ORIGINAL RESEARCH

Exposure of Professional Pharmacists to Workplace Stress Factors in Bosnia and Herzegovina

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Pages: 26 - 31 / Published online: 20 June 2025

Cite this article: Celjo V, Crnkic N. Exposure of Professional Pharmacists to Workplace Stress Factors in Bosnia and Herzegovina. Sar Med J. 2025; 2(1):26-31. doi: 10.70119/0032-25

Original submission: 10 February 2025; **Revised submission:** 10 April 2025; **Accepted:** 25 May 2025

Abstract

Introduction. The term 'stress' represents experiences in which the demands of the environment outweigh an individual's perceived psychological and physiological ability to deal with them effectively. The aim of this study is to determine the level of stress to which a pharmacist is exposed to in their workplace, throughout Bosnia and Herzegovina. The main causes of stress in the workplaces of pharmacists were also investigated, as well as reactions to stress exposure.

Methods. The data were collected via an anonymous survey of 191 pharmacists across the country, over a period of two months. A previously modified and validated scale (of the Likert type) measured each of the variables.

Results. Respondents rated their perception of stress with an average score of 3.15±1.13, which corresponds to a 'very stressful' rating. The biggest source of stress was rated to be 'stress associated with unacceptable behavior in the workplace'. The lowest source of stress was deemed to be 'stress associated with unsafe or poor conditions at work'. All physiological responses to stress were rated by respondents as average (2.61±0.94). The overall rating of emotional responses to stress was prevalent (2.79±0.93). The overall score of behavioral change as a stress response corresponded to a score somewhere between what would be deemed as 'small' and what would be deemed as 'pronounced' (2.58±0.91).

Conclusion. This work may prompt further research towards creating a friendly and healthy working environment. This would improve the quality of services provided by pharmacists and raise current practice to an even higher level.

Keywords: work-related stress, pharmacist, pharmacy profession.

INTRODUCTION

The term 'stress' represents experiences in which the demands of the environment outweigh an individual's perceived psychological and physiological ability to deal with them effectively (1). Stress occurs when employees must deal with pressures that are not in line with their needs, skills, knowledge and expectations (1). Workplace stress is defined by the World Health Organization (WHO) as global epidemic. It is becoming even greater due to the recession, the global crisis and the fear of losing the job (2). Some occupations are considered more stressful than others. Healthcare workers, pilots, air traffic controllers and professional drivers are just some of the stressful occupations (2). One important distinction in studying stress is to differentiate between exposures to stressful events and the responses to these events (3). Stressful workplace events are described as discrete quantifiable circumstances that can have

severe negative impact. Reactions to stress can be physiological, psychological and behavioral (3).

There are four main areas that can lead to work-related stress if they are not managed properly. These are: workload, workplace, unclear distribution of tasks and responsibilities; long and inflexible working hours, working on weekends, the expectation of being constantly available via official phone or email; inadequate personal income, unsafe or poor physical working conditions, the lack of equipment and limited support from colleagues, conflicts, unacceptable behavior in the workplace, mobbing (3,4).

The aim of this study is to determine the level of stress to which a pharmacist is exposed to in their workplace, throughout Bosnia and Herzegovina. The main causes of stress in the workplaces of pharmacists were also investigated, as well as reactions to stress exposure.

MATERIALS AND METHODS

Patients and Study Design

The data were collected via an anonymous survey of 191 pharmacists across the country, including private, hospital and city pharmacies, over a period of two months. Each survey/questionnaire consisted of 3 topics.

Methods

The survey was conducted using questions created by the author based on a review of data and literature. The results of the analysis are presented tabularly and graphically in the number of cases, percentages, arithmetic mean, with standard deviation and range depending on the type of data.

The first part of the survey included basic sociodemographic data, including gender, age, years of work experience of the respondents, as well as the sector in which the respondents were employed. The second part contained questions about the causes of stress in the pharmacist's workplace. In the second part of the survey, respondents had the opportunity to express their individual levels of stress at the workplace using a previously modified and validated Likert scale (4). This corresponds to an average severity rating between 1= no stress and 5= extremely stressful for each stressor experienced (4). The third part of the survey/questionnaire was divided into three parts. It investigated the respondent's perception of reactions to stressors. The pattern, frequency, and duration of stressors are important determinants of the severity of the outcome, as is an individual's response to the stressors. The questionnaire was in accordance with medical ethics and duty of care. This questionnaire entailed no risk for the respondents. Respondents were assured of the questionnaire's confidentiality and of the fact that the results will be shared with them.

Statistical Methods

Descriptive and analytical statistical analyses were performed. Comparison of the influence of certain sociodemographic characteristics on the stress scale and the response to it were assessed using the Student's t-test and the One-way analysis of variance – ANOVA. Test results were considered statistically significant at 95% confidence level or with a value of $p<0.05$.The analysis was performed using the statistical package for sociological research – IBM Statistics SPSS v23.0.

RESULTS

191 respondents filled out the questionnaire. The time required to fill out the questionnaire was 1 minute and 43 seconds. The response rate was more than 50%.

The demographic characteristics of the respondents are shown in Table 1.

Table 1. Characteristics of the respondents

		N	%
Gender	Female	174	91.1
	Male	17	8.9
Age	24-35 years	95	49.7
	36-45 years	67	35.1
	>45 years	29	15.2
Years of work experience	0-10 years	111	58.1
	11-20 years	51	26.7
	>20 years	29	15.2
Sector in which the pharmacist works	Primary health care	130	68.1
	Hospital pharmacists	61	31.9
Total		**191**	**100.0**

Out of the total number of pharmacists, there were more women, 174 respondents or 91.1%, compared to 17 male respondents or 8.9%.

The largest number of respondents were aged 24-35 (49.7%). Next in order of frequency are respondents aged 36-45 (35%). The smallest number of respondents was over 45 years old – 29 respondents (15.2%).

According to the years of work experience, the largest number of respondents work from 0-10 years – 111 respondents (58.1%). The smallest number of respondents have work experience over 20 years – 29 respondents (15.2%).

In relation to the sector in which pharmacists work, it is evident that the majority of employees are employed in PHC – 130 respondents (68.1%) compared to pharmacists working in hospitals – 61 respondents (31.9%).

The second part of the survey/questionnaire included questions about the causes of stress in the pharmacist's workplace.

The respondents rated the perception of stress with an average rating of 3.15±1.13. This corresponds to the rating "very stressful". As the biggest source of stress, the respondents rated "Stress associated with unacceptable behavior at the workplace" with an average rating of 3.62±1.27. As the smallest source of stress, the respondents rated "Stress associated with unsafe or bad conditions at work" with an average rating of 3.25±1.28 (Table 2).

The third part of the survey/questionnaire investigated physiological, emotional responses and behavioral changes of respondents to stressors in practice. The respondents rated the physiological responses to the stress they felt on a scale from 1 to 4. 1 meant none, 2 – little, 3 – strong, and 4 meant extreme.

All physiological responses to stress were assessed by the respondents with an average score of 2.61±0.94. This is close to the rating strong. The most pronounced physi-

Table 2: Overview of respondents' exposure to stress at the workplace

	Mean	SD	Min.	Max.
What about the workload or workplace?	3.34	0.99	1	5
What about the unclear distribution of tasks and responsibilities?	3.38	1.05	1	5
What about the expectation of being constantly available via official phone or email?	3.30	1.35	1	5
What about inadequate personal income?	3.51	1.21	1	5
What about unsafe or poor physical working conditions	3.25	1.28	1	5
What about lack of equipment?	3.34	1.19	1	5
What about lack of control? Common areas beyond our control at work are: work processes decision - making performance targets?	3.43	1.13	1	5
What about changes within the organization?	3.42	1.27	1	5
What do you think about limited support from colleagues or overbearing supervision?	3.48	1.23	1	5
What about unacceptable behavior in the workplace?	3.62	1.27	1	5
What about underpromotion or overpromotion?	3.44	1.21	1	5
What do you think about the management's involvement in planning career opportunities?	3.57	1.24	1	5
Total	**3.15**	**1.13**	**1**	

ological response was assessed by the respondents as fatigue, with an average score of 2.58±0.84. The least pronounced physiological answer is dermatological problems with an average score of 1.94±1.12.

The total score of emotional responses to stress was 2.79±0.93. It corresponds to the score strong. The most pronounced emotional response to stress is irritability. Average grade 2.74±0.89. The least pronounced emotional response is depression. Average grade of 2.27±1.07.

A total rating of the change in behavior as a reaction to stress is 2.58±0.91. It corresponds to a rating between little and strong The respondents rated the most pronounced behavioral changes as lower tolerance for frustration and impatience with average score of 2.63±0.93. The least pronounced behavioral changes were increase in sick days and absence from work (Table 3).

DISCUSSION

Job satisfaction of pharmacists directly affects the safety of drug dispensing, which significantly affects the quality of patient care (5). Employees who are stressed, depressed or unhappy cannot produce the same quality of work as those who are satisfied and less stressed (5).

Table 3. Change in behavior due to exposure to stress

	Mean	SD	Min.	Max.
An increase in sick days or absenteeism	1.84	0.92	1	4
Aggression	1.92	0.91	1	4
Diminished creativity and initiative	2.53	0.97	1	4
A drop in work performance	2.22	0.90	1	4
Problems with interpersonal relationships	2.34	1.00	1	4
Mood swings and irritability	2.45	0.85	1	4
Lower tolerance of frustration and impatience	2.63	0.93	1	4
Disinterest	2.40	0.95	1	4
Isolation	2.32	0.98	1	4
Total	**2.58**	**0.91**	**1**	**4**

With this paper, the authors tried to determine the level of stress in the various roles of a pharmacist. The respondents' reaction to exposure to stress was also investigated. An individual's response to stress is sometimes more important than exposure to stress. Especially with respect to cumulative severity of the impact of stressors on the physical and mental health of the respondents.

A comparison of the influence of gender on individual stress scales shows no statistically significant influence (all $p>0.05$). It is noted that on all scales men show higher average scores compared to women. Total stress score: male 3.52±0.82 and female 3.12±1.00.

A significant influence of the age of respondents on the overall assessment of behavior change was recorded ($p<0.05$). Respondents aged 24-35 give the lowest rating for their change in behavior due to stress, 2.29±0.96. Respondents older than 45 rate their behavioral changes due to stress with the highest rating. 3.27±0.68.

Comparison of the influence of length of service on individual scales shows an average rating of $p>0.005$. In this section, respondents with 11-20 years of work experience gave the lowest rating 2.62±1.17. Respondents with 0-10 years of work experience gave the highest rating 3.35±1.09.

Comparative analysis of the influence of age on individual scales shows that there is a significant influence. Respondents in the group over 45 years of age show the highest score of 2.94±0.56 on stress. Of the scores of physiological responses to stress, all respondents show the score ($p>0.05$) in the section diarrhea/constipation (the respondents in the age group 24-35 years have the highest score) and in the section muscle tension (the respondents in the age group 45 years have the highest score).

The overall assessment of behavioral changes as a response to stress was achieved by all respondents in the categories: aggression, decline in work performance and lack of interest (p=0.0001). In general, respondents in the age group 36-45 have the highest score in the two sections, while the highest score in the isolation section was by respondents in the age group 45.

On all scales, respondents with 11-20 years of work experience gave the responses and behavioral changes the highest rating (3.16±0.63). Respondents with less than 10 years of work experience rated responses and behavioral changes with the lowest average rating (2.90±0.84).

All respondents have an overall assessment of behavioral change in response to stress in the sections: disinterest, aggression, a drop in work performance, problems with interpersonal relationships and increase in sick days and absences from work (p=0.0001). In general, respondents with 11-20 years of work experience have the highest score in the disinterest section.

The analysis of the influence of the sector in which the respondent works shows that its statistical impact was recorded on the overall assessment of physiological responses in the sense that respondents who are employed in hospitals rate physiological responses as more pronounced with a score of 3.30±0.68 compared to respondents who work in PHC and who evaluated the physiological responses with an average score of 2.35±0.90.

A significant influence of the sector in which the respondent works on behavioral change was also recorded. The respondents who work in hospitals evaluate their behavioral changes caused by stress with a higher average score of 3.23±0.85, compared to respondents who work in PHC.

Respondents in the PHC sector rate their behavioral changes as less pronounced with an average rating of 2.4±0.86.

In 2021, a study was conducted in Saudi Arabia among final year pharmacy students (6). The study was conducted with 437 students (6). It showed that pharmacy students consider working in a hospital pharmacy as the most desirable career and working in a community pharmacy as the least desirable (7). In contrast, a recent study conducted in Ethiopia among 232 pharmacists working in hospitals showed that job satisfaction among hospital pharmacy professionals was extremely low (7, 8).

In general, if we compare the impact of the sector and the evaluation of the change in behavior in Bosnia and Herzegovina, it is evident that the highest score is in the section increase in sick days and absenteeism for both sectors. Respondents who work in hospitals have a higher score in this section than respondents who work in PHC.
The aim of this paper was to determine the level of stress experienced by pharmacists at their workplace throughout Bosnia and Herzegovina. The main causes of stress at the workplace were also investigated, as well as the respondents' response to exposure to stress (9). The working environment and other variables were examined to see how they affect different dimensions of the quality of working life (10) (work setting, and other variables were examined for how they influence different dimensions of qua-lity of work life.) (11, 12). This work can sti-mulate further research to create a healthy work environment. In this way, the quality of services provided by pharmacists at their workplace would be improved (13). It would raise the level of current practice (14, 15).

CONCLUSION

Improving working conditions for pharmacists, clearly defining their roles, and investing in continuous education would lead to an improvement in their psychosomatic well-being, regardless of age.

Acknowledgements: None.

Declaration of patient consent: Informed consent was obtained from all participants in the study.

Authors' Contributions: Conceptualization: VC, NC. Formal analysis: VC, NC. Project administration: VC, NC. Resources: VC, NC. Software: VC, NC. Visualization: VC, NC. Writing – original draft: VC, NC. Writing – review & editing: VC, NC.

Financial support and sponsorship: There was no funding.

Conflict of interest: The authors have nothing to disclose.

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