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**Professional burnout and development of the  
pharmaceutical profession**

**THESIS SUMMARY**

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## **ABBREVIATIONS USED**

DP - Depersonalization

EE - Emotional Exhaustion

ICD-11 - The International Classification of Diseases

MP- Medicinal product

NHIF - National Health Insurance Fund

NPC - National Pharmacy Card

PA - Personal Accomplishment

PC – Pharmaceutical care

PPE - personal protective equipment

RPC - The Regional Pharmaceutical College

SETASMP - SPECIALIZED ELECTRONIC TRACKING AND ANALYSIS  
SYSTEM FOR THE MEDICINAL PRODUCTS

## **INTRODUCTION**

Burnout or professional exhaustion disorder is a term that has gained widespread popularity worldwide. In recent years, the topic has become increasingly relevant in our country. It is accepted that burnout develops after prolonged exposure to occupational stress that is not successfully managed. It has been proven to occur mainly in people practicing helping professions related to immediate communications and interpersonal contacts. It has complex and distinct symptomatology and can be distinguished from purely mental fatigue by its three components of emotional, cognitive, and physical impairment. Both the mental and physical health of affected employees are seriously affected. Excessive stress and burnout are prerequisites for the development of a number of diseases such as cardiovascular, diabetes, gastro-intestinal problems, obesity, anxiety, and depression are triggered. Concerning the need for more thorough monitoring of this syndrome, as well as its adverse effects on the health and well-being of the population, the WHO declared it an occupational phenomenon in the 11th revision of the International Classification of Diseases (ICD-11) in 2019 (not classified as a medical condition).

Occupational burnout was originally considered a characteristic of medical professionals, as the specific nature of the work of healthcare workers requires constant contact with patients and emotional involvement in the healing process. Employees in the healthcare sector are the most vulnerable to occupational stress. Burnout affects the healthcare system by decreasing performance, increasing absenteeism, negatively impacting patient health outcomes by decreasing the quality of care and services, and being a precondition for medical errors.

### **Development of the pharmaceutical profession**

Having come a long way in change, the pharmacy profession has evolved in line with the ever-changing demands of the healthcare system. Population healthcare, in particular pharmaceutical services, is adapting to the growing needs of society to meet healthcare demands and provide a high level of quality of life for patients. As the most accessible health professionals to the population, pharmacists play a key role in patient health protection, prevention, and treatment and occupy an important place in the healing process. In recent years, the focus has been on the concept of pharmaceutical care as a core element of pharmacy practice and emphasis has been placed on their introduction and

rational application in the consultation process. In the face of a dynamically changing regulatory environment, new technologies, the introduction of electronic prescriptions and a number of innovations in the organisation and working methods, extraordinary time and effort are required on the side of the pharmacists.

### **Pharmaceutical care during Covid -19**

These challenges were compounded by the non-specific working conditions during the Covid-19 pandemic when the survey was conducted. The changes imposed on pharmacy work organisation during the emergency and the increased need for specialised pharmaceutical care for patients generated a high level of stress among staff.

The lack of time for patient consultations due to the pharmacists' overload of administrative duties, which shifts the focus from their main professional activity -pharmaceutical care, was noted. All this, in the Covid context, is a prerequisite for significant professional stress and the development of burnout.

There is an urgent need to differentiate the factors leading to the occurrence of occupational burnout among pharmacists. Influences of work environment and regulatory requirements and changes in the level of burnout are of scientific interest for this study.

## **PURPOSE AND TASKS**

### **Objective**

To analyse the current scope of activity of the pharmacy profession, the associated occupational stress and the factors that influence it.

### **Tasks**

To achieve the objective, the following tasks are set:

1. To study the specifics of the organization of the professional environment and the challenges faced by pharmacists working in pharmacies serving the population.

2. To explore the difficulties and challenges in the work of pharmacists in the context of the Covid – 19 pandemic.

3. To study the level of occupational stress in pharmacists practicing in population service pharmacies.

4. To study the factors influencing the occurrence of burnout among pharmacists.

5. To study the relationships between burnout in pharmacists and the pharmaceutical care they provide.

6. To study the job satisfaction among the pharmacists who took part in this study.

7. To develop guidelines for identifying the manifestations of occupational stress in pharmacists and recommendations to address it

## **WORKING HYPOTHESES**

- The evolution of the pharmaceutical profession, the changing legal framework in the pharmaceutical sector, and the dynamic working environment confront the pharmacist in modern society with a number of new challenges.

- Excessive workload and overtime stress, especially in the context of Covid-19, are prerequisites for a high level of professional burnout among pharmacists.

- Burnout negatively affects effective communication with other health professionals and with patients, and this leads to a deterioration in the quality of pharmaceutical care provided



## METHODOLOGY

### **Subject of the study:**

Burnout level among Master Pharmacists practicing in local pharmacies and the factors that influence it.

### **Object of the study:**

Master Pharmacists practicing in pharmacies serving the population in the city of Varna and the region.

**Inclusion criteria** of respondents: master pharmacists, members of (Regional Pharmaceutical College–Varna) RPC - Varna, practicing in pharmacies serving the population and who have a contract for filling prescriptions paid by the NHIF (National Health Insurance Fund). As of March 2021, the number of Master Pharmacists who meet the criteria for inclusion in the study is 301.

**Exclusion criteria:** Master Pharmacists who do not practice in pharmacies serving the population or in pharmacies without a contract for work with the National Health Insurance Fund (NHIF), who are not members of the RPC - Varna, and who have less than one year of experience.

**Sample:** The stated objective of the study was to include 1/3 of those falling within the inclusion criteria of Master Pharmacists to accept the data as reliable.

### **Organisation, time, and place of the study**

The study was conducted between March 2021 and December 2021, through a direct anonymous survey of Master Pharmacists. The questionnaires were provided to the Master Pharmacists for completion on paper with the assistance of the Regional Pharmaceutical College (RPC) Varna, during the visit of the surveyed persons at the office of the College, or organized events and meetings of the members of the College.

Each respondent was provided with a paper questionnaire which they completed by hand after receiving instructions from trained persons and signing an Informed Consent Form. The person distributing the questionnaire was selected so that he/she was not an employer or authority on whom the Master Pharmacist depended directly to ensure the reliability of the responses. The questionnaire is completed in 30 min and there are no specific procedures required. To ensure respondent anonymity, completed questionnaires are placed personally by the respondent in a closed box.

### **Methods:**

The following methods were applied to meet the targets and objectives:

**I. Documentary method** - used to examine regulatory documents and literature to trace back the development of the pharmacy profession and the concept of professional burnout.

**II. Sociological method** - a questionnaire was developed as a tool for collecting information, which includes structured, semi-structured, and open-ended questions, with opportunities for adding free text.

The questionnaire consists of three parts:

A. Demographic characteristics including gender, age, work experience, employment status and type of the organisation.

B. Questionnaire specifically created by the authors aiming to outline the characteristic features of the respondents' workplace and to identify those factors which make their work difficult.

The factors are divided into:

- Access to pharmaceutical services and medicines
- Difficulties in the work process associated with the regulatory framework
- Making up of prescriptions paid by NHIF
- Difficulties with technology
- Difficulties associated with the organisation of pharmacy work
- Pharmaceutical care
- Difficulties in communication
- Problems in patient care during the Covid-19 pandemic

C. Questions aimed at identifying the problems faced by pharmacists during COVID-19. The questionnaire examines three fixed time periods covering the course of the pandemic - first wave: March 2020-June 2020, second wave: October 2020-January 2021, third wave: February 2021-May 2021.

D. Includes the specialised Maslach Burnout Inventory (MBI-HSS-MP) (Maslach, et al., 1986);

The MBI-HSS-MP contains 22 seven-point items distributed across three dimensions: Emotional Exhaustion (nine items), Personal Accomplishment (eight items), and Depersonalisation (five items). Each dimension is scored individually on a Likert scale (0–7) with each question asking to describe the frequency (from “never” to “every day”) with which they experience the statement. The response scales are defined as follows: 0 = never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4 = once a week, 5 = a few times a week, and 6 = every day.

High scores on EE directly correspond to increased levels of stress caused by overworking. The resources for solving everyday problems at work are exhausted due to both emotional and physical factors: lack of energy, chronic fatigue, frequent headaches, tension, insomnia and depression.

Higher values on the DP scale mean relationships with patients and colleagues are negatively influenced and might be a cause for conflicts. The affected healthcare professionals demonstrate an insensitive and inhumane attitude, and a lack of motivation to provide counselling services and educate their patients. An excessive distancing from work duties and a decrease in the quality of provided care are observed

PA is a scale related to the person's self-assessment of their professional achievements and the sense of self-importance in the working process. Burnout is associated with low scores on that scale which results in reduced productivity, a feeling of incompetence and loss of motivation to perform their main professional activities.

Professional burnout is associated with high values on the EE and DP scale and low values on the PP scale.

### **III. Statistical methods:**

- Descriptive analysis. Quantitative variables are presented as mean value and standard deviation ( $\pm$  SD), categorical variables - as number and relative share (N, %).

- The statistical confirmation of the questionnaire was achieved using the reliability coefficient Cronbach's alpha (Cronbach, 1976). Data demonstrated a good factor structure and a very good level of reliability coefficients (Cronbach's alpha for subscale Emotional Exhaustion is  $\alpha = .929$ ; for subscale Depersonalisation  $\alpha = .733$ , and subscale Personal Accomplishment  $\alpha = .791$ ). The reliability coefficient for the entire questionnaire is Cronbach's alpha:  $\alpha = .808$

- Correlation analysis is applied to describe the strength and direction of dependence between variables. According to the measurement scale in which the variables are expressed, different correlation coefficients are used. Pearson and Spearman correlation coefficient was used for the study.

- Analysis of variance. ANOVA analysis was used to determine the impact of independent variables (gender, age, work experience) on dependent variables (DP, PA, EE) in a regression study. The analyses were performed at a level of statistical significance  $\alpha = 0.05$ .

- Regression analysis was used to examine the influence of EE, DP and PA scales on the communication problems community pharmacists have with patients, GPs and other medical professionals.

Data were exported and analysed using the Statistical Packages for the Social Sciences (SPSS) for Windows, Version SPSS 19.

**Ethics approval:** The scientific study was approved by the Research Ethics Committee at the Medical University – Varna with record No 101/24.03.2021.

**Study limitations:** The present study was conducted in the context of a spreading pandemic of Covid-19. Circumstances necessitated limiting contact and maintaining distance. Initially set ways of gathering information were difficult to implement due to the lack of organized events for pharmacists in the set period. Some of the pharmacists could not spend time due to their busy schedules and did not participate in the study.

The Covid-19 pandemic is not an objective of the study, but undoubtedly has implications and should be considered in the analysis of the results obtained.

## RESULTS AND DISCUSSION

### 1. Socio-demographic characteristic of the participants in the study

Responses from 127 community pharmacists were collected for the study, which accounted for 42% of the total pharmacists fulfilling the eligibility criteria to be selected for the study. The sample size is considered sufficient to represent the pharmacists in Varna since it exceeds one-third of the total number of subjects eligible for the study. The demographic characteristics of the sample are presented in Table 1.

**Table 1.** General characteristics of the study participants (n=127)

Characteristic	N	%
<b>Gender</b>		
Male	26	20%
Female	101	80%
<b>Age</b>		
25-45 years	73	58%
46-55 years	26	20%
Over 55 years	28	22%
<b>Work experience</b>		
Less than 5 years	44	34%
5-15 years	30	24%
16-25 years	21	16%
26-35 years	11	9%
More than 35 years	21	17%
<b>Workplace position</b>		
Employed staff	72	57%
Employed staff / License holder	40	31%
License holder /Pharmacy owner	15	12%
<b>Type of workplace</b>		
Pharmacy chain	75	59%
Independent pharmacy	52	41%
<b>Total</b>	127	100%

In terms of gender distribution 101(80%) of the respondents were women and 26(20%) men. In this pilot study the male respondents were considerably less than the female ones. The number of female pharmacists employed in community pharmacies is still predominant.

The surveyed persons aged between 25-45 years prevail - 73 (58%) of the respondents. The opening of new pharmaceutical faculties and a gradual increase in the number of trained new personnel entering the labor market can be considered as the reason for this. Age groups 46-55 years are 26 (20%) and over 55 years are 28 (22%).

The largest number are pharmacists with less than 5 years of experience - 44 (34%). The larger number of respondents are into the 25-40 age group. The percentage of surveyed persons with work experience of 16-25 years and over 35 years is the same - 21 (16%), master pharmacists with work experience of 5-15 years are 30 (24%), and with work experience of 25-35 years are 11 (9%).

The distribution of the surveyed persons shows that the employed persons who are not pharmacy managers predominate 72 (57%). Followed by employees but pharmacy managers 40 (31%). Master pharmacists/pharmacy owners are represented by the smallest percentage -15 (12%).

Pharmacists are almost evenly distributed according to the type of workplace - 75 (59%) practice in a pharmacy chain, to 52 (41%) who work in an independent pharmacy.

## **2. Challenges for the pharmacist in modern society**

Problems related to access to pharmaceutical services and medicinal products (MP) are discussed, focusing on the access of the population to pharmacies in small settlements, 24-hour pharmacies and the problem of lack of medicines. When considering the difficulties related to legislation, the impact of dynamic changes in the legal framework, and unclear regulatory requirements are mainly considered. Problems in making up prescriptions paid for by the NHIF focused on the administrative burden of processing prescriptions, lack of accurate instructions, and prior information. Other groups considered were technical difficulties; organisation of the working environment; pharmaceutical care. Each person surveyed could indicate those problems that were relevant to him or her. The results are presented in Table 2.

**Table 2.** Challenges for the pharmacist in modern society

<b>Challenges</b>		<b>N</b>	<b>%</b>
<b>Access to pharmaceutical services and medicines</b>	Access in small localities	56	44%
	Shortages and lack of medicines	61	48%
	Lack of 24-hour pharmacies	24	19%
	Lack of pharmacies preparing mainstream and pharmacopoeial formulations	18	14%
<b>Difficulties in the work process associated with the regulatory framework</b>	Unfaire competition	67	53%
	Financial burden	48	38%
	Dynamic changes in the regulatory framework	58	46%
	Unclear regulatory requirements	61	48%
<b>Making up of prescriptions paid by NHIF</b>	The legal framework for prescription-making up changes frequently	72	56%
	Lack of prior information on changes in the way medicines are dispensed	48	38%
	Processing is time-consuming	45	35%
	Administrative difficulties in processing prescriptions	73	57%
	Sanctions for processing errors	45	35%
	Lack of precise operating instructions	48	38%
	Handling prescriptions is not burdensome	1	0.8%
<b>Difficulties with technology</b>	Changes in the pharmacy software	41	32%
	The introduction of e-prescriptions	50	39%
	The introduction of verification	54	43%
	SETASMP	43	34%
<b>Difficulties associated with the organisation of pharmacy work</b>	Heavy administrative burden	63	50%
	Wide range of medicinal products	29	23%
	Large number of patients served	39	31%
	Pharmacy understaffing	38	30%
<b>Pharmaceutical care</b>	Lack of time	64	50%
	Lack of motivation	26	20%
	Lack of financial incentives from the employer	32	25%
	Lack of trust on the part of the patient	52	41%
	No difficulties	25	20%

*Respondents can indicate more than one answer, therefore the total percentage of results exceeds 100%.*

Pharmacists reported the most serious problems in their work when making up prescriptions paid by the NHIF, with 72(56%) quoting frequent changes in the legal framework and 73(57%) reporting administrative difficulties in processing prescriptions as a problem.

The challenges faced by pharmacists are varied and cover different areas. They predispose to the development of a high level of professional burnout.

### **3. Level of professional burnout among the study sample**

The Maslach Questionnaire for Healthcare Professionals-MBI-HSS(MP) was used to determine the level of occupational burnout. Characterization of the condition is based on mean scores of Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA) scales. Burnout is associated with high values on EE and DP scales and low values on PA scale.

The data from the study showed that 95(75%) of the subjects had at least one scale with a value associated with a high level of burnout, which is similar to results obtained published by other authors. Two or three values that are associated with a high level of occupational burnout have 67(53%) of the persons surveyed. In the sample, most respondents showed high values in DP scale (51%), followed by EE scale (43%), and low values in the PA scale (31%). Depersonalization had the highest percentage of respondents showing high values, in contrast to other studies where high values on the EE scale predominated.

### **4. Correlation between the three scales**

The three scales EE, DP, PA forming the burnout assessment are relatively independent, but for each sample the relationships between them can be examined. Pearson's correlation coefficient ( $r$ ) was used for the study.

A strong straight, statistically significant correlation was established between EE and DP ( $r=0.702$ ;  $p=0.000$ ) – as emotional exhaustion increased, depersonalization also increased.

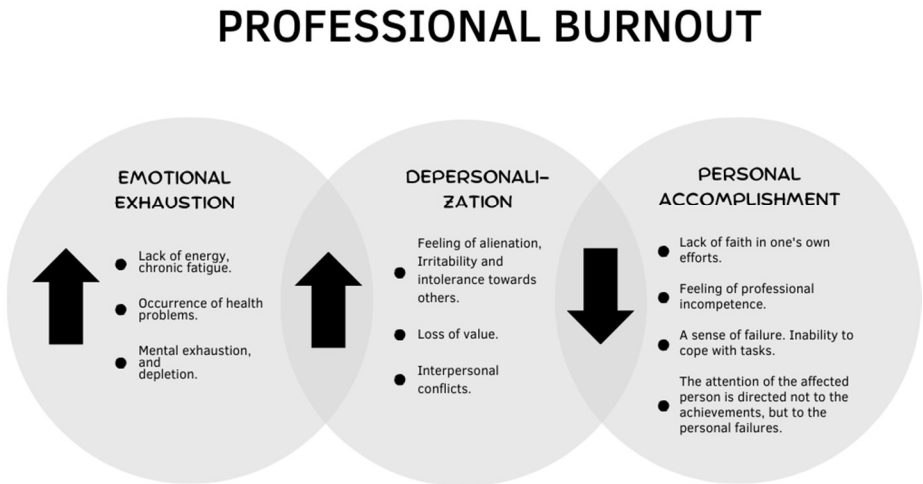
A weak inverse, statistically significant correlation is found between EE and PA ( $r=-0.285$ ;  $p=0.001$ ) – as emotional exhaustion increases, professional achievements decrease.



A weak inverse, statistically significant correlation ( $r=-0.285$ ;  $p=0.001$ ) is established between DP and PA - as depersonalization increases, professional achievements decrease.

The results are summarized in Figure 1.

**Fig. 1.** Dependence between EE, DP and PA scale



As a consequence of the correlation found, it can be concluded that examinees with high EE scale scores are more likely to have high DP scale scores and low PA scale scores, which is confirmed by other studies.

## 5. Relationship of scales to demographic characteristics

### 5.1. Influence of gender on the three scales

Gender is not a factor influencing burnout according to other studies as well this one. However, it has been proven that burnout in hospital pharmacists is

higher among women with children aged 1- 12 than in women with bigger children. Women are more likely to experience empathy and emotional empathy is significantly positively correlated with both emotional exhaustion and personal accomplishment. Depersonalization is more common in men. In order to trace the influence of gender on EE, DP, PA scales, arithmetic mean values were used. The results are presented in Table 3.

**Table 3.** Distribution of mean values respondents by gender

Gender	EE		DP		PA	
	M	SD	M	SD	M	SD
Female	25.51	12.953	12.49	6.574	31.38	7.726
Male	29.19	13.081	13.69	5.836	30.73	6.844
Value/p	0.2		0.395		0.697	

\* *One way Anova*

The data in the Table 3 shows that men's mean values are higher (M=29.19) than those of women (M=25.51) and there isn't a significant difference on the EE scale (p=0,2). A statistically significant difference between men and women has not been found in comparing the mean values on the three scales (EE p=0,2; DP p=0,395; PA p=0,697).

## 5.2. Influence of age on the three scales

In various spheres of social life, an increase in the level of burnout with age has been proven. In research among the helping professions, a close relationship between increasing age and the dimensions of emotional exhaustion and depersonalization was found. The influence of age has been studied on the scales of EE, DP, and PA. The results are presented in Table 4.

**Table 4.** Distribution of mean values respondents by age

Age	EE		DP		PA	
	M	SD	M	SD	M	SD
25 - 45 years	27.90	13.09	13.75	6.629	30.3	7.214
46 - 55 years	28.54	11.00	13.19	6.306	34.81	6.723
Over 55 years	19.89	10.62	9.86	5.247	31.25	7.868
Value/p	0.012		0.022		0.028	

\* *One way Anova*

A statistically significant difference was found in the different age groups in the emotional exhaustion scale (EE (F=4,579; p=0,012)), the

depersonalization scale (DP (F=3,957; p=0,022)) and the scale of the professional achievements (PA (F=3,697; p=0,028)).

### **Relationship between Age and Emotional Exhaustion Scale**

Based on the obtained results, we can conclude that the examined individuals from the group over 55 years old (M=19,89) have a lower risk of developing emotional exhaustion compared to age groups 25-45 years (M=27.90; p = 0014) and 46-55 years (M=28.54; p = 0.036).

### **Relationship between Age and Depersonalization Scale.**

The data showed that pharmacists aged 25-45 (M=13.75) are more likely to neglect involving the patient in a counseling relationship and show a tendency to withdraw from patients to a greater extent than those that are over 55 years old (M=9.86; p=0.008). This may be due to a lack of experience, poor coping strategies for stress, and poor communication strategies, which could be resolved with appropriate training of the young staff upon entering the workforce.

### **Relationship between Age and Professional Achievements Scale**

The group of surveyed individuals with experience between 46-55 years old (M=34.81) are more satisfied professionally compared to the group 25-45 years old (M=30.30).

We can summarize that young professionals are most vulnerable to burnout according to the present study. Other research among pharmacists confirms that young age is a risk factor for the development of professional burnout.

### **5.3. Influence of work experience on the three scales**

Studies among pharmacists prove the influence of the internship on professional burnout. Research among medical professionals shows that professional burnout can develop at different stages of career development, both at the beginning of the career and along the path of growth and increasing responsibilities. Subjects were grouped according to seniority to determine whether it had an impact on EE, DP, and PA levels. The distribution of the mean values of the groups according to the three scales is presented in Table 5.

**Table 5.** Distribution of mean values respondents by work experience

Work Experience	EE		DP		PA	
	M	SD	M	SD	M	SD
<b>Less than 5 years</b>	28.59	13.565	14.64	6.321	30.03	7.523
<b>5-15 years</b>	26.20	10.604	12.70	6.38	29.17	6.481
<b>16-25 years</b>	25.29	14.588	10.81	6.638	34.57	5.409

<b>26-35 years</b>	28.82	6.145	12.36	4.632	34.18	6.047
<b>over 35 години</b>	21.14	15.242	10.90	6.707	31.29	10.12
<b>Value /p</b>	0.269		0.111		0.065	

\* *One way ANOVA*

Although there are differences between the mean values of the different groups, they are not statistically significant, on the EE scale ( $p=0.269$ ); DP ( $p=0.11$ ), and PA ( $p=0.065$ ). Studies among pharmacists have shown that subjects with longer experience are at a higher risk of burnout. Contrary to expectations in the studied sample, pharmacists with up to 5 years of experience have the highest level of professional burnout (for EE -  $M= 28.59$ ; for DP -  $M=14.64$ ; for PA -  $M=14.64$ ). The results on the scales indicate that master pharmacists with up to 5 years of experience are emotionally exhausted, more distant when performing their official duties, have no desire to enter into empathic relationships with the patient, and are less satisfied professionally. These examined individuals are at a greater risk of developing professional burnout, compared to pharmacists with experience of more than 35 years.

Pharmacists in the group with 26 - 35 years of experience have a high level on the EE scale ( $M=28.59$ ), high values on the DP scale ( $M=12.36$ ), and medium to high values on the PA scale ( $M=34.18$ ) or are emotionally exhausted, distanced from patients, but are more satisfied with their work.

The data show the need for additional training for young professionals.

## 6. Influence of workplace position on the level of burnout

To determine the factors influencing occupational burnout, the relationship between position in the organization and scores on the three scales is examined. Table 6 presents, the mean values on the three scales and the significance values of position on each of the scales.

**Table 6.** Distribution of mean values respondents by workplace position

Workplace position	ЕИ		ДП		ПП	
	М	SD	М	SD	М	SD
<b>Employed staff</b>	26.51	13.31	13.63	6.787	30.55	6.998
<b>Employed staff/ License holder</b>	27.00	13.71	11.85	6.07	31.08	7.262
<b>License holder/Pharmacy owner</b>	23.13	9.433	10.80	4.902	35.00	9.849
<b>Ниво на значимост/p</b>	0.603		0.222		0.067	

\* *One way Anova*

In terms of job position, the differences between groups are large. Pharmacy owners showed the lowest level of EE (M=23.13) and the lowest level of DP (M=10.80), while their level of job satisfaction was the highest (M=35.00). The mean scores for employees and license- holders on the EE scale were the highest (M=27.00). On the DP scale, the highest values were observed in employees (M=13.63). When comparing the mean values of different subgroups against the position in the work environment, it can be concluded that the group of pharmacy owners is the most engaged with the work process.

Research among pharmacists has shown that respondents who are pharmacy managers are more likely to develop professional burnout. Additional responsibilities are a predisposing factor. In this study, employees and employees/license holders most closely approximate the profile of "overworked." They appear to have high values on the EE scale, low to medium values on the DP scale, and low values on the personal accomplishment scale.

Despite the differences in the means of the three scales, again no statistically significant differences were found between the groups. Other studies have also shown no statistically significant effect of job position on the level of occupational burnout.

## 7. Influence of place of work on the level of burnout

To observe the influence of place of work on the level of burnout, the study subjects were divided into two groups: those working in a chain pharmacy or in an independent pharmacy. The results obtained are presented in Table 7.

**Table 7.** Distribution of mean values respondents by place of work

Place of work	EE		DP		PA	
	M	SD	M	SD	M	SD
<b>Chain of Pharmacies</b>	26.88	8.981	12.84	6.627	30.99	6.895
<b>Independent pharmacy</b>	25.38	9.799	12.58	6.185	31.62	8.409
<b>Value/p</b>	0.526		0.822		0.646	

\* *One way Anova*

When comparing Master Pharmacists practicing in a chain of pharmacies or in an independent pharmacy, the mean values showed no significant difference (EE-M=26.88; DP-M=12.84; PA-M=30.99 for chain pharmacies; EE-M=25.38; DP-M=12.58; PA-M=31.62 for independent pharmacies).

Studies have shown that one of the significant risk factors for burnout is practicing primarily in chain pharmacies. In the present study, place of work was not related to the level of occupational burnout. The means of the two groups were very close and showed no significant difference on the three scales. No statistically significant differences were found.

## 8. Influence of work environment specifics on the level of burnout

Some of the problems in the pharmaceutical sector are linked to the organisation of work in a pharmacy and one of the main sources of occupational stress that has a link to the level of burnout is the organisation of the work environment. To trace the causes that lead to occupational burnout, an analysis of the influence of a group of factors that construct the specifics of the pharmacist's work environment was conducted.

### 8.1. Influence of difficulties with technology on EE, DP,PA

The work of a pharmacist requires a range of knowledge in different areas. In order to adequately fulfill all the requirements of the regulatory framework, the pharmacy organization faces technical challenges. What are the most common technical difficulties before performing the facial studies and their impact on the three burnout factor scales are shown in Table 8.

**Table 8.** Influence of difficulties with technology on EE, DP,PA

Scale	M	SD	F	p
<b>Changes in the pharmacy software (n=41)</b>				
DP	13.85	6.533	1.698	0.195
EE	27.37	10.466	0.955	0.33
PA	30.66	8.257	0.658	0.419
<b>The introduction of e-prescriptions (n=50)</b>				
DP	13.2	7.134	0.351	0.555
EE	25.64	10.919	0.512	0.475
PA	32.3	7.949	1.127	0.291
<b>The introduction of verification (n=54)</b>				
DP	13.07	6.506	0.196	0.659
EE	28.65	11.008	2.998	0.086
PA	32.22	6.914	1.063	0.305
<b>SETASMP (n=43)</b>				
DP	14.07	7.072	2.65	0.106
EE	29.65	13.77	4.518	0.036
PA	31.91	7.715	0.264	0.609

\* *One way Anova*

Only the introduction of SETASMP showed a statistically significant influence on the EE scale ( $F=4.518$ ;  $p=0.036$ ). The tracking system was introduced as part of measures to combat the lack of medicinal products in the Bulgarian market. Its adaptation to the pharmacy software required time and knowledge, which burdened the master pharmacists. The system was accepted as an additional burden, which at this stage does not have a clear enough need to be introduced. Changes in the pharmacy software, the introduction of electronic prescriptions, and the verification did not show a statistically significant impact on burnout, but it was noticed that in the studied persons who indicated verification and SETASMP as problems in their work, the level of EE was higher compared to the other groups.

## 8.2. Influence of the legal framework on the Level of Burnout

All activities in the pharmaceutical sector are controlled by numerous regulations. The Bulgarian legislation is synchronized with the European one and all changes in the current regulations and directives must be adapted to the normative acts in Bulgaria. The dynamic development of the pharmaceutical market and the need for constant adaptation of the regulatory framework to reality can be a source of increased levels of professional stress and influence the level of burnout.

The number of master pharmacists who indicated problems in the regulatory framework, the average values of the three scales, and the influence of difficulties on the level of professional burnout are shown in Table 9.

**Table 9.** Influence of the legal framework on the Level of Burnout

Scale	M	SD	F	p=
<b>Dynamic changes in the regulatory framework (n=58)</b>				
DP	13.29	6.623	0.679	0.412
EE	28.53	10.727	2.485	0.117
PA	32.47	7.74	2.084	0.151
<b>Unclear regulatory requirements (n=61)</b>				
DP	13.7	7.279	2.457	0.12
EE	27.41	10.917	1.437	0.233
PA	31.62	8.079	0.076	0.783

\* *One way Anova*

Dynamic changes in the legal framework are difficult according to 58 (46%) of the surveyed persons, and unclear regulatory requirements by 61 (48%). The average values on all three scales have no statistically significant influence on burnout. The persons studied, indicated as a problem of dynamic changes in the legal framework, have average values on the EE scale (M=28.35; p=0.117); DP (M=13.29; p=0.412); PA (M=32.47; p=0.151). Pharmacists who indicated unclear regulatory requirements as a problem had average values on the EE scales (M=27.41; p=0.23); DP (M=13.7; p=0.12); PA (M=31.62; p=0.783) and both groups have average values on the scale of EI and DP higher than the average for the sample. Control over the activities of pharmacists is a risk factor for developing burnout according to other studies, but in the present study there was no proven influence on the three scales.

### 8.3. Difficulties associated with the organization of work in a pharmacy

The construction of the work environment depends on external factors, emphasizing the high administrative workload due to the increasing demands and control of work in a pharmacy and the wide nomenclature of medicinal products (due to the specifics of market admission of medicinal products and the lack of possibility of generic substitution from the pharmacist).

Internal factors are related to the management models and the set goals of the organization. Insufficient staffing in the pharmacy and the large number of patients served were highlighted in the study.

The distribution of the examined persons by specified problems and the influence of the problem areas on the burnout level is presented in Table 10.

**Табл. 10.** Difficulties related to the organization of work in a pharmacy and their influence on the scales EE, DP, and PA

Scale	M	SD	F	p
<b>External factor</b>				
<b>Heavy administrative burden (n=63)</b>				
DP	13.79	7.294	3.16	0.078
EE	28.63	13.245	4.244	0.041
PA	30.6	8.441	1.57	0.212
<b>Wide range of medicinal products (n=29)</b>				



<b>DP</b>	15.21	6.956	5.544	0.02
<b>EE</b>	30.69	12.98	4.459	0.037
<b>PA</b>	31.83	8.627	0.105	0.746
<b>Internal factors</b>				
<b>Large number of patients served (n=39)</b>				
<b>DP</b>	16,51	6.621	22.138	0.000
<b>EE</b>	31.74	12.176	10.737	0,001
<b>PA</b>	31.00	7,448	0,19	0,663
<b>Pharmacy understaffing (n=38)</b>				
<b>DP</b>	15.00	6.742	6.756	0.01
<b>EE</b>	30.58	12.95	6.198	0.14
<b>PA</b>	30.16	8.323	1.609	0.207

\* *One way Anova*

The heavy administrative workload has been indicated as a determining factor for the development of a high level of professional workload in research among pharmacists. In the current study, 63 (50%) of pharmacists cited "heavy administrative workload" as a problem. Respondents falling into this group showed a high level on the EE (M=28.63; SD= 13.245) and DP (M=13.79; SD=7.294) scales and low values on the PA scale (M=30.6; SD=8.441). These master pharmacists have a high level of professional burnout. High administrative workload affects the EE scale (F=4.244; p=0.041) and has no statistical influence on the DP scale (F=3.16; p=0.078) and PA scale (F=1.57; p=0.212). Subjects in this group are emotionally exhausted, but this has not yet resulted in significant alienation from patients.

The other factor - "wide nomenclature of medicinal products" was indicated by 29 (23%) of the surveyed persons. They have higher values than the respondents indicated in the previous factor, according to scales EE (M=30.69; SD=12.98) and DP (M=15.21; SD=6.956), and low values according to scale PA (M =31.83; SD=8.627). The analysis indicates that the factor influences the scale EE (F=4.459; p=0.037) and DP (F=5.544; p=0.02) and there is no relation with the scale PA (F=0.105; p=0.746). Wide nomenclature, due to the lack of possibility of generic substitution, leads to an increased level of emotional exhaustion and depersonalization.

Of the internal factors, 38 (30%) of the respondents indicated "insufficient pharmacy staff". Respondents from this group have very high values on the DP scale (M=15; SD=6.742) and EE (M=30.58; SD=12.95) and

low values on the PA scale (M=30.16; SD =8.323). Insufficient pharmacy staff leads to a high level on the depersonalization scale (F=6.756; p=0.01) and has no effect on EE (F=6.198; p=0.14) and PA (F=1.609; p=9.207). The result of insufficient staffing in the pharmacy is the high number of patients served per hour which leads to overload.

“A large number of patients served” was indicated by 39 (31%) of the respondents. Pharmacists from this group have the highest level of all groups on the DP scale (M=16.51; SD=6.621) and EE (M=31.74; SD=12.176) and low values on the PA scale (M=31; SD=7.448). This factor influences DP (F=22.138; p=0.000) and EE (F=10.737; p=0.001) and has no relationship with PA (F=0.19; p=0.663).

The shortage of staff and the resulting increased flow of patients is the reason for the increase in the level of professional burnout. In the current study, as well as several other studies, the number of patients served directly affects the level of professional burnout, having a relation to both DP and EE.

#### 8.4. Problems in servicing prescriptions paid by NHIF

Health-insured persons with chronic diseases can use medicines partially or fully paid by the NHIF. The specifics of dealing with prescriptions paid for by the NHIF can be a source of high levels of occupational stress. The most problematic factors and their impact on burnout are presented in Table 11.

**Table 11.** Difficulties in the workflow resulting from the work with prescriptions under contract with the NHIF

Scale	M	SD	F	p=
<b>Lack of precise instructions (n=48)</b>				
DP	14.75	7.118	7.621	0.007
EE	31.85	13.25	15.905	0.000
PA	30.77	8.127	0.613	0.435
<b>Frequent changes in the legal frameworks (n=72)</b>				
DP	13.14	6.578	0.517	0.474
EE	27.82	11.471	1.058	0.306
PA	31.15	7.877	0.236	0.628
<b>Lack of prior information about changes in the way the MP was dispensed (n=48)</b>				
DP	14.01	6.972	3.333	0.7
EE	30.90	12.41	10.497	0.002
PA	30.cep	8.446	0.402	0.527

<b>Processing of prescriptions is time-consuming (n=45)</b>				
<b>DP</b>	14.62	7.337	5.943	0.016
<b>EE</b>	31.71	12.321	13.396	0.000
<b>PA</b>	30.04	8.221	2.469	0.119
<b>Administrative difficulties in processing prescriptions (n=73)</b>				
<b>DP</b>	13.81	7.191	4.513	0.036
<b>EE</b>	28.44	13.428	4.926	0.028
<b>PA</b>	31.03	7.712	0.511	0.476

\* *One way Anova*

A large number of Master Pharmacists indicated that they have difficulty making up prescriptions under contract with the NHIS.

The factor "**administrative difficulties in processing prescriptions**" was cited as a problem by a significant proportion of the 73 Master Pharmacists (57%) and influenced EE ( $F=4.513$ ;  $p=0.036$ ) and DP ( $F=4.926$ ;  $p=0.028$ ). Increased attention and concentration in prescription processing led to emotional exhaustion and to an increase in the level of DP, which reflected on the willingness to enter into a therapeutic relationship with patients and distancing medical professionals from the work process.

The problem of **frequent changes in the legal frameworks** concerning the dispensing of MP paid for by the NHIF was mentioned by a large number of 72(57%) of the surveyed individuals, but it did not show a statistically significant influence on burnout and the values of this group on the EE ( $M=27.82$ ;  $SD=11.471$ ) and DP ( $M=13.14$ ;  $SD=6.578$ ) scales were the lowest of all the groups showing problematic individual factors when working with the NHIF, although they were higher than the sample average.

**Lack of prior information about changes in the way the MP was dispensed** was cited as a problem by 48 (38%) of the individuals surveyed. There was a statistically significant effect of this factor on the EE scale ( $F=10.497$ ;  $p=0.002$ ), indicating that the system for introducing changes is not well organized and does not inform pharmacists about the upcoming changes in the way of prescribing and dispensing medicines paid by the NHIS, which affects emotional exhaustion.

The respondents who indicated that they face difficulties in their work due to **lack of precise instructions** were 48(38%). In this group there was statistically significant influence of the factor on both DP scale ( $F=7.621$ ;  $p=0.007$ ) and EE scale ( $F=15.905$ ;  $p=0.000$ ). This indicates that lack of precise

work instructions affect both emotional exhaustion and Master Pharmacists' willingness to interact with and serve patients.

The same correlation was also observed in study subjects who indicated that **processing of prescriptions is time-consuming** as a problem they were 45(35%). Here statistically significant effect of time taken to process prescriptions and DP scale ( $F=5.943$ ;  $p=0.016$ ) and EE scale ( $F=13.396$ ;  $p=0.000$ ) was observed. Master pharmacists have to spend more time processing and dispensing the prescribed medicines to the patients, which leads to overworking of the study subjects and loss of willingness to come in contact with the patient.

Working with prescriptions paid for by the NHIS shows a significant impact on the burnout rate. Factors in this group influence both EE and DP. Only the lack of prior information showed a relation with EE, and frequent changes in legal requirements when filling this type of prescription showed no influence on either scale. Working with prescriptions paid by the NHIS increases the level of burnout due to a lack of precise instructions, lack of prior information when changes occur, and commitment of time and concentration in processing. On the other hand, errors in dispensing NHI-paid prescriptions can lead to the most significant losses for the pharmacy.

The requirements introduced concerning the control of the dispensing of MP paid by the NHIF burden the persons examined and are a prerequisite for the development of a high level of professional burnout. Patient turnaround times are increasing and pharmacies must maintain a larger number of employees to ensure adequate patient care. This is not always possible and so pharmacies are understaffed to serve the population and pharmacists are overworked by serving large numbers of patients. These factors predispose to a high level of burnout among pharmacists.

## **9. Pharmaceutical care**

The concept of pharmaceutical care places new demands on pharmacists related to the performance of their services with duties and the attitude to patients. Pharmaceutical care requires time and staff motivation for their proper implementation, their introduction and implementation in practice can be difficult and a source of professional stress. On the other hand, pharmacists who cannot provide pharmaceutical care due to administrative workload and lack of time and adequate incentives will be less satisfied with their work. The influence of the most frequently reported difficulties by pharmacists in the

implementation of pharmaceutical care (FG) on the three scales (EE; DP; PP) forming the burnout assessment are presented in Table 12.

**Table 12.** Correlation between the difficulties in providing pharmaceutical care and burnout (EE, DP and PA scales)

Scale	M	SD	F=	p=
<b>Lack of time (n=64)</b>				
DP	14.31	6.868	7.718	0.006
EE	28.94	13.35	5.631	0.019
PA	30.11	8.032	4.209	0.042
<b>Lack of motivation (n=26)</b>				
DP	15.46	9.083	5.904	0.017
EE	33,35	12,325	10.395	0.002
PA	29.88	9.454	1.428	0.234
<b>Lack of financial incentives from the employer (n=32)</b>				
DP	14.97	7.723	5.117	0.025
EE	29.16	11.439	2.519	0.115
PA	31.06	7.278	0.106	0.745

\* *One way Anova*

The majority of surveyed pharmacists (95%) have reported facing difficulties in the delivery of high-quality pharmaceutical care where the largest percentage of them 64(50%) have indicated the lack of time as the main reason, 25% pointed out that there are no financial incentives from the employer for the provision of pharmaceutical care and 26(20%) stated that they lack the motivation to provide specialised patient care. We studied the impact of the most frequently reported difficulties on the three scales (EE, DP and PA). The results of the analysis are given in Table 12. The following statistically significant dependencies were identified: the factor 'lack of time for providing pharmaceutical care was indicated as a problem by 50% of the study subjects and showed a statistically significant impact on all three burnout scales: DP (F=7.718; p =0,006); EE ( F=5.631; p= 0.019) and PA ( F=4.209; p =0.042); pharmacists' lack of motivation to provide pharmaceutical care (20%) was associated with DP ( F=5.904; p =0.017) and EE ( F=10.395; p= 0.002); lack of financial incentives from the employer to provide PhC was reported as a problem by 25% of pharmacists and that had a statistically significant impact on DP (F=5.117;p=0,025).

Lack of time for providing pharmaceutical care has an impact on all three scales (DP p=0.006, EE p=0.019, PA p=0.042). Lack of motivation to enter into

therapeutic relationships with patients affects the levels of DP and EE (DP  $p=0.017$  and EE  $p=0.002$ ). Work overload is a factor that makes professional communication difficult and affects the care and services provided. The lack of financial incentives on behalf of the employer is statistically correlated with high levels of DP. This is a reason for pharmacists to distance themselves from patients and from providing PhC. In Bulgaria, there is no funding for this highly specialised activity and therefore employers are discouraged to create an appropriate context for the provision of pharmaceutical care). The lack of time for providing PhC involves higher levels of burnout and impacts scores on the three scales. It is a precondition for worsened emotional well-being, work alienation and no satisfaction with the performed activities. If the time for providing pharmaceutical care is insufficient a discrepancy occurs between pharmacists' expectations for the proper execution of their duties and the actual implementation in the job context. As a result of that, the Ivanova et al. sense of personal accomplishment is reduced because the quality of PhC depends on the availability of time for individual work with every patient, access to literature, time for preparation and counselling skills.

For the successful implementation of PhC, pharmacists need to constantly reassess their communication skills, use various communication techniques and meet patients' growing demands. In recent decades the patient is seen as an active partner who participates in making treatment decisions based on trust, open communication and empathic relationships. If these are absent, it is impossible to involve the patient in collaborative work for better treatment outcomes and improved adherence and compliance. The results from the current study have confirmed the identified difficulties in communication with patients. It has been statistically proven that the increased values for EE and DP are correlated with an increased frequency of conflicts with patients. That leads to a reduced quality of pharmaceutical care.

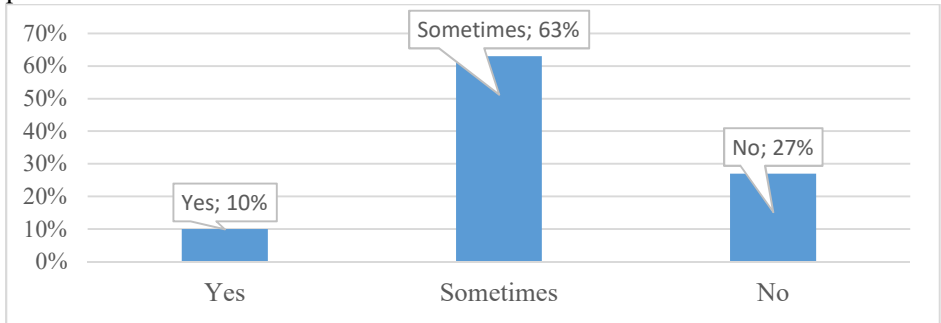
Burnout affects all stages of pharmaceutical care. As early as the assessment, when an empathic therapeutic relationship with the patient must be built. This would be difficult for pharmacists with a high level of DP, and EE. Formulation of a therapeutic plan and patient education is unlikely to be carried out by subjects with a high level of depersonalization, these pharmacists would not engage in long-term follow-up of the therapeutic plan and willingness to engage with the patient's problems.

## 10. Difficulties in communication

### 10.1. Impact of communication problems with general practitioners and other medical professionals on the level of burnout

The pharmacist helps to liaise between medical professionals and patients in developing a personalised treatment plan to adequately manage disease. They act as a coordinator in making final therapeutic decisions. To perform their role, the pharmacist must possess a high level of effective communication skills. The percentage distribution of the frequency with which respondents reported having been in conflict with other health professionals is presented in Figure 2.

**Fig. 2.** Conflict relations between a pharmacist and other medical professionals



Analysis of the data clearly shows that there are problems in pharmacist - GP or other medical professionals' communication. Only 34 (27%) of the respondents indicated that they had not been in conflict with their colleagues. The rest, 93 (73%) had communication problems, with - 80 (63%) sometimes and 13 (10%) often.

Conflicts with other medical professionals can be a source of high levels of occupational stress. The impact of communication problems with GPs and other medical professionals on the three burnout scales are presented in Table 13.

**Table 13.** Impact of communication difficulties (GPs and other medical professionals) on EE, DP, PA scales

Scale	M	SD	F	p
DP	13.48	6.562	4.237	0.041
EE	27.66	12.416	4.049	0.046
PA	30.89	7.38	1.856	0.176

\* *One way Anova*

The mean values on the scales are high on EE scales (M=27.66; SD=12.416); DP (M=13.48; SD=6.562) and low scale PA (M=30.89; SD=7.38). A statistically significant influence of communication difficulties on the EE scale was found (F=4.237; p=0.041); DP (F=4.049; p=0.046) and had no statistically significant influence on PA scale (F=1.856; p=0.176).

The results show that communication difficulties lead to an increased level of DP and EE. The increased level of both scales will increase even more the possibility of entering into conflict relations and thus communication problems are superimposed and deepened.

Respondents were given the opportunity to share what their reasons were for coming into conflict with other health professionals. Not all respondents answered this question. An overwhelming number of respondents, 19, shared that the reason was unwillingness on the part of physicians to cooperate and communicate. Technical difficulties were problematic according to 11 of the persons surveyed, underestimation of the pharmacist's competence according to 9, and lack of time on the part of the physician was cited as a problem by 4 of the persons surveyed.

## **10.2. Challenges in communication with patients**

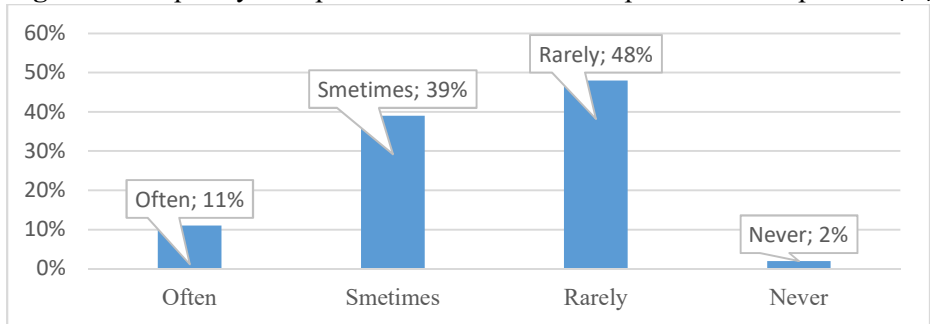
PC is important for the outcome of the therapy and the health of the patients, because on the one hand, it provides information about the overall, individual problems of the particular patient, and on the other hand it creates a feeling of empathy and ensures a trusting relationship. As a link between the doctor and the patient, it is necessary to correct misconceptions and attitudes related to treatment, to create more responsible for their health, more informed patients.

In recent decades, the patient has been seen as an active partner involved in therapeutic decision-making based on trust, and open communication. The results of the survey show the presence of difficulties in communicating with



patients. Figure 3 presents the frequency with which master pharmacists reported experiencing difficulties in communicating with patients.

**Figure 3:** Frequency of experienced communication problems with patients (%)



Only 3 (2%) of the respondents have never had any difficulties in communication with patients. The largest share of pharmacists 61(48%) reported that they rarely had problematic communication with patients and 49(39%) answered that sometimes conflicts occurred during communication. Pharmacists who stated that they often faced challenges in communication with patients were 14(11%).

The problems that lead to the deterioration of the pharmacist-patient relationship and predispose to the emergence of problematic relationships are summarized and presented in Figure 4.

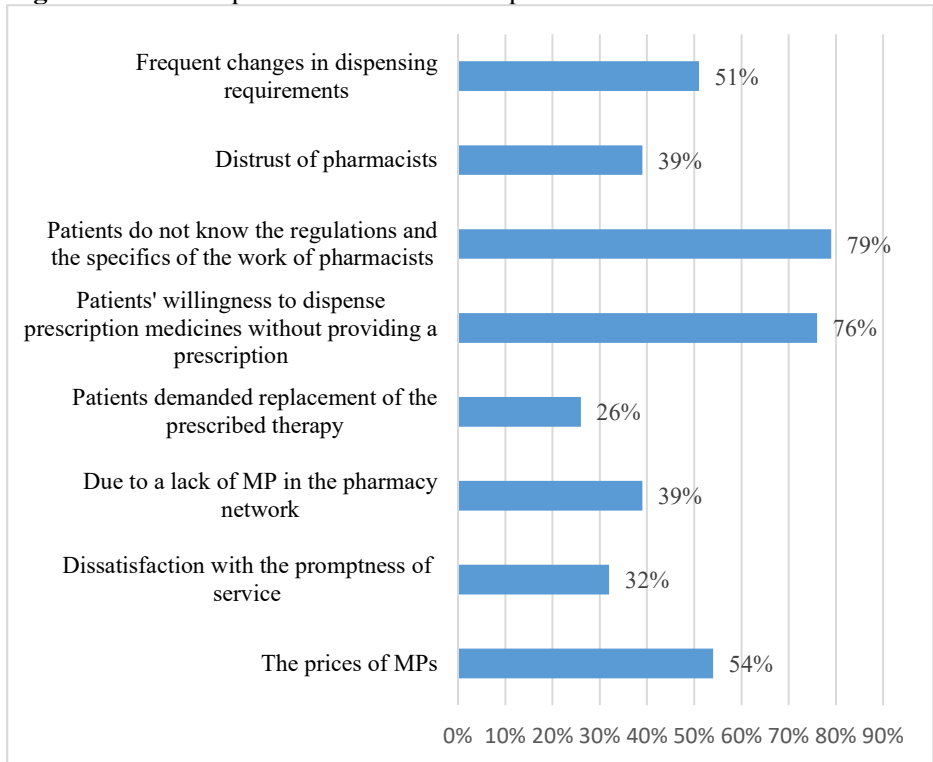
It clearly emerges that the main problem cited by 96 (76%) of the surveyed individuals is the patients' willingness to dispense prescription medicines without providing a prescription, which is in direct violation of the current regulations.

The largest percentage - 100 (79%) of the surveyed persons indicated that they had problems in service, which resulted from the fact that patients do not know the regulations and the specifics of the work of pharmacists. Problems arise due to frequent changes in dispensing requirements according to 65 (51%) of respondents, and according to 50 (39%) are caused by distrust of pharmacists.

Another problem in patient care that is a prerequisite for conflicts is the prices of MPs. Under the current legislation, there are “ceiling” prices for prescription medicines and maximum/registered prices for non-prescription medicines, but in a large number of pharmacies the prices are below the officially accepted level. Differences in the pricing policies of companies

directly affect the pharmacist-patient relationship and are a prerequisite for conflict situations according to 69 (54%) of the surveyed individuals. A large percentage of the surveyed individuals, 50 (39%) had conflicts with patients due to a lack of MP in the pharmacy network. Dissatisfaction with the promptness of service was a problem according to 41 (32%) of the pharmacists and 33 (26%) indicated that patients demanded replacement of the prescribed therapy.

**Fig. 4.** Pharmacist-patient communication problems



### 10.3. Impact of EE, DP, PA scale scores on conflicts with patients

In the survey, pharmacists indicated with what frequency they come into conflict with patients (Often, Sometimes, Rarely, Never). To investigate the influence of the three scales on the frequency of conflict entry, correlation analysis was performed (Spearman's rank correlation coefficient).

Spearman's rho for **EE** and conflicts with patients was:  $\rho=0.343$ ,  $p<0.001$ . The sign of the correlation is positive, which means that the greater the value on the EE scale, the conflicts increase.

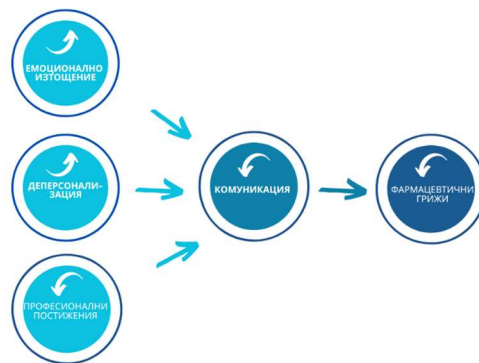
Spearman rho for **DP** and conflicts with patients is:  $\rho=0.366$ ,  $p<0.001$ . The sign of the correlation is positive, which means that the greater the DP value, the conflicts increase

Spearman's rho for **PA** and patient conflicts was:  $\rho=-0.082$ ,  $p=0.360$ . The sign of the correlation is negative, which means that with increasing PA, conflicts decrease. There was no statistical significance ( $p>0.05$ ).

High levels of professional burnout are associated with poor interpersonal relationships. High scores on the DP scale influence the specialist's willingness to enter into therapeutic relationships with patients. Burnout is a cause of aggressive, cynical, and inhumane treatment of patients. The level of professional burnout directly affects communication at different levels. As a consequence of the high level of professional burnout, communication between the Master Pharmacist and other medical professionals and the Master Pharmacist and patients deteriorates. Lack of empathy and good communication leads to deterioration in the quality of pharmaceutical care.

The relationship between the three scales, communication, and pharmaceutical care is presented in Figure 5.

**FIG. 5.** Relationship between burnout, communication, and quality of pharmaceutical care



Elevated levels on the EE and DP scales were associated with an increase in the frequency of conflict entry with the patient, leading to a deterioration in the quality of pharmaceutical care (PC).

Problems associated with PC implementation lead to increased levels of professional burnout, and pharmacists with high scores on the EE and DP scales and low scores on the PP scale would in turn worsen the quality of PC provided, this feedback could lead to a sustained deterioration in pharmaceutical care, which in turn would lead to increased medication errors; decreased compliance; increased medication-related problems; increased health care costs.

## **11. Access to pharmaceutical services and medicines**

The main task of the pharmacist is to provide essential medicines in an accessible place for patients. A current problem in the pharmaceutical sector is the shortage of medicines in the pharmacy network indicated by 61 (48%) of the surveyed persons. Despite the introduction of SETASMP (Specialized Electronic Tracking and Analysis System for the medicinal products) and legislative changes related to re-export restrictions, this is a problem reported by a large proportion of Master Pharmacists. Currently, the problems of shortages of medicines in the pharmacy network are reported not only in our country but also worldwide.

Another growing problem is access to pharmaceutical services in small settlements. It was reported as a problem by 56 (44%) of respondents.

According to an analysis of the workforce and the availability of pharmacists in Bulgaria based on data as of 12 December 2018, a total of 10,000 people in the country are served by an average of 9.36 pharmacists. For Sofia (capital) the ratio is 16.98/10,000, and in smaller settlements - 4.88 /10,000 for Sliven and 4.94/10,000 for Silistra.

Over the years, the number of pharmacies in large cities has been growing, while small towns lack pharmaceutical services.

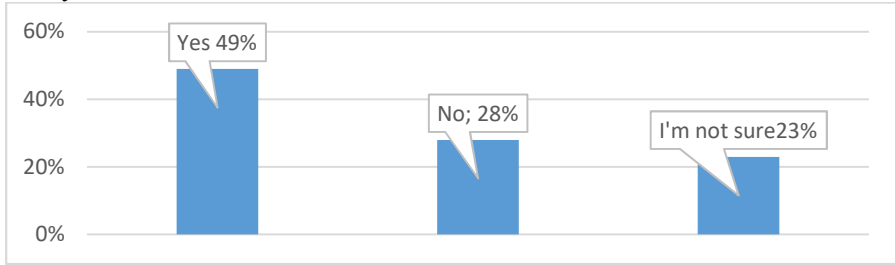
Measures being taken in this direction are the establishment of a National Pharmacy Card (NPC) under the procedures introduced by the Medicinal Products In Human Medicine Act

The development of the NPC is a step towards providing pharmacies in small settlements. The concentration of population in regional towns would lead to the problem of providing pharmacists in these localities.

The question of interest is whether additional financial incentives would motivate health workers to work in small settlements.

When asked if they would work in a small locality for a motivating salary, pharmacists responded according to the answers given. The percentage distribution of responses is presented in Figure 6.

**FIG. 6.** Willingness of pharmacists to work in a small town for a motivating salary

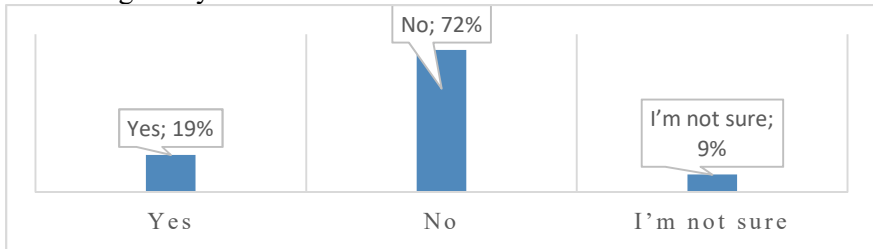


A large percentage of the 62 pharmacists (49%) indicated that they would work in a small locality for motivating pay. Thirty-six (28%) strongly indicated no, and 29 (23%) were unsure if they would accept such a job offer.

Incentive pay and financial incentives for pharmacy owners would be a solution to this problem.

A small 24 percent (19%) of pharmacists indicate that the problem of 24-hour pharmacies exists. Respondents are practicing in a large regional city with good provision of 24-hour pharmacies, they do not have a direct relationship with smaller towns with a lack of pharmaceutical 24-hour service. The attitudes of pharmacists to take up night duty in return for incentive pay were investigated to track the feasibility of staffing night shifts. The responses are presented in Figure 7.

**FIG. 7.** Willingness of pharmacists to work in a 24-hour pharmacies for a motivating salary



It clearly stands out that a large proportion of respondents 91 (72%) would not engage in night shift work. Only 24 (19%) would participate in night shifts and 11 (9%) are not sure. It should be taken into account that the study conducted was in a large city with 24-hour pharmacies available.

## 12. Problems in patient care during the Covid-19 pandemic

The enforcement of anti-epidemic measures restricted the patients' access to general practitioners and medical specialists, so pharmacists remained the most accessible healthcare professionals. Some of the legislative changes were related to regulating the patients' flow to the pharmacy to prevent the spread of the disease. The role of pharmacists worldwide expanded during the pandemic to meet people's healthcare needs. Community pharmacies in many countries started educating patients on adequate protective measures to control the spread of COVID-19, counselled patients with mild symptoms and advised them on the rational use of medicines, provided home delivery of medicinal products, monitored drug safety and fought infodemic. Furthermore, new responsibilities were assigned, such as identifying suspected COVID-19 cases and referring them to the relevant health services. Besides, due to the overloaded hospitals and forced social isolation, pharmacists advised patients on the first steps after testing positive for COVID-19 to limit the spread of the disease. Various problems have arisen while serving patients and meeting the demand for medicines. The pharmaceutical supply chain has faced serious challenges which complicated pharmacists' jobs

The study identifies the challenges faced by the pharmacists in Varna, Bulgaria during the three waves of the COVID-19 pandemic: the first coronavirus wave, the second wave and the third wave. The results are presented in Table 14.

**Table 14:** Challenges faced by pharmacists during the COVID -19 pandemic

Difficulties	First wave		Second wave		Third wave	
	N	%	N	%	N	%
Tendency for stockpiling of OTC, food supplements and personal protective equipment due to panic in the community	115	90.55	43	33.86	20	15.75
Lack of disinfectants and PPEs	120	94.48	14	11.02	7	5.5
Shortage of OTC and food supplements for symptomatic	116	91.33	31	24.41	12	9.45

treatment and prevention of respiratory problems						
Shortage of medicinal products for the treatment of acute infectious diseases	72	56.69	69	54.33	20	15.75
Technical issues with the NHIF prescriptions during the transition to eprescribing.	79	62.2	86	67.72	32	25.2
I haven't encountered any difficulties	18	14.17	16	12.6	57	44.88

*Respondents can indicate more than one answer, therefore the total percentage of results exceeds 100%.*

The tendency to stockpile OTC drugs, food supplements, and personal protective equipment out of panic was mainly observed in the first wave, and it gradually declined in the subsequent waves. During the first COVID-19 wave, pharmacists (90.55%) reported stockpiling OTC drugs, food supplements, and personal protective equipment (PPE) because of the panic among the general population, which seriously impacted the supply of medicinal products. Most of the respondents (94.48%) indicated that the shortage of disinfectants and PPEs in community pharmacies was a problem. In addition, 91.33% of respondents considered the shortage of OTC drugs and food supplements for symptomatic treatment and prevention of respiratory problems a challenge during the first wave. More than half of the surveyed pharmacists pointed out a problem with the shortage of medicinal products for the treatment of acute infectious diseases both in the first (56.69%) and the second wave (54.33%), respectively. Respondents who encountered technical issues with the NHIF electronic prescriptions during the first and the second wave were 62.2% and 67.72%, respectively.

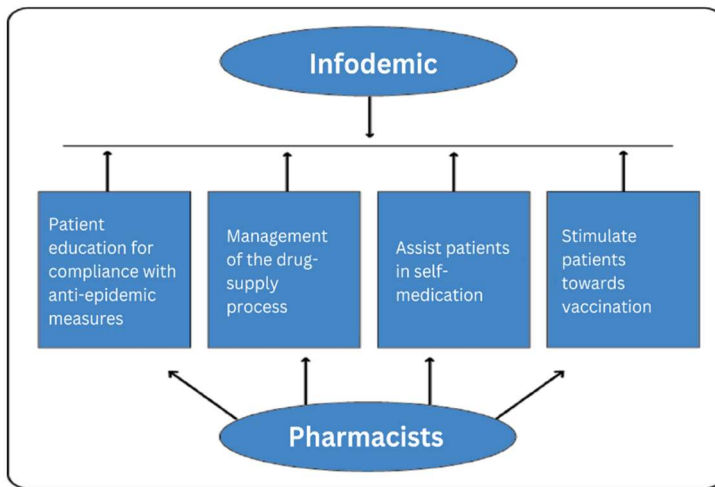
### **13. Infodemia in Covid-19 conditions**

During the Covid-19 pandemic, the pharmacist faced problems with a growing infodemic in a pandemic setting. Pharmacists are a key link in educating patients about ways to prevent disease. In the context of Covid-19, they are the most accessible health professionals responsible for disease prevention as well as ensuring rational drug use. In this role, they are exposed to a number of challenges, mainly related to superimposed panic and the need to deal with anxious patients, correcting wrong treatment and prevention

regimens, and growing infodemia. The pharmacist's role in confronting infodemia is presented in Figure 8.

Pharmacists participate in patient education for compliance with anti-epidemic measures. They have a major role in the management of the drug-supply process. They assist patients in self-medication and stimulate them towards vaccination. These measures are particularly important in protecting public health in a pandemic.

**Fig. 8.** The role of the pharmacist in countering the infodemic



#### 14. Summary of the results

The factors related to the organizational environment, communication difficulties, and limitations in providing PC, which have an impact on the three scales of burnout, are graphically presented in the following figures.

Based on the obtained results, the factors influencing EE were derived and summarized in Figure 9.



**Фиг. 9.** Factors influencing the level of Emotional Exhaustion



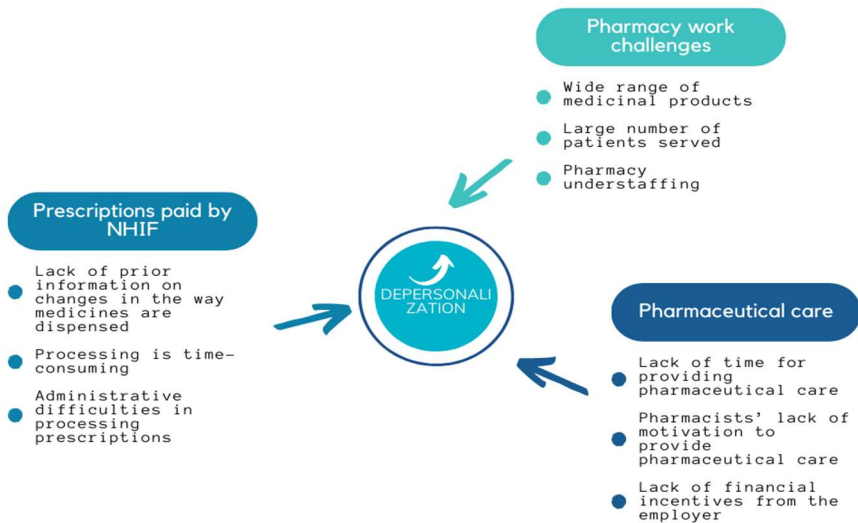
The data show that the main reasons that lead to an increase in the level of EE are: the introduction of SETASMP, the processing of prescriptions paid by the NHIS, through the lack of precise instructions and prior information on how to work, administrative difficulties in processing, which are time-consuming. The EE is increased by the heavy administrative workload, the wide range of medicines, the large number of patients served, the difficulties in communicating with other health professionals, and the limitations in providing PC such as lack of time and lack of motivation of the pharmacist.

The factors set out from the present study that are relevant to an increase in the level of the Depersonalization scale are summarized in Figure 10.

High levels on the DP scale were associated with problems in processing prescriptions paid for by the NHIS, such as lack of precise instructions, administrative difficulties, and the time taken for processing. Also contributing to the increase in DP were the broad nomenclature, the large number of patients served, insufficient pharmacy staffing, and constraints in providing PC, such as

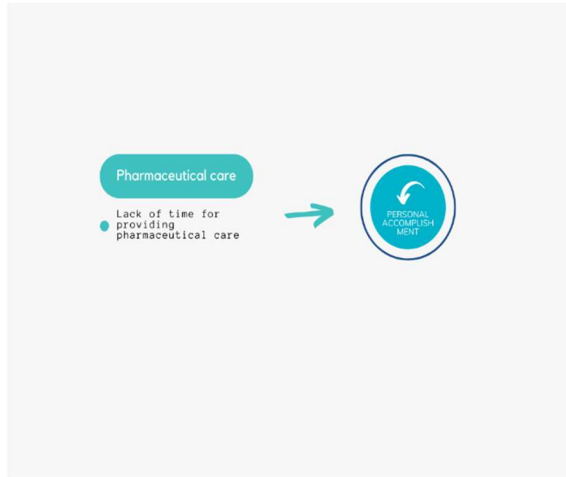
lack of time, insufficient pharmacist motivation, and lack of incentive from the employer.

**Фиг. 10.** Factors influencing the level of Depersonalization



Only the lack of pharmacist time to perform pharmaceutical care affects the PP. The dependency is presented in Figure 11.

**Фиг. 11.** Factors influencing the level of Personal Accomplishment



Lack of time on the part of the pharmacist to render PC leads to a lower level of professional satisfaction.

## 15. Burnout recognition and prevention guidelines

Based on the survey, a brochure was developed that distinguished the main symptoms associated with occupational burnout. The results outlined the most accessible self-help and prevention options for pharmacists. The brochure is presented in Figure 12.

**Fig. 12.** Information brochure on the prevention of occupational burnout

"Burnout is caused by a complex combination of poor workplace policies and practices, outdated institutional structures, and systemic social problems that have plagued us for far too long."

- Jennifer Moss

**Mariya Ivanova  
and team**

[rmim@abv.bg](mailto:rmim@abv.bg)

## Professional Burnout



**Yoana Ivanova**

DESIGN



"Don't stop when you are tired,  
stop when you are ready"

- Anonymous author

Simple steps for prevention

## How to protect ourselves



Realistic expectations when entering the workforce.

Set small, easily achievable goals.

Preparation of a list of daily duties, arranged by priority.

Developing skills for effective time management.

Practice yoga, meditation, or sports regularly.

Spend more time in nature in your free time.

Maintain work-life balance. Keep in touch with your loved ones, friends, and relatives.

Seek social support.

Congratulate yourself on your daily achievements.

Work on your stress management skills daily.

The occurrence of these complaints may be due to a condition called Burnout. It is associated with mental, and physical exhaustion, changes in cognitive functions, and deterioration in interpersonal relationships caused by the work process. As a result, the sufferer of the condition has a reduced sense of job-related satisfaction.

## Stages

It can proceed in three stages.

01

The first stage is associated with disappointment and disillusionment.

02

An irresponsible, cynical attitude towards colleagues and patients develops during the second stage.

03

The third stage is irreversible and rarely occurs. A person falls into a dead end and cannot manage his life. Mental and physical fatigue are constantly present.

Burnout is the last stage.

## Symptoms

01

Chronic fatigue.

02

Decreased immunity.

03

Changes in appetite and weight accordingly.

04

Apathy.

05

Lack of new ideas, routine in fulfilling duties.

06

A sense of failure, hopelessness.

07

Increased irritability, tendency to extreme forms of behavior, abrupt withdrawal, aggressiveness, negative attitude towards dependent people, and sometimes towards colleagues and superiors.

08

Lack of empathy.

09

Reduced work capacity and efficiency.

10

Risky behavior - increased use of alcohol and cigarettes, opiate abuse, etc.

The brochure will be distributed to Master Pharmacists to make them aware of the symptoms of professional burnout and to guide them toward activities to prevent the condition.

## CONCLUSIONS

1. As a result of the analysis, the challenges of pharmacists in pharmacies serving the population can be categorized into the following groups:

- Legislative changes and administrative difficulties related to changes in the legal framework and requirements concerning the dispensing of medicines paid by the NHIF;
- Shortage of essential medicines and lack of availability in the pharmacy network;
- Lack of time to provide pharmaceutical care due to a shift in focus from counseling to administrative duties.

It was confirmed that the dynamic changes in the legal framework and the working environment of pharmacists confront them with a number of new challenges in the performance of their duties.

2. Frequently changing demands from the administration in the context of Covid-19 are a challenge in the performance of pharmacists' duties and the dispensing of medicines. Lack of essential MP and hygiene products, tendency to irrational drug use, infodemia and panic among the public, and activities related to Covid-19 prevention and administration measures are the major constraints to providing PC during the pandemic.

3. The daily challenges pharmacists face, excessive workload, and stress, especially in a Covid-19 environment, are prerequisites for professional burnout. The level of burnout was moderate and high in 53% of the study subjects, thus confirming the second hypothesis.

4. In the present study, age emerged as an individual factor influencing all three scales of Burnout EE, DP, and PA. Pharmacists in the 25-45 age

group were the most vulnerable, while the 55+ age group showed the lowest level of occupational burnout.

5. Factors related to the organizational environment that affect burnout the most are: dynamic legal changes and administrative workload, large number of patients served, insufficient staff and limitations in the implementation of PC, wide range of drugs in pharmacies due to the inability to generic substitution in the absence of drugs from the market.

6. Difficulties in pharmacists' communication with other health professionals as well as with patients are associated with a high level of burnout and are a prerequisite for conflicts between health professionals and patients. Poor communication influences the quality of PC provided in the pharmacy, thus confirming the third hypothesis of the study.

7. The majority of the pharmacists surveyed were dissatisfied with their jobs and wanted a job change. The leading motives for women were working hours and the team, while for men the opportunity for a professional career.

## RECOMMENDATIONS

Based on the results obtained, recommendations can be made to the legislator and the professional organisation of pharmacists:

- Extending the timeframe for putting into practice the new regulatory requirements and at the same time conducting information campaigns and training of pharmacists.
- Improving access for the population in small settlements, developing municipal programmes for financial incentives or incentives for opening pharmacies.
- Measures should be taken to provide administrative relief to pharmacists, thereby freeing up time and resources for pharmaceutical care.
- Pharmaceutical care should be directed towards educational programmes, towards patients: to increase health awareness, improve rational drug use and prevent infodemia in crisis situations.
- In order to improve the working environment and performance of pharmacists in pharmacies, it is necessary to emphasize introductory trainings for young professionals aimed at improving communication skills, and building successful coping strategies for stress management and conflict resolution.
- Trainings aimed at team managers will help optimise the organisation of the working environment, prevent professional burnout and increase staff motivation.



## **CONTRIBUTIONS**

### **Contributions of theoretical and cognitive nature:**

1. An in-depth theoretical analysis of the role of the pharmacist in contemporary society is made and the challenges that the pharmacist in Bulgaria faces in the performance of their duties are identified.
2. The difficulties in the working environment of pharmacists practicing in pharmacies serving the population during the pandemic of Covid-19 are analyzed.
3. For the first time, the main individual and work environment factors influencing the level of occupational burnout in pharmacists are studied.
4. For the first time, the attitudes of pharmacists to work in 24-hour pharmacies and small settlements were studied, which is important for the population's access to medicines and the opening of pharmacies in these areas.

### **Contributions of practical and applied nature:**

1. The burnout factors identified among pharmacists can serve to streamline the process of administration and documentation in pharmacies and free up resources to efficiently conduct pharmaceutical care.
2. The role of the pharmacist in countering infodemia, enhancing public health awareness and promoting rational drug use is highlighted.
3. The information booklet developed on the causes of professional burnout and ways to prevent it will be helpful for practicing pharmacists to prevent burnout.

## DISSERTATION RELATED PUBLICATIONS

### Publications

1. **Ivanova M.** Burnout syndrome among medical professionals and need for research among pharmacist. *Management and Education*, 2020; 16(6):26-31
2. Ivanova M, Todorova A, L Georgieva L, Kumanov I. Burnout syndrome in pharmacists practicing in different fields of the pharmaceutical sector. *Management and Education*, 2020; 16 (6):32-37
3. **Ivanova, M.,** Todorova, A., Georgieva, L. (2020). Burnout syndrome in bulgarian pharmacists – pilot study. *Proceedings of CBU in Medicine and Pharmacy, 1*, 36-40. <https://doi.org/10.12955/pmp.v1.95>

### Conferences

Seventh Pharmaceutical Business Forum and Scientific and Practical Conference, Varna, Bulgaria, October 22-23, 2021. Pharmaceutical care issues during the covid-19 pandemic from a patient's perspective, Maria Ivanova, Anna Todorova, Lora Georgieva, Magdalena Pesheva

#### INTERNATIONAL CONFERENCE

"Education, Science, Economics and Technologies", Burgas, 23 – 24.06.2022r, Ivanova M, Todorova A, L Georgieva L The pharmacists' role as a source of health information during Covid-19 conditions from the patients' point of view.

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