

BURNOUT SYNDROME AMONG HOSPITAL PHARMACISTS IN ROMANIA

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Abstract

The purpose of the study was to identify the level of burnout among hospital pharmacists in Romania, relative to socio-demographic characteristics, psychological data and personality traits. 78 hospital pharmacists completed a document with socio-demographic characteristics and personal data, and filled in two psychological instruments. "The Big Five Inventory" was applied to identify the personality traits (extraversion, agreeableness, conscientiousness, openness and neuroticism) and the "Maslach Burnout Inventory" was used to measure the level of burnout for emotional exhaustion, depersonalization and personal achievement. Data were processed using SPSS Statistics v23.0.0. A moderate level of burnout was identified for emotional exhaustion (17.17 ± 10.40), a low level for depersonalization (4.66 ± 4.31) and an average level of burnout for personal achievement (32.54 ± 8.73), this third dimension being influenced by all five personality traits. 18.66% of pharmacists presented a high level of emotional exhaustion, 26% of subjects suffered from a chronic disease, 7% from depression, 23.1% from insomnia and 9% took pills to cope with stress. Burnout is influenced by personality traits and psychological factors. The relationship with socio-demographic factors was analysed. Results are important for hospital pharmacists to find ways to cope with burnout.

Rezumat

Scopul studiului este de a identifica nivelul *burnout*-ului la farmaciștii care lucrează în spitalele din România, în corelație cu date socio-demografice, psihologice și trăsăturile de personalitate. Un număr de 78 de subiecți au completat un chestionar cu datele socio-demografice și personale și au răspuns la întrebările a două instrumente psihologice. Chestionarul „*Big Five Inventory*” a fost utilizat pentru a identifica trăsăturile de personalitate (extraversiunea, agreabilitatea, conștiinciozitatea, deschiderea și tulburările psihologice) și „*Maslach Burnout Inventory*” pentru a măsura nivelul *burnout*-ului (epuizare emoțională, depersonalizare și realizare personală). Datele obținute au fost prelucrate cu programul SPSS Statistics v23.0.0. S-au identificat: un nivel moderat al *burnout*-ului pentru dimensiunea epuizare emoțională ($17,17 \pm 10,40$), scăzut pentru depersonalizare ($4,66 \pm 4,31$) și mediu pentru realizare personală ($32,54 \pm 8,73$), a treia dimensiune fiind influențată de toate trăsăturile de personalitate. 18,6% dintre subiecți au un nivel foarte ridicat de epuizare emoțională, 26% dintre farmaciști au o boală cronică, 7% suferă de depresie, 23,1% au insomnii și 9% iau medicamente pentru a face față stresului. Nivelul *burnout*-ului este influențat de factori psihologici și de personalitate. Relația cu factorii socio-demografici a fost, de asemenea, analizată. Rezultatele sunt importante pentru farmaciștii de spital pentru a identifica modalități de a face față *burnout*-ului.

Keywords: hospital pharmacists, burnout, personality traits

Introduction

Burnout syndrome is defined by three dimensions: a high level of emotional exhaustion, a high level of depersonalization and a low level of personal accomplishment. Over the last 4 decades, burnout has been related to professional factors, and consequences like physical symptoms, absenteeism and job turnover have been proved. Additionally, its stability over time has been pointed out by a lot of studies and the antecedents, such as role conflict and lack of social support from colleagues, have been identified [1].

As far as the international literature research is concerned, there is a gap regarding the research of professional exhaustion among pharmacists working in hospitals. Most studies have focused on professional satisfaction or burnout among health care professionals or clinical health care providers.

Few studies have focused on burnout among hospital pharmacists: high levels of burnout were identified among Australian hospital pharmacists [2] and an average level among pharmacists from Japan [3]. A comparative study including pharmacists and pharmacy technicians revealed low levels of burnout among

them in a hospital in Nigeria [4]. A recent study by Chevalier *et al.* [5] included 24 hospital pharmacists in Australia and tried to identify the subjects' opinions regarding their task of counselling patients about their medication and the changes made to their medication during hospitalization. The study found that communication with patients and their health professionals demanded effective communication skills training and required a lot of time. Moreover, other authors recommended that pharmacists speak to patients multiple times during their stay, to increase the effectiveness of communication [6]. That is why, determining important effects on daily work, the burnout syndrome may prejudice pharmacist-physician relationships and patients' safety [7]. On the other hand, considering the fact that in many countries there is a close relationship between patients and hospital pharmacists, communication skills are needed and personality traits like openness, extraversion or agreeableness are very important in establishing a good relationship with patients and family members and to increase the rate of patients' adherence to treatment, especially for patients who suffer from chronic diseases, are in critical care or have to change medical treatment and adjust their lifestyle to their new medical condition.

Researches indicate that hospital pharmacists may play an important role in preventing prescribing errors or adjusting doses for medical treatment (by physicians or nurses) or medical problems among older patients who take a lot of medicines [8].

Personality factors and communications skills seem to be important in practicing this profession and work-related tasks increase the rate of professional exhaustion among hospital pharmacists.

This research is part of a larger cross-sectional study and represents the first study of this kind among hospital pharmacists in Romania. A number of 160 hospital pharmacists are registered in the *Romanian National Association of Hospital Pharmacists* (ANFSR) but the estimation made by ANFSR is that around 800 pharmacists are working in public hospitals in Romania.

The aim of this study was to identify the level of burnout among pharmacists working in Romanian hospitals and socio-demographic, environmental and personality related factors.

Materials and Methods

Participants

The study was approved by *The National Association of Hospital Pharmacists in Romania* (ANFSR). In total, 100 questionnaires were distributed to hospital pharmacists between November 2016 and May 2017. The rate of response was 78%. Subjects were from 20 of the 42 counties in Romania, so the territorial cover was almost 50%. All participants were members

of ANFSR. Before filling in the personal data form and Maslach Burnout Inventory (MBI) questionnaire, the informed consent was obtained. Subjects were informed about the confidentiality of the provided data, the purpose of the research and the utility of results.

Questionnaires

A fill-in document containing socio-demographic data and a few items recording personal data (age, sex, years of work in the pharmaceutical field, years of work at the present hospital, marital status, administrative duties (of head pharmacists), the number of children, the number of working hours *per week* and shifts *per month*. The subjects had to self-declare past or present problems like insomnia, depression, administration of drugs to cope with stress. Additional items related to their relationships with health care professionals in the hospital collected answers regarding: administrative duties (pharmacist/head pharmacist), relationships with health practitioners (head of department, consultant, resident, specialist or chief assistant), task and time related to preparing pharmaceutical compounding, involvement in personalized treatments for patients. Furthermore, two psychological tools were used to assess depression and burnout scores.

The burnout level was measured using the *Maslach Burnout Inventory - MBI* [9, 10] in order to evaluate its three dimensions: emotional exhaustion refers to feelings of over-exertion and exhaustion resulting from daily conflicts in one's work environment (the dimension is measured by 9 items), depersonalization represents a detached attitude toward patients, colleagues, the institution or even oneself and results in negative attitudes and impersonal behaviours to people in relation to the profession (the dimension is measured by 5 items) and personal achievement is the lack of feeling of success, namely the person feels inefficient and has a negative self-assessment regarding job performance (this third dimension comprises 8 items).

Personality traits were evaluated by The Big Five Inventory "BFI" [11]. The instrument evaluates five dimensions: extraversion (8 items), agreeableness (9 items), conscientiousness (9 items), neuroticism (8 items) and openness (10 items).

Statistical analysis

The data obtained were processed using IBM SPSS Statistics v23.0.0. For the descriptive statistics, we analysed the mean and standard deviation. In order to compare data, the t-test for independent samples and one-way ANOVA were used and for correlational analysis we used Pearson and Spearman tests.

Results and Discussion

Descriptive analysis

Socio-demographic data. Data regarding age, sex, marital status, number of children, number of years

in the field, related to the present employer, having administrative duties (being head pharmacist) and also information regarding the number of working hours

per week and shifts per month were statistically analysed. Results are presented in Table I.

Table I
Socio-demographic characteristics

Variables	Mean \pm standard deviation N (%)
Age	45.57 \pm 10.12 (with a minimum of 25 and a maximum of 61)
Sex	Male 8 (10.3)
	Female 70 (89.7)
Marital status	In a relationship/married 47 (60.3)
	Single/widow(er) 31 (39.7)
Experience in years	19.07 \pm 11.23 (with a minimum of 1 and a maximum of 37 hours/week)
Years of work for the current employer	10.81 \pm 9.78 (with a minimum of 1 and a maximum of 33 hours/week)
Number of working hours per week	37.51 \pm 3.96 (with a minimum of 35 and a maximum of 50 hours/week)
Shifts	18 (25)
Head pharmacist	59 (75.6)
Involved in pharmaceutical compounding	59 (64.5%)

Hospital pharmacists were asked about their family data. A number of 26 (32.5%) subjects declared that they did not have children and 22 (28.2%) claimed that they lived alone.

Psychological data. Hospital pharmacists were asked about their chronic disease and were requested to self-declare problems related to depression, insomnia or drugs. The rate of answers is presented in Table II. Among activities that they engaged in when distressed were mentioned: communication (17.9%), trying to pay attention to all details (12.8%), listening to music (10.3%), self-control management (7.7%), distributing/sharing tasks to others (5.1%) and involving in physical activity (3.8%).

Table II

Data regarding depression, insomnia, pills to cope with stress and chronic diseases

Variable	N (%)
Depression	6 (7.7)
Insomnia	18 (23.1)
Taking pills to cope with stress	7 (9)
Chronic disease	20 (26)

A number of 20 hospital pharmacists (26%) suffer from chronic diseases. The mentioned diagnoses are: musculoskeletal pain (N = 3, 14.3%), hypertension (N = 7, 33%), diabetes 2 (N = 2, 9.5%), asthma (N = 1, 4.8%), cardiac arrhythmia (N = 1, 4.8%), venous insufficiency (N = 1, 4.8%), metabolic syndrome (N = 5, 23.8%) and osteoporosis (N = 1, 4.8%).

The analysis of data regarding the burnout level and personality traits identified different rates of burnout for the considered dimensions: a moderate level of burnout was identified for emotional exhaustion (17.17 \pm 10.40), a low level for depersonalization (4.66 \pm 4.31) and an average level of burnout for personal achievement (32.54 \pm 8.73). The results indicate an average rate of burnout among hospital pharmacists in Romania (reflected in average scores on three subscales). The cut-off scores are the following:

for emotional exhaustion: 0 - 16 indicate a low-level, 17 - 26 an average level, and over 27 indicate a high level of emotional exhaustion. For depersonalization under the score of 6 is a low level of depersonalization, 7 - 12 represent an average level and over 13 is a high level of depersonalization. For personal accomplishment the score under 39 represents a low level, 38 - 92 an average level and scores over 31 indicate a high level of personal accomplishment. 18.66% of hospital pharmacists present a high level of emotional exhaustion. Results for BFI and MBI are presented in Table III.

Table III
Results for BFI and MBI

Instruments	Domains	M \pm standard deviation
BFI	extraversion	3.89 \pm 0.71
	agreeableness	4.07 \pm 0.50
	conscientiousness	4.18 \pm 0.51
	neuroticism	2.52 \pm 0.63
	openness	3.85 \pm 0.49
MBI	emotional exhaustion	17.17 \pm 10.40
	depersonalization	4.66 \pm 4.31
	personal achievement	32.54 \pm 8.73

The Cronbach's alpha coefficients for each scale of MBI were: 0.863, 0.504 and 0.842, proving a good internal consistency for 3 of 4 scores. The score are conforming to results presented by previous studies [2-4]. The low score for depersonalization may have four reasons: the small number of items (5 items for this dimension comparing to eight or nine items for the other dimensions), a small sample size (due to the small number of hospital pharmacists in Romania), the majority of inter-items correlations are either very high or very low (as observed in the Inter-Item Correlation Matrix and Item-Total Statistics Table) and the fact that most of the variables are not normally distributed. Considering these reasons, for depersonalization dimension, the results must be cautiously evaluated.

The obtained Cronbach's alpha coefficients for each scale of BFI were: 0.825, 0.651, 0.740, 0.764 and 0.683, respectively, showing a good internal consistency for three dimensions. For agreeableness and openness the internal consistency is questionable and this is due to the reasons mentioned above.

Subjects were asked to provide data about previous or present depression or insomnia-related problems, and to declare if they have used pills to cope with stress.

Subjects were questioned about their relationships with physicians. They offer medical advice. They have to answer on a Likert-like scale from 1 (never) to 5 (always). A number of 23 (N = 30.3%) claimed that physicians have never asked them about personalizing patient's treatment, 44 (57%) declared they are sometimes asked for advice, 5 (6.6%) are often asked for pharmaceutical counselling and 2 (2.6%) asserted that they are most of the time or always asked to guide medical treatment. Among health care specialists who are looking for a professional opinion they mentioned: the head of department (N = 23, 30.3%), consultants (N = 21, 27.6%), specialists (N = 31, 40.8%), residents (N = 8, 10.5%) and chief assistants (N = 11, 14.5%).

An item inquired on their work-related discontent. A number of 52 (71%) declared they felt discontent about their job.

Comparative analysis

The Independent Samples t-Test was used in order to perform the comparative analysis for the following variables: depression, insomnia, medicines to cope with stress, sex, managerial reasonableness (head pharmacists), marital status, number of shifts/month and parental responsibility.

No significant differences were identified considering the following variables: administrative responsibilities (of head pharmacists), insomnia and marital status.

A significant difference was noted only considering personal achievement: hospital pharmacists who are parents have obtained higher scores ($M = 34.96 \pm 8.06$ vs. $M = 27.75 \pm 8.28$, $p = 0.001$, Cohen's $d = 1.26$).

In addition, considering depression as a variable, we have found that subjects who were self-evaluated with depression are emotionally exhausted, compared to those who claimed that they don't have this health problem ($M = 27.00 \pm 12.30$ vs. $M = 16.47 \pm 9.99$, $p = 0.028$, Cohen's $d = 1.43$).

Subjects who take pills to cope with stress are more emotionally exhausted compared to those who do not use medicines to diminish their level of stress ($M = 28.33 \pm 11.77$ vs. $M = 16.20 \pm 9.78$, $p = 0.005$, Cohen's $d = 3.28$).

One-way ANOVA was used for age, professional level (hospital pharmacist, hospital specialist pharmacist and hospital primary pharmacist) and years of experience, years in the same hospital; no significant differences were revealed. Due to the fact that the number of

male subjects is lower, we cannot provide a gender-based result. Anyway, the results of some other studies prove contradictory levels of burnout for male and female subjects [13, 14].

Our results are different from Muir and Bortoletto [2] where higher levels of burnout were found in younger hospital pharmacists in Australia, compared to experienced pharmacists. Moreover, the authors found a high level of burnout among participants, a different result compared to our research.

The results could be explained firstly by the fact that pharmacists' tasks in Romanian hospitals are more related to health professionals rather than patient-centred. In Romania, hospitalized patients are rarely counselled directly by pharmacists when it comes to their medical treatment, this information usually being provided by their current physician. As proved by several studies, hospital pharmacist-patient relationships are demanding for the former and involve a lot of time and good communication skills [6]. This could increase the rate of professional exhaustion among pharmacists working in hospitals. Secondly, the high rates of burnout proved by other studies could also be explained by the severity of events affecting patients after discharge from hospital, pressing pharmacists to find ways of dealing with this; some studies are presenting different strategies applied in order to diminish the negative effects by counselling before discharge from hospital or follow-up telephone calls [15-17]. Also, considering the fact that antecedents like role-conflict and lack of social support from colleagues were identified in the scientific researches as being linked with burnout [1] we consider that results are sustained by the fact that communication with colleagues strategy is used by almost a quarter of subjects. So, we compared subjects who stated that they use communication as coping activity and those who were not adopting this strategy in order to diminish their level of stress at hospital. The results proved that pharmacists who use communication are more extrovert, more agreeable and less neurotic (for extraversion $M_{with} = 4.27$ vs. $M_{without} = 3.80$, $p = 0.025$, Cohen's $d = 0.71$; for agreeableness $M_{with} = 4.42$ vs. $M_{without} = 3.99$, $p = 0.003$, Cohen's $d = 0.63$ and for neuroticism $M_{with} = 2.11$ vs. $M_{without} = 2.61$, $p = 0.008$, Cohen's $d = 0.89$). We also found that pharmacists who have no reason to be discontent with their work are less neurotic ($M_{satisf} = 2.22$ vs. $M_{dissatisf} = 2.70$, $p = 0.002$, Cohen's $d = 1.12$) and more agreeable ($M_{satisf} = 4.25$ vs. $M_{dissatisf} = 3.95$, $p = 0.020$, Cohen's $d = 0.78$). These results are similar to those published by other authors [4, 7]. Even though, the effect sizes of these comparisons are important from the statistic point of view, it is better to cautiously interpret the practical significance of these findings.

Correlational analysis

In order to carry out the correlational analysis, we first tested the normality of data distribution using the Kolmogorov-Smirnov test. The results obtained show that the following variables are distributed normally: emotional exhaustion, personal achievement and neuroticism, while the other variables investigated (depersonalization, extraversion, agreeableness, openness and conscientious) don't have a normal score distribution. That is why, in order to perform the correlational analysis, we used the Spearman correlation,

a non-parametric test for the variables that don't have a normal score distribution and the Pearson correlation for the variables whose scores are distributed normally. The results obtained prove that age, experience in the field, working hours and the number of shifts are not correlated with the level of burnout on either of its dimensions: emotional exhaustion, depersonalization or personal achievement. These results explain that environmental factors and the work schedule do not influence any of the burnout dimensions (Table IV).

Table IV
Correlation analysis

Variables	Emotional exhaustion	Depersonalization	Personal achievement	
Age	r = 0.004, p = 0.975	r = 0.011, p = 0.923	r = 0.033, p = 0.778	
Years of total experience	r = - 0.010, p = 0.935	r = 0.091, p = 0.439	r = - 0.092, p = 0.430	
Years in hospital	r = 0.057, p = 0.636	r = 0.090, p = 0.454	r = - 0.083, p = 0.491	
Number of working hours/week	r = 0.075, p = 0.527	r = 0.142, p = 0.236	r = 0.050, p = 0.677	
Swifts <i>per</i> month	r = 0.120, p = 0.310	r = 0.157, p = 0.187	r = 0.109, p = 0.360	
BFI	extraversion	r = - 0.155, p = 0.184	r = - 0.213, p = 0.069	r = 0.458**, p = 0.000
	agreeableness	r = - 0.010, p = 0.929	r = - 0.272*, p = 0.019	r = 0.374**, p = 0.001
	conscientiousness	r = - 0.177, p = 0.129	r = - 0.318**, p = 0.006	r = 0.257*, p = 0.026
	neuroticism	r = 0.266*, p = 0.021	r = 0.223, p = 0.056	r = - 0.289*, p = 0.012
	openness	r = - 0.075, p = 0.521	r = - 0.013, p = 0.912	r = 0.341**, p = 0.003

For the emotional exhaustion dimension of burnout, we only obtained one positive correlation between this variable and neuroticism, which means that the more present this personality trait, is in a person's personality structure, the more emotionally exhausted they will feel.

For the depersonalization factor, we obtained two negative correlations with two BFI dimensions, agreeableness and conscientiousness, meaning that the higher a Person's score is at these two factors of BFI, the lower their depersonalization score will be. The personal achievement dimension correlated positively with extraversion, agreeableness, conscientious and openness, which means that the more present these personality traits are, the more personally achieved a person will feel. This dimension of burnout also correlated negatively with neuroticism, which indicates the fact that the higher the score at neuroticism is, the less personally achieved a person feels.

Our results are in compliance with several studies from the scientific literature. Neuroticism influences the level of burnout (emotional exhaustion and personal achievement), with consequences on professional satisfaction and good relationships with healthcare professionals [18, 19, 21].

Regression analysis

The correlational study emphasized the influence of some personality traits on two of burnout dimensions, depersonalization and personal achievement. The relationship between every independent and dependent variables is linear (scatterplot-matrix). The collinearity and autocorrelations analysis [20] showed that most

of the variables should be kept. In order to identify the most effective model for estimating burnout factors, multiple hierarchical regression was used and prediction models were defined for emotional exhaustion, depersonalization and personal achievement. The results show that, for the emotional exhaustion dimension, none of the predictive models proved to be significant (results are supported by the findings from the correlational analysis).

For the depersonalization dimension, only the second model, with extraversion and agreeableness as predictors, proved to be statistically significant, explaining 5.7% of the variance of depersonalization with 3.9% more than the previous model (adjusted $R^2 = 0.057$, $\Delta R^2 = 0.039$). Yet, even though this model of prediction is statistically significant, neither of its two predictors has a significant influence on the dependent variable.

Regarding the personal achievement dimension of burnout, all of the predictive models were statistically significant. The results show that the first model of prediction, with extraversion as predictor, is the strongest, since it explains 22% of the variance of personal achievement ($R^2_{\text{adjusted}} = 0.220$, $\Delta R^2 = 0.230$). Furthermore, extraversion has a positive influence on personal achievement, explaining most of the variance of the dependent variable ($b = 5.881$, $\beta = 0.480$). Based on these results, the conclusion is that the more present this personality trait (extraversion) is in a person's structure, the high will be the personal achievement scores.

Strengths and limitations of the study

The strength of the study is due to the fact that it represents the first study performed in Romania on burnout syndrome among hospital pharmacists. The results are representative, considering the fact that the number of hospital pharmacists is relatively small compared to community pharmacists.

The first limitation is due to the small number of male subjects and a significant comparative analysis was not statistically relevant. The second limitation is linked to the Romanian national policies related to hospital pharmacists' work demands, so burnout levels could not be related to the specificity of duties. For example, in Japan, low scores of burnout for the personal accomplishment dimension were identified among pharmacists involved in the implementation of the Pharmaceutical Benefits Scheme [3].

Conclusions

The average level of burnout among hospital pharmacists in Romania is influenced by personality traits and psychological factors rather than socio-demographic, work-related or environmental factors. The results are important for pharmacists and institutions to find ways to cope with professional burnout and to increase quality of life.

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