had significantly more of the examined symptoms for which they visited a doctor (Table 6).

Discussion

The research results did not provide unequivocal results consistent with international research, where they vary depending on the place of research. For example, research in Massachusetts showed that there was no connection, while research conducted in Greece showed that there was a connection between the mentioned variables⁴.

The results obtained in the examined sample showed that examinees between the ages of 36 and 45, i.e., those with more than 6 years of work experience, were most exposed to mobbing. Among the examinees who had up to 5 years of work experience, the majority were those who had never experienced mobbing. Large international studies^{4,26,27} speak in favor of mobbing at a very early professional age, but research conducted in three Croatian hospitals speaks in favor of the fact that nurses with more than 10 years of experience were more exposed to mobbing²². This disparity could be explained by an unequal sample, since almost all the available studies take the total sample of nurses^{8-11,14}, but probably also by some other factors that should be further investigated.

The work of nurses implies distribution in shifts for 24 hours, which also includes night work. Most studies show that night work is defined as work with increased risk and is considered to cause reduced efficiency, far more than day shift work²⁸. The results obtained by this research show that among the examinees who

work in shifts, there was a greater number of those who had not experienced mobbing, while among those who did not work in shifts, there was a greater number of examinees who had experienced mobbing at the workplace. These results are consistent with some of the research conducted on employees in the early morning shifts, where cortisol levels were measured during the working day. Cortisol levels were highest in the early morning hours, which may indicate increased levels of stress²⁹. In addition, in the morning shifts there is greater representation of diagnostic and therapeutic procedures, a greater number of activities in total, more medical and non-medical staff of different hierarchical levels, as well as a generally more hectic work rhythm, which results in greater demands regarding work activities, and thus further increases the feeling of pressure on the individual and the experience of stress.

Among the respondents who did their desired job, the majority were those who had not experienced mobbing, while among all other examinees, the majority were those who had experienced mobbing at the workplace. Dissatisfaction with work can be the result of an inadequate workplace in relation to personal preferences or affinities, but also the result of long-term exposure to negative factors. This result is consistent with the findings of the reviewed literature, which states that workplace bullying is associated with a lower level of job satisfaction³⁰.

There was a connection between conditions at the workplace and the cause of sick leave. Most of the examinees who believed that the conditions at their workplace were hazardous to their health had experienced mobbing at the workplace, as well as those whose work was often or occasionally the cause of sick leave. The results obtained are expected and in accordance with the findings in the reviewed literature, which say that the majority of victimized nurses have an increased rate of sick leave compared to those who are not abused in the workplace^{22,31,32}.

Among the examinees who evaluated their cooperation with colleagues and relationships with superiors as bad and satisfying, and among those who did not know how to evaluate their cooperation with colleagues and relationships with superiors, the majority were those who had experienced mobbing at the workplace. On the other hand, most of the examinees who rated their cooperation with colleagues and their

relationship with superiors as good or great were those who had not experienced mobbing at the workplace. These results correlate to the results of international research³³ which indicates that the main perpetrators of violent behavior are people in hierarchically higher positions or established staff members (colleagues)^{4,34}.

The results obtained in the questionnaire on stressors at the workplace from hospital healthcare workers indicated that the examinees who had experienced mobbing compared to those who had not experienced it, expressed a significantly higher overall experience of stress, as well as higher levels of all stressors at the workplace, in the first two factors (F1 and F2). These results are expected and in accordance with previous research conducted in Croatia and abroad³⁵⁻³⁹. The representation of an individual stress factor depends on the place where the individual research was conducted and it varies; it also depends on cultural differences, but most stressors relate to inadequate personal income, little opportunity for advancement, insufficient number of staff, work overload, inadequate patient expectations, inappropriate public criticism, and 24-hour responsibility.

The examinees who experienced mobbing compared to those who did not, differed significantly in their results on the PSI scale. The examinees who experienced mobbing had significantly more of the examined symptoms compared to those who did not experience it. Also, among the examinees who experienced mobbing, there were significantly more of those who had symptoms but did not see a doctor, and those who had symptoms and visited a doctor because of these symptoms. Abuse usually results in some manifestation of a somatic nature. In this study, nurses most often complained of fatigue and sleepiness, headaches, difficulty sleeping, back pain, and upset stomachs. Most domestic and international research shows that nurses who have experienced mobbing express some or all of the listed health problems^{22,26,34,40-42}.

Conclusion

Through this research, we observed a positive connection between physical manifestations and the experience of mobbing at the workplace of pediatric

nurses. Due to the very small number of research conducted on this population of nurses, further research is needed that could be the basis for the development of appropriate programs aimed at preventing the occurrence of mobbing at the workplace of pediatric nurses, as well as appropriate lifelong education programs that would empower those nurses who already show symptoms of mobbing.

Research limitations

This research was conducted on a sample of nurses working at children's wards, so the results obtained are limited by this profession, workplace, and gender. Also, the nurses declare themselves as being bullied subjectively.

References

1. Einarsen S, Hoel H, Cooper C, eds. *Bullying and Emotional Abuse in the Workplace*. CRC Press; 2002. doi: 10.1201/9780203164662
2. Krajnović F, Šimić N, Franković S. Identifikacija, opis i analiza uzroka nekih negativnih ponašanja u radnom okruženju medicinskih sestara. *Med Jadertina*. 2007;37(3-4):63-72. (in Croatian)
3. Laklija M, Janković J. Mobbing - osobni, obiteljski i radni problem i njegova prevencija. *Kriminol Soc Integr Internet*. 2010;18(1):65-77. (in Croatian)
4. Batrnek T. Zlostavljanje medicinskih sestara i tehničara na radnome mjestu. Graduation thesis. Osijek Faculty of Medicine, Josip Juraj Strossmayer University in Osijek, 2017. <https://urn.nsk.hr/urn:nbn:hr:152:184573> (in Croatian)
5. Garthus-Niegel S, Nübling M, Letzel S, *et al.* Development of a mobbing short scale in the Gutenberg Health Study. *Int Arch Occup Environ Health*. 2016;89(1):137-46. doi: 10.1007/s00420-015-1058-6
6. Campo VR, Klijn TP. Verbal abuse and mobbing in pre-hospital care services in Chile. *Rev Lat Am Enfermagem*. 2018;25(0). doi: 10.1590/1518-8345.2073.2956
7. European Foundation for the Improvement of Living and Working Conditions. *First Findings: Sixth European Working Conditions Survey*. Publications Office; 2015. Accessed July 26, 2022. <https://data.europa.eu/doi/10.2806/59106>
8. Ko YY, Liu Y, Wang CJ, Liao HY, Liao YM, Chen HM. Determinants of workplace bullying types and their

- relationship with depression among female nurses. *J Nurs Res.* 2020;28(3):e92. doi: 10.1097/JNR.0000000000000367
9. Etienne E. Exploring workplace bullying in nursing. *Workplace Health Saf.* 2014;62(1):6-11. doi:10.1177/216507991406200102
 10. Beganlić A, Pranjić N, Brković A, Batić-Mujanović O, Herenda S. Učinci mobinga na privremenu spriječenost za rad u medicinskih sestara-tehničara. *Sigurnost.* 2009;51(1):1-9. (in Croatian)
 11. Ernješ M, Barić M, Milanović S. Percepcija mobinga medicinskih sestara i tehničara u Klinici za neurologiju Kliničkoga bolničkog centra Osijek. *MEVJEQ.* 2018;50(Suppl 1). (in Croatian)
 12. Iglesias MEL, Becerro De Bengoa Vallejo R. Prevalence of bullying at work and its association with self-esteem scores in a Spanish nurse sample. *Contemp Nurse.* 2012;42(1):2-10. doi: 10.5172/conu.2012.42.1.2
 13. Obeidat RF, Qan'ir Y, Turaani H. The relationship between perceived competence and perceived workplace bullying among registered nurses: a cross sectional survey. *Int J Nurs Stud.* 2018;88:71-8. doi: 10.1016/j.ijnurstu.2018.08.012
 14. Yokoyama M, Suzuki M, Takai Y, Igarashi A, Noguchi-Watanabe M, Yamamoto-Mitani N. Workplace bullying among nurses and their related factors in Japan: a cross-sectional survey. *J Clin Nurs.* 2016;25(17-18):2478-88. doi: 10.1111/jocn.13270
 15. Serafin LI, Czarkowska-Pączek B. Prevalence of bullying in the nursing workplace and determinant factors: a nationwide cross-sectional Polish study survey. *BMJ Open.* 2019;9(12):e033819. doi: 10.1136/bmjopen-2019-033819
 16. Varghese A, Joseph J, Vijay VR, *et al.* Prevalence and determinants of workplace violence among nurses in the South-East Asian and Western Pacific Regions: a systematic review and meta-analysis. *J Clin Nurs.* 2022;31(7-8):798-819. doi: 10.1111/jocn.15987
 17. Hampton D, Rayens MK. Impact of psychological empowerment on workplace bullying and intent to leave. *JONA J Nurs Adm.* 2019;49(4):179-85. doi: 10.1097/NNA.0000000000000735
 18. Spector PE, Zhou ZE, Che XX. Nurse exposure to physical and nonphysical violence, bullying, and sexual harassment: a quantitative review. *Int J Nurs Stud.* 2014;51(1):72-84. doi: 10.1016/j.ijnurstu.2013.01.010
 19. Choi J, Park M. Effects of nursing organisational culture on face-to-face bullying and cyberbullying in the workplace. *J Clin Nurs.* Published online March 18, 2019;jocn.14843. doi: 10.1111/jocn.14843
 20. Symons MM, Di Carlo H, Caboral-Stevens M. Workplace cyberbullying exposed: a concept analysis. *Nurs Forum (Auckl).* 2021;56(1):141-50. doi: 10.1111/nuf.12505
 21. De Gagne JC, Hall K, Conklin JL, *et al.* Uncovering cyberincivility among nurses and nursing students on Twitter: a data mining study. *Int J Nurs Stud.* 2019;89:24-31. doi: 10.1016/j.ijnurstu.2018.09.009
 22. Šimić N, Rupiće L, Gregov Lj, Nikolić M. Suočavanje i percepcija mobinga kod medicinskih sestara različite dobi i radnog iskustva. *Sigur Internet.* 2015;57(4):305-18. (in Croatian)
 23. Milošević M. Izrada mjernog instrumenta stresa na radnom mjestu bolničkih zdravstvenih djelatnika i procjena njegove uporabne vrijednosti. Doctoral dissertation. School of Medicine, University of Zagreb. Zagreb, 2010. (in Croatian)
 24. Mikšaj-Todorović Lj, Novak T. Istraživanje emocionalnog dobrostanja i sagorijevanja na poslu zatvorskog osoblja. *Kriminol Soc Integr.* 2008;16(1):45-60. (in Croatian)
 25. Wahler HJ. The Physical Symptoms Inventory: measuring levels of somatic complaining behavior. *J Clin Psychol.* 1968;24(2):207-11. doi:10.1002/1097-4679(196804)24:2<207::aid-jclp2270240223>3.0.co;2-g.
 26. Jones A. Experience of protagonists in workplace bullying: an integrated literature review. *Int J Nurs Clin Pract.* 2017;4(1). doi: 10.15344/2394-4978/2017/246
 27. Hawkins N, Jeong S, Smith T. New graduate registered nurses' exposure to negative workplace behaviour in the acute care setting: an integrative review. *Int J Nurs Stud.* 2019;93:41-54. doi: 10.1016/j.ijnurstu.2018.09.020
 28. Baksa S, Rogina T, Baksa I, Kanižaj K. Utjecaj smjenskog rada na sigurnost radnog djelovanja medicinskog osoblja. *Sigurnost.* 2022;64(2):151-60. doi: 10.31306/s.64.2.5 (in Croatian)
 29. Šušoljaková O, Šmejkalová J, Bičíková M, Hodačová L, Málková A, Fiala Z. Assessment of work-related stress by using salivary cortisol level examination among early morning shift workers. *Cent Eur J Public Health.* 2018;26(2):92-7. doi: 10.21101/cejph.a5092
 30. Jaradat Y, Nielsen MB, Kristensen P, *et al.* Workplace aggression, psychological distress, and job satisfaction among Palestinian nurses: a cross-sectional study. *Appl Nurs Res.* 2016;32:190-8. doi: 10.1016/j.apnr.2016.07.014
 31. Bambi S, Foà C, De Felippis C, Lucchini A, Guazzini A, Rasero L. Workplace incivility, lateral violence and bullying among nurses. A review about their prevalence and related factors. *Acta Bio Medica Atenei Parm.* 2018;89(6-S):51-79. doi: 10.23750/abm.v89i6-S.7461

32. Johnson SL. International perspectives on workplace bullying among nurses: a review. *Int Nurs Rev.* 2009;56(1):34-40. doi: 10.1111/j.1466-7657.2008.00679.x
33. Wilson JL. An exploration of bullying behaviours in nursing: a review of the literature. *Br J Nurs.* 2016;25(6):303-6. doi: 10.12968/bjon.2016.25.6.303
34. Ali RMN, Mohamed EA. The relation between bullying workplace, organizational support, and work engagement as perceived by staff nurses. *Indian J Public Health Res Dev.* 2019;10(11):2184. doi: 10.5958/0976-5506.2019.03884.1
35. Jurišić M. Stres na radnom mjestu kod zdravstvenih djelatnika. *Zdr Glas.* 2019;5(2):45-52. doi: https://doi.org/10.47960/2303-8616.2019.10.45 (in Croatian)
36. Ekić S, Primorac A, Vučić B. Profesionalni stres kod medicinskih sestara i tehničara. *J Appl Health Sci.* 2016;2(1):39-46. doi: 10.24141/1/2/1/5 (in Croatian)
37. Pleša, A. Stres na radnom mjestu medicinske sestre. Graduation thesis. North University; 2018. (in Croatian)
38. Marlais M, Hudorović N. Stress caused by the work environment in nurses/technicians in general hospital. *Sestrin Glas J.* 2015;20(1):72-4. doi: 10.11608/sgnj.2015.20.015
39. Birhanu M, Gebrekidan B, Tesefa G, Tareke M. Workload determines workplace stress among health professionals working in Felege-Hiwot Referral Hospital, Bahir Dar, Northwest Ethiopia. *J Environ Public Health.* 2018;2018:1-8. doi: 10.1155/2018/6286010
40. Ovayolu Ö, Ovayolu N, Karadag G. Workplace bullying in nursing. *Workplace Health Saf.* 2014;62(9):370-4. doi: 10.3928/21650799-20140804-04
41. Kim Y, Lee E, Lee H. Association between workplace bullying and burnout, professional quality of life, and turnover intention among clinical nurses. *PLoS ONE.* 2019;14(12):e0226506. doi: 10.1371/journal.pone.0226506
42. Khasay WG, Negarandeh R, Dehghan Nayeri N, Hasanpour M. Sexual harassment against female nurses: a systematic review. *BMC Nurs.* 2020;19(1):58. doi: 10.1186/s12912-020-00450-w

Sažetak

POVEZANOST IZMEĐU ISKUSTVA MOBINGA, KARAKTERISTIKA POSLA I FIZIČKIH MANIFESTACIJA KOD MEDICINSKIH SESTARA/TEHNIČARA KOJI RADE NA DJEČJIM ODJELIMA

A. Bajan, D. Matijašić-Bodalec, A. Krstajić, P. Mamić, S. Đorđević, N. Bajan, A. Milostić-Srb, N. Srb, V. Makarović, T. Kizivati i I. Habazin

Mobing (*mobbing, bullying*) na radnom mjestu medicinskih sestara danas u svijetu predstavlja ozbiljan problem. Njegove manifestacije mogu biti vrlo različite, od psihičkih do fizičkih manifestacija, a mogu biti povezane s pojavom posttraumatskog stresnog poremećaja. Ovo istraživanje imalo je za cilj utvrditi povezanost između doživljaja mobinga na radnom mjestu medicinskih sestara zaposlenih na dječjim odjelima s tjelesnim manifestacijama. U tu svrhu proveli smo istraživanje na 434 medicinske sestre/tehničara u 18 bolnica u Republici Hrvatskoj. Instrument istraživanja se sastojao od dva upitnika te od osobnih obilježja ispitanika. U korist doživljaja mobinga najviše su se izjasnili ispitanici u dobi između 36 i 45 godina, oni koji imaju više od 6 godina radnog staža, koji ne rade u smjenama, koji ne rade željeni posao, ispitanici koji smatraju kako su uvjeti na njihovom radnom mjestu ugrožavajući za njihovo zdravlje te oni kojima je posao bio uzrok bolovanja u posljednjih godinu dana. Među ispitanicima koji su doživjeli mobing u odnosu na one koji nisu veći je broj onih koji svoju suradnju s kolegama i odnos s nadređenima ne procjenjuju pozitivno ili ne znaju kako bi taj odnos procijenili. Rezultati dobiveni ljestvicom PSI (*Physical Symptoms Inventory*) pokazuju kako ispitanici koji su doživjeli mobing imaju značajno veću pojavnost ispitivanih simptoma zbog kojih su posjetili liječnika. Zaključno, medicinske sestre zaposlene na dječjim odjelima imaju pozitivnu povezanost tjelesnih manifestacija s doživljajem mobinga na radnom mjestu, zbog kojih bi trebalo razviti preventivne programe u svrhu sprječavanja ili smanjenja njegove pojavnosti, ali i razviti programe cjeloživotnog učenja kojima bi se osnažile one sestre koje trenutno pokazuju simptome mobinga.

Ključne riječi: *Mobing; Bullying; Pedijatrijske medicinske sestre; Tjelesni simptomi*