

State Anxiety, Stress and Burnout Syndrome Among Community Pharmacists: Relation With Pharmacists' Attitudes and Beliefs

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ABSTRACT

State anxiety, work-related stress and burnout syndrome have been truly documented in health care workers. This research is focused to analyze the relation of self-assessed degrees of state anxiety, work-related stress levels and burnout levels as well as their relation to pharmacists' attitudes and beliefs towards their work with patients. The research design was cross-sectional and descriptive. A survey method by self-administered technique was used on the convenient sample of 647 community pharmacists. Descriptive statistics, correlation analysis and analysis of variance (ANOVA) were used for data analysis. The results indicated that more than half of subjects self-assessed the high degree of state anxiety and stress' levels (60.3% and 55.8%, respectively) and nearly half of them (44.4%) experienced the high level of burnout syndrome. These phenomena are interconnected and related to pharmacists' attitudes and beliefs. The self-assessed level of state anxiety, stress and burnout syndrome were related and high levels were reported among older pharmacists (51 – 60 years) with more years of practice (11–20 years) from Belgrade region.

Keywords: Burnout syndrome, Occupational stress, State anxiety, Attitudes and beliefs

INTRODUCTION

The health care system becomes increasingly complex, thereby increasing the workload of healthcare providers. Consequently, burnout syndrome and work-related stress may have increased among healthcare providers.^{1–3}

There is a growing evidence that pharmacy no longer provide the low-stress working environments and the level of burnout syndrome among pharmacists are generally high and work-related stress as well as state anxiety levels are alarmingly increasing.^{4–8} Even stress during pharmacy training has been increasingly reported in the published literature.^{9–10} It is widely acknowledged that all these psychological phenomena are associated with pharmacists lower job satisfaction.^{11,12} However, why and how this may vary

between pharmacy systems in different countries remains poorly understood.

In everyday professional practice community pharmacists are exposed to stressful factors and the level of stress at work is associated with higher accountability,⁶ the expanded role of pharmacists, a large amount of work, the necessity of simultaneously performing numerous diverse activities, and the growing need of patients.^{4–13}

Some findings show that workplace stress reduction increases the quality of pharmaceutical services provided.^{6,14,15}

The results from the recent research conducted in Serbia demonstrated the high degree of state anxiety among community pharmacists, which alleviate job stress, and

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this was a starting point for this investigation.¹⁶ It was hypothesized that work-related stress probably experienced differently is related to pharmacists, attitudes and beliefs towards their work with patients.

Anxiety as a specific response to threatening stimuli is called a state of anxiety. This is the current emotional state characterized by worry, fear, tension and increased physiological arousal. Anxiety that lasts a long time or occurs frequently in the work environment, leads to occupational stress, which after a long period of time leads to burnout syndrome.¹⁻³

If an individual is under constant stress (i.e. higher stress events one after the other), there will be developed a chronic stress, which may cause serious health problems. Chronic stress developed by a frequent stressful stimuli with short or no recovery period, when experienced at work may be defined as occupational stress or work-related stress. It is a specific kind of stress because its source is in the workplace itself. Individual assessment of objective working conditions affect the occurrence of individual stress response.¹⁷ Some research show a clear association between work-related stress and work performance.¹⁵ Work-related stress may lead to burnout syndrome which occurs as a maladaptive response to the individual's high level of chronic stress related to profession. Burnout syndrome is defined as a condition of mental, physical or psychophysical exhaustion caused by excessive and prolonged occupational stress, when an individual is no longer motivated to work, loses all pleasure in the job, sees no reason for further work, and which eventually leads to lower productivity.^{18,19} Burnout is more prevalent in helping professions.¹⁹ Burnout and stress are often perceived as transposable labels, but they differ as burnout is the product of a prolonged and unabated stress experience, rather than an acute episode of stress.¹⁸

This research aims: (i) to identify state anxiety degrees, work-related stress levels and burnout levels among community pharmacists (ii) to investigate the relations among self-assessed level of state anxiety, work-related stress and burnout syndrome, and their relation to some demographic characteristics, (iii) to assess the relation of state anxiety, work-related stress and burnout syndrome on pharmacists' attitudes and beliefs towards their work with patients.

MATERIALS AND METHODS

Study design

This study is a part of ongoing Research Project on Social and Behavioral Insights of Pharmacy Practice in Community Settings in Serbia, which started in March

2010. A literature review was undertaken to establish if any research previously investigated the issues of pharmacist's stress, burnout syndrome and state anxiety among community professionals in Serbia. There were some research that addressed this issues to other countries, but separately, and some of them are published more than 20 years ago.²⁰

A cross-sectional survey design was used. Data were obtained from self-administered instrument from November 2011 to June 2012. Data collection occurred at several professional meetings and continuing professional education due to the restricted financial funds for the research. Anonymity was assured and a cover letter informed participants of the purposes of the research and that responses would be kept confidential. The respondents consented to take part in the study by submitting the questionnaire.

Sample

Of 4567 registered (licensed) community pharmacists with Pharmaceutical Chamber of Serbia, data were collected from a convenience sample of 647, coming from all 4 regions in respect to Branches of Pharmaceutical Chamber of Serbia (BPCS). The sample size was calculated on the interval and level of confidence (Confidence Interval: 3.57, Confidence Level: 95%). It was determined to be sufficient based on the beta level, size effect and the power of statistical tests (Probability of Type I Error (α) = 0.05; Power = 0.8; Correlation coefficient ρ = 0.6).²¹

Research instruments

Four instruments were used:

1. Burns Anxiety Inventory (BAI) for assessing emotional, cognitive and somatic state anxiety represents the questionnaire type of paper-pencil and consists of 33 items with a four Likert-type scale.
2. Self-assessment test for the level of stress (SAS) based on the existence of four main overload factors (chronic lack of time, excessive responsibility, lack of support and over-expectation of oneself and the others) consists of 10 items with a four Likert-type scale.
3. Self-assessment test for the levels of burnout syndrome (SABS) consists of 15 questions on a Freudenberg scale, where each response is scored according to the strength of feeling on a scale.
4. Pharmacists' Attitudes and Beliefs Scale (PABS) for self-assessment, which consists of 30 items with a five-point Likert type scale, and created for the research purposes.

All instruments are reliable tools for research use: three instruments are general 1,2,3, which are translated and culturally adapted,²² while one instrument⁴ is specific for Serbian pharmacists with the overall Cronbach alpha reliability of 0.67.²³ In designing PABS' items the following criteria were taken into account: 1) items should be formulated in terms most commonly used by the respondents - pharmacists in primary health care system (pretesting was done); 2) Items should be derived from the every day situations and events from practice; 3) Sufficient level of items should be maintained in order to minimize subjectivity in response. All claims were formulated as beliefs about certain aspects of pharmacist's own work with patients, with no terms that refer to emotional states.²⁴

Statistical data analysis

The retrieved surveys that were partially completed with some unanswered questions were subsequently classified into "invalid" responses. The data of usable survey instruments were entered into a database. Statistical analysis was performed using the SPSS program (SPSS 18.0 for Windows, Inc., Chicago, IL, USA). The characteristics of study populations are presented as mean and standard deviation (SD) for continuous variables and as relative and absolute frequencies for categorical variables. Comparisons of continuous variables were performed using the analysis of variance (ANOVA) test with Tukey's HSD test for subgroup differences. Univariate associations were evaluated by Pearson's correlation analysis.

When a difference is statistically significant, it does not necessarily mean that it is big, important, or helpful in decision-making. It simply means you can be confident that there is a difference. To know if an observed difference is not only statistically significant but also important or meaningful, will need to calculate its effect size.

RESULTS

A total of 653 survey instruments were returned with 647 usable (completely filled) giving the 81.6% response rate. Respondents came from all the regions of the country (BPCS of Belgrade, Nis, Kragujevac, Novi Sad) and demographic profile of the study respondents is presented in (Table 1).

The majority of respondents experienced moderate to high levels of state anxiety (moderate, severe and extreme or panic) and a high level of stress (60.3% and 55.8%, respectively) and almost the half of them (44.4%) showed high levels of burnout (burnout syndrome and combustion). The levels of state anxiety, occupational stress and burnout of the study participants are presented in (Table 2).

Correlations between the degree of anxiety, level of burnout syndrome, stress level, age level, experience in professional practice and the practice region are shown in (Table 3).

The regression analysis, which explained 56.2% of the variance (RSquare = 0.562), showed that the highest influence on stress had: practice region according to the BPCS (beta = -0.47, p <0.001) and pharmacists age (beta = 0.29, p <0.001). The highest influence on burnout syndrome and stress also had: practice region according to the BPCS (beta = -0.30, p <0.001) and pharmacists' age (beta = -0.27, p <0.001), explained by 20.6% of variance (RSquare = 0.206).

Analysis of variance (ANOVA) was applied to distinguish whether demographic groups differ significantly regarding their degrees of state anxiety, stress and burnout level.

ANOVA examined the effects of age on state anxiety, stress and pharmacists' burnout syndrome. The subjects were divided by age into five groups (Table 1). There

Table 1. Demographic characteristics of the study participants (N = 647).

N (%)		Experience in professional practice	
Gender			
male	161 (24.9)	< 5 years	108 (16.7)
female	486 (75.1)	6 - 10 years	175 (27.0)
Age group		11 - 20 years	234 (36.2)
< 30 years	68 (10.5)	> 20 years	130 (20.1)
31 - 40 years	199 (30.8)	Geographical and BPCS regions of practice	
41 - 50 years	211 (32.6)	Belgrade region	246 (38.0)
51 - 60 years	154 (23.8)	Southern and eastern region	115 (17.8)
> 60 years	15 (2.3)	Central and Western region	134 (20.7)
		Notheren region	152 (23.5)
		Belgrade region	246 (38.0)

Table 2. Degrees of anxiety* (Burns Anxiety Inventory), Levels of stress (self-assessment test for stress level) and Levels of burnout syndrome (Self-assessment test for burnout level) (N = 647).

	N (%)
Minimal or no anxiety	47 (7.3)
Borderline anxiety	39 (6.0)
Mild anxiety	171 (26.4)
Moderate anxiety	80 (12.4)
Severe anxiety	197 (30.4)
Extreme anxiety or Panic	113 (17.5)
Low level of stress	286 (44.2)
High level of stress	361 (55.8)
Level of burnout syndrome	
No burnout	240 (37.1)
Risk area for burnout syndrome	58 (9.0)
Before the state of burnout syndrome	62 (9.6)
Burnout syndrome	192 (29.7)
Combustion	95 (14.7)

* assessed as state anxiety

was a statistically significant difference at $p < 0.05$ in the state anxiety ($F(4,642) = 99.93, p = 0.01, \eta^2 = 0.38$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; stress ($F(4,642) = 28.49, p = 0.01, \eta^2 = 0.15$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; and burnout syndrome ($F(4,642) = 27.34, p = 0.01, \eta^2 = 0.15$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large, in five age groups. Subsequent analysis with Tukey HSD test showed that the mean values of five age groups of pharmacists differ significantly, ie. senior pharmacists were significantly more anxious than younger pharmacists, more vulnerable to stress and by a higher degree of Pharmacists in the group of 51 to 60 years of age are somewhat anxious, but more significantly affected by stress and burnout syndrome.

ANOVA examined the impact of experience in professional practice on stress, state anxiety and burnout syndrome of pharmacists. The years of pharmacy service of subjects were divided into 4 groups as shown in table 1. There was a statistically significant difference at $p < 0.05$ in the state anxiety ($F(3,643) = 98.90, p = 0.01, \eta^2 = 0.32$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; stress ($F(3,643) = 30.34, p = 0.01, \eta^2 = 0.12$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; and burnout syndrome ($F(3,643) = 27.90, p = 0.01, \eta^2 = 0.12$ (eta-squared), which, according to Cohen's criteria, indicate that the

Table 3. Correlations between the degree of anxiety, level of burnout syndrome, stress level, age level, experience in professional practice and the practice region.

	Degree of anxiety	Level of stress	Level of burnout syndrome
Degree of anxiety	1	.507(**)	.514(**)
Level of stress	.507(**)	1	.725(**)
Level of burnout syndrome	.514(**)	.725(**)	1
Age level	.604(**)	.367(**)	.355(**)
Experience in professional practice	.534(**)	.298(**)	.269(**)
Practice region	-.633(**)	-.389(**)	-.396(**)

** Correlation is significant at the 0.01 level (2-tailed).

effect size of large, in all 4 groups. Subsequent analysis Tukey HSD test showed that the mean values of four groups of pharmacists differ significantly, ie. pharmacists with longer working lives were much more anxious than younger pharmacists. However, those having spent between 11 to 20 years in the profession were more vulnerable to stress and affected by a higher degree of burnout syndrome.

ANOVA examined the influence of practice region in respect to BPCS on state anxiety, stress, and pharmacists' burnout syndrome. There was a statistically significant difference at $p < 0.05$ in the state anxiety ($F(3,643) = 192.37, p = 0.01, \eta^2 = 0.47$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; stress ($F(3,643) = 43.58, p = 0.01, \eta^2 = 0.17$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large; and burnout syndrome ($F(3,643) = 43.28, p = 0.01, \eta^2 = 0.17$ (eta-squared), which, according to Cohen's criteria, indicate that the effect size of large, in 4 groups. Subsequent analysis with Tukey HSD test showed that the mean values of four groups of pharmacists differ significantly, ie. pharmacists from Belgrade region were significantly more anxious than younger pharmacists who are more vulnerable to stress and affected by a higher degree of burnout syndrome.

DISCUSSION

The literature is rich of data describing the stressors facing to caring professions, especially health care workers due to the nature of their work.²⁵⁻²⁷ It is widely acknowledged that continuous exposure to stressors at the workplace, such as work at shifts, excessive workload, inadequate breaks, direct contact to patients, poor communication with superiors, and the lack of continuing education may lead to work-related stress, mental and physical exhaustion and professional burn-

out among health professionals worldwide, including Serbia.^{25,26}

Although the published data of stress, anxiety and burn-out syndrome in pharmacists are limited, the available data are consistent with literature in other healthcare professions, showing that pharmacists experienced an increased level of stress as a result of workload increase and long working hours, and that they were prone to occupational stress and professional burnout owing to the nature of pharmacy practice (its accessibility and commercial competition).¹⁸⁻²⁷

Interestingly, the community pharmacy environment (open-plan design of dispensaries, professional isolation and public interruption and distractions while dispensing) was reported to be one of the causes to develop stress at work, especially in public sector.⁶

This study is the first one to examine the self-assessed state of anxiety, work-related-stress and burnout syndrome among the community pharmacists of Serbia. It also investigated the relation of these phenomena on attitudes and beliefs toward professional work. Overall, the results indicated that more than half of pharmacists self-assessed state anxiety and stress and nearly half of them had self-assessed symptoms of burnout syndrome, which altogether might influence the pharmacists attitudes and beliefs. These findings are similar to those reported by other pharmacists in other healthcare settings.¹⁵⁻²⁰ Results showed a statistically significant correlation between state anxiety degrees, stress levels and the burnout syndrome level of community pharmacists.

In this research community pharmacists' state anxiety, stress and burnout syndrome were associated with age, work experience and the region of practice compared to BPCS, so we tried to compare our results with other studies, which reported to a correlation between these variables with either state anxiety, stress or burnout syndrome among all the kinds of healthcare practitioners, pharmacists included. On the other hand, gender is not in relation to anxiety, stress and burnout. Poor evidence is found that stress is higher in women healthcare personnel, but data from literature evidenced that gender is not in relation to stress and burnout in connection with profession.^{4,5-18} Our results are in line with these findings. Even though we found studies on health care professionals reported that relationship between gender and stress existed.⁴ A substantial share of pharmacists in our study reported that burnout was or had been a problem with them, as confirmed in the previous studies on pharmacists.^{20,28-30} With regard to age and years in practice in the previous studies was shown that younger health workers and less experienced ones were more susceptible to burnout.³¹

Similar to the results of our study indicating that pharmacists' high stress and burnout levels could be related to years in practice, comparative results for pharmacists in Northern Ireland, Turkey and USA are available. The results in our study show that older pharmacists, who had spent the long time in practice (between 11 to 20 years) are more anxious than younger pharmacists, more vulnerable to stress and with a higher degree of burnout syndrome affected. Various authors have shown a significance of experience of professional practice on the stress and burnout levels. Previous studies on pharmacists from Northern Ireland, and Turkey reported that as one's work experience increases, stress and burnout level decrease. Also pharmacists in these studies who experienced a higher level of burnout at work were younger ones. Some study on other health-care workers show a significant association between high burnout levels and the time working in public service, being the professionals with less than 10 years of experience the most affected ones.³²

A possible explanation for the fact that older community pharmacists in Serbia assessed a significantly higher level of stress and burnout syndrome than their older colleagues elsewhere, lies in the differences in their career paths, and could be explained by the transition period and current situation in the pharmacy sector in Serbia. As the major organisational changes have been imposed on the pharmacists' profession in Serbia for nearly two decades, when private practice has been reestablished, the professional expectations and responsibility were increased, especially at the primary level. Besides the electronic data system were implemented by demanding new knowledge and skills. Frequent legislation changes and requirements for pharmacists especially in public sector, put additional pressure when dealing with clients as quickly and efficiently as possible. It is still unclear and unexplored how older generation of practitioners who predominantly work in public sector is able to adequately deal with these changes, how they keep up with developments to maintain professional competence and tendency of frequent job turnover so typical to newly qualified pharmacists and those less experienced.

Our results revealed that the region of practice (BPCS) had an influence on pharmacists state of anxiety, stress and burnout syndrome. Belgrade region with its capital city of Belgrade, where most pharmacists work, is characterised by its dynamic lifestyle conditions and slightly different culture of organisation and working conditions from the other 3 BPCS regions which might explain our results. This result is in line with other study which reported the high level of state anxiety on a small sample of Belgrade community pharmacists.¹⁶ In regard to work context of pharmacists in Belgrade

BPCS further research is needed to investigate if the lack of support from colleagues and supervisors, different career development, status and maybe payment compared to other region of practice are related to the state anxiety, stress and burnout as well.

Another finding of our study was that state anxiety, job stress and burnout experienced at work were related to some of the pharmacists' self-assessed attitudes and beliefs towards their own work with patients. This study showed that more anxious pharmacists assessed spending less time working with patients, being not attentive and unkind in working with patients, and assessed patients as aggressive and with no patience.

More anxious pharmacists assessed that during the interaction with patient they could not influence the patients' motivation and that patients took their valuable time. Anxious pharmacists often came into conflict with patients and in the process of interaction with patient's misunderstandings regarding the application of therapy. Similar to these, pharmacists who experienced a high stress level felt that patients may be strenuous and didn't have much understanding for patients. Those pharmacists who experienced a high level of burnout syndrome assessed that patients didn't understand instructions regarding the drug application.

There are studies showing that excessive workload leads to problems in everyday work activities and job dissatisfaction, which may affect the change in the attitudes of health professionals.^{33,34} Other research findings suggest that burnout and other negative aspects of the job of health care staff have major behavioural and health implications.³⁵

Burnout is associated with poor physical health; depression; job turnover and unproductive work behaviours; problematic interpersonal relations; and negative attitudes, especially with regard to job satisfaction.³⁶ One limitation in this discussion is the lack of available comparison data as the studies of stress, burnout syndrome and state anxiety as well as their correlation with professional attitudes and beliefs among pharmacists, are rare and some of them being published more than 22 years ago. It is necessary to explore the additional factors that may lead to job-related stress and burnout in population of pharmacists.

Research findings suggest that health professionals' satisfaction with income, client overload, and practice setting may influence job satisfaction and burnout levels.³³⁻³⁷

Studies on pharmacists showed that those working primarily in community chain store settings reported

greater burnout levels than those working in hospital or institutional pharmacies, independent community pharmacies, academia, and home health care, which we did not investigate in our study.¹⁰⁻³⁰

Some of personal and professional characteristics appeared to be associated with burnout so relationship between influencing factors (individual - psychological and organisational, enviromental) on work-related outcomes and burnout²⁶ may be analyzed on the pharmacy population in Serbia in the future research.

Those further research are needed to enhance our understanding of pharmacists attitudes and beliefs toward their work with patients and the factors that may influence job stress and burnout in the professional workplace, because it can benefit pharmacy institutions not just financially but in terms of the quality of care that will be delivered.³⁸

By using self-administered survey instruments we recorded the self-assessed degrees of state anxiety and the level of stress and burnout syndrome, which is presented in a limited number of studies. Results should be interpreted with these limitations in mind.

CONCLUSION

This study has shown that self-assessed level of state anxiety, stress and burnout syndrome among pharmacists from the community setting in Serbia are unfavorably high.

The results indicated that the self-assessed level of state anxiety, stress and burnout syndrome were related and high levels were reported among older pharmacists with more years of practice from Belgrade region.

Pharmacists attitudes and beliefs rating vary with self-assessed state anxiety, stress and burnout syndrome. Further research is necessary to explore the factors that cause state anxiety, stress and burnout syndrome in pharmacists, because it may lead to changes in the quality of pharmaceutical care.

Ethical approval Official permission was taken from the Pharmaceutical Chamber of Serbia to develop and test the instrument and all the participants (pharmacists) received a full explanation of the study and were guaranteed anonymity. No financial compensation were given to any participant. Ethics Committee for Clinical Research of the Faculty of Pharmacy - University of Belgrade approved the study as well (Approval of the Ethics Committee of the Pharmaceutical Chamber of Serbia, No 687/2-2, 18/10/2011; Approval of the Faculty of Pharmacy - University of Belgrade, No 1850 / 2, 31/10/2011).

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The authors declare that they have no conflict of interests.

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