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Occupational burnout, psychological status and quality of life in primary care physicians working in outpatient settings

Aim To study features of the psychological status, job burnout syndrome (JBS) m and quality of life (QoL) in outpatient physicians.

Material and methods This cross-sectional study was performed at 16 randomly selected municipal outpatient hospitals of Moscow and included physicians (district physicians, primary care physicians, and cardiologists). The participants signed an informed consent form and then filled out a registration card that included major social and demographic (sex, age, education, position) and professional characteristics (specialization, work experience, qualification category), and questionnaires. The degree of job burnout was evaluated with the Maslach Burnout Inventory (MBI-HSS), and the presence of anxio-depressive symptoms was evaluated with the Hospital Anxiety and Depression Scale (HADS). The level of stress was assessed with a visual analogue scale (VAS) in a score range from 0 to 10. The QoL of physicians was assessed with the short version of the World Health Organization Quality of Life (HOQOL-BREF) questionnaire.

Results This study included 108 physicians from 16 municipal outpatient clinics aged 24 to 70 years (mean age, 44.0±13.1 years), mostly women (87.0%). Among JBS components, a high level of emotional exhaustion was observed in 50.0% of physicians, a high level of depersonalization in 34.1%, and a severe reduction of personal accomplishment in 37.5%. A high level of stress (VAS score ≥7) was observed in 66.3% of physicians; symptoms of anxiety and depression of any degree (HADS-A and HADS-D subscale score ≥ 8) were found in 23.8 and 22.7% of participants, respectively. 42.0% of physicians evaluated their QoL lower than «good» and 41.6% of physicians evaluated their health condition lower than «good». Most of the studied factors did not significantly depend on the gender and the duration of work, except for emotional exhaustion (55.3% of women and 16.7% of men; p=0.0086) and a high level of stress (72.2% of women and 28.6% of men; p=0.002).

Conclusion The study showed a high prevalence of personal factors that potentially adversely affect the work of outpatient physicians. These factors included high degrees of stress, anxio-depressive symptoms, job burnout, unsatisfactory QoL, and low satisfaction with own health. Management decisions and actions are required to create the optimum psychological climate at the workplace of physicians, to develop new strategies for prophylaxis and correction of their psychological condition, and to implement comprehensive programs for improving the professional environment to maintain and enhance the mental health and to increase the professional prestige of the medical speciality.

Keywords Primary health care; job burnout; anxiety; depression; stress

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The concept of burnout in health care professionals appeared in the late 1960s to assess the psychological stress experienced by medical staff working with patients in free-of-charge clinics [1]. Later, the scope of the burnout concept expanded significantly and was used in relation to stress associated with the occupation in general and working in any medical facility [2, 3]. The concept of burnout syndrome was introduced by the American psychologist Herbert Freudenberger in 1974 [4]. The American psychologists, Christina Maslach and Susan Jackson, actively studied this condition and described it in 1976 as emotional exhaustion. Factors included the development of negative self-assessment, a negative

job attitude, and loss of understanding and caring towards patients [5]. Based on fundamental works by C. Maslach and other authors carried out in the 1980s, the general assessment of burnout syndrome is based in modern scientific literature on certain combinations of emotional exhaustion, depersonalization, and reduced personal accomplishment when exposed to chronic stress caused by professional activities [1].

According to some sources, burnout syndrome occurs in 30–90% of health care professionals and depends on the length of service, specialty, age, gender, and region of residence [6, 7]. A large study conducted in the United States in 2012, in which 7,288 doctors of various specialties took part, can be taken as an example. It was found that 45.8% of American doctors were exposed to burnout syndrome, 10% higher than the population average [8]. Emergency doctors, family doctors, and neurologists felt the most exhausted [8–10]. It should be noted that doctors have higher levels of psychological stability than the general working population, inversely related to the burnout syndrome. However, burnout syndrome is common even among doctors with the highest possible stability, i.e., even the most mentally resilient doctors are at significant risk of burnout syndrome [11].

Several foreign and Russian trials have shown that the high prevalence of burnout syndrome in health care professionals is associated with frequent medical errors, lower quality of medical care, lower patient satisfaction, longer patient recovery after discharge, and increased attrition in the sector [12–14]. Burnout syndrome has serious consequences not only for the quality of medical care, but also for the health of health care professionals, such as the development of cardiovascular diseases (CVDs), depression, alcohol misuse, and reduced life expectancy [15–18].

Depressive symptoms, quite common in doctors, are closely related to burnout syndrome [19, 20]. Mata et al. showed in their systematic review that the prevalence of depressive symptoms in resident physicians was 28.8%. It varied from 20.9% to 43.2% depending on the assessment tool used [20]. Interestingly, there is a bidirectional correlation between depressive symptoms and medical errors. A large systematic review and meta-analysis of 11 trials including 21,517 physicians, demonstrated a correlation between the symptoms of depression in physicians and an increased risk of medical errors (odds ratio (OR) 1.95; 95% confidence interval (CI) 1.63–2.33) [21]. At the same time, according to four trials (n=4,462), medical errors are associated with the subsequent development of depressive symptoms in doctors (OR 1.67; 95% CI 1.48–1.87). Several papers showed that the timely detection and treatment of depression in doctors reduced the number of medical errors that they make, improves the well-being of doctors and the quality of their work with patients [22].

In recent years high demands have been placed on health care professionals. This is due to the increased pace and intensity of medical care, including with regard to the quality of care. All this raises the emotional burden on the employees of medical facilities. There is an active tendency to consider the health of medical staff as an important factor in assessing the quality of the facility's work [23, 24].

Objective

Study the features of the psychological status, burnout syndrome, and quality of life of outpatient physicians.

Material and methods

A cross-sectional study was carried out in 16 public polyclinics in Moscow.They were selected at random from the complete list of public adult polyclinics provided on the website of the Moscow Department of Health (www.mosgorzdrav.ru). The management personnel of polyclinics (chief physicians and/or chief medical officers) authorized the study, after which district primary care physicians, general practitioners, and cardiologists of polyclinics were invited to take part in the study through an anonymous survey.

Inclusion criteria were as follows:

1) position held: outpatient primary care physicians (district physicians, general practitioners, cardiologists) engaged in clinical activities at the time of the study, and providing professional medical care to patients at high/very high risk of developing CVDs and having CVDs;
2) place of work: public polyclinics in Moscow;
3) signed consent to take part in the study.

Exclusion criteria:

1) refusal of the polyclinic's management to authorize the study;
2) refusal of an outpatient physician to participate in the study;
3) incorrect completion of the case report form and questionnaires, preventing their statistical processing.

After signing the informed consent, all participants completed the case report form containing the main social and demographic characteristics (gender, age, education, position) and professional characteristics (specialty, years of employment, qualification category), and questionnaires.

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Burnout level was assessed using the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) [25]. The questionnaire includes 3 subscores: emotional exhaustion (9 statements); depersonalization (5 statements); and personal accomplishment (8 statements). The answers are evaluated by subscores from 0 to 6, wherein 0 corresponds to «never,» and 6 corresponds to «every day». Thus the maximum scores are 54, 30, and 48 points for emotional exhaustion, depersonalization, and personal accomplishments, respectively. The greater the score for each individual subscore, the more severe are the different aspects of burnout syndrome. The threshold values were: ≤16 and ≤25 for the emotional exhaustion subscore; ≤6 and ≤11 for the depersonalization subscore; and ≤30 and ≤37 for the personal accomplishments subscore (low, medium, and high levels, respectively).

Anxiety and depressive symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS) [26]. A score of 8–10 in the HADS-A (anxiety) and HADS-D (depression) subscales corresponded to the presence of symptoms of subclinical anxiety and depressive symptoms. A score of ≥11 corresponded to clinically pronounced anxiety and depressive symptoms. The visual analog scale (VAS) from 0 to 10 was used to assess the stress level. VAS≥5 corresponded to the increased level of stress; VAS ≥7 – a high level of stress; and VAS of 9–10 corresponded to the highest possible stress Level.

The World Health Organization Quality of Life Brief Version (WHOQOL-BREF) questionnaire, comprising 26 facets [27], was used to assess the physicians' quality of life. Following this methodology, the first two facets regarding the quality of life and health satisfaction were evaluated separately. The remaining 24 facets were grouped into four domains: Domain 1 – Physical Health, including the following subdomains: pain and discomfort, activities of daily living, energy and fatigue, mobility, sleep, and rest; Domain 2 – Psychological and its subdomains: positive and negative feelings; thinking, learning, memory and concentration; self-esteem, bodily image and appearance, religion; Domain 3 – Social relationships and its subdomains: personal relationships, social support, sexual activity; Domain 4 – Environment and its subdomains: financial resources, physical safety and security, health and social care (accessibility and quality), home environment, opportunities for acquiring new information and skills, physical environment, transport. The results were evaluated according to the scale attached to the instructions for the questionnaire. The scale ranges from 0 to 100. The higher the score, the higher the quality of life.

Statistical analysis of the data was carried out using the SAS software suite (Statistical Analysis System, SAS Institute Inc., USA). The mean and standard deviation (M±SD) were calculated for quantitative variables (e.g., blood pressure) measured using an interval scale. The rate of detection in percentage or the rate of registration of different rank estimates were determined for categorical indicators measured using the nominal scale and ordinal variables measured using the rank scale, respectively. The causality between variables was estimated using contingency tables and calculating the chi-squared test and Cramer's contingency coefficient. The Student's T-test was calculated for independent samples in the analysis of intergroup differences measures using the interval scale. The differences were statistically significant at $p<0.05$.

Results

The study included 108 physicians from 16 public polyclinics from 24 to 70 years of age (mean age 44.0±13.1 years), mainly women (87.0%). 52% of the physicians were between 40–65 years of age. The percentage of physicians under 29 years old was 15%; 30–39 years – 27%; and 66 years and older – 6%. The study included 90 (83.3%) district primary care physicians and general practitioners, and 18 (16.7%) cardiologists. 30.6% of doctors had been working in their specialty for less than 5 years; 15.7% from 5 to 9 years; 17.6% from 10 to 19 years; and and 36.1% for more than 20 years. 9.3% of specialists possessed the first qualification category; 2.8% the second qualification category; 30.6% the highest qualification category; and 54.6% of physicians did not possess a qualification category.

50.0% of the physicians included in the study were suffering from high emotional exhaustion, while 33.0% had moderate emotional exhaustion (Figure 1). There was a relatively high prevalence of increased depersonalization and reduced personal accomplishments (34.1 and 37.5%, respectively) in physicians participating in the study.

Gender-related factors of burnout were established in outpatient physicians. According to the data in Table 1, the mean level of emotional exhaustion among female physicians is significantly higher than among male physicians (25.8±9.1 vs. 18.3±9.3; $p<0.001$). Moreover, high levels of emotional exhaustion were to a statistically significant degree more common among female physicians than in male physicians (55.3% vs. 16.7%; $p<0.01$).

Increased levels of stress were observed in 92.3% of physicians; high levels of stress in ⅔ of the physicians;

Figure 1. The degree of burnout of outpatient physicians

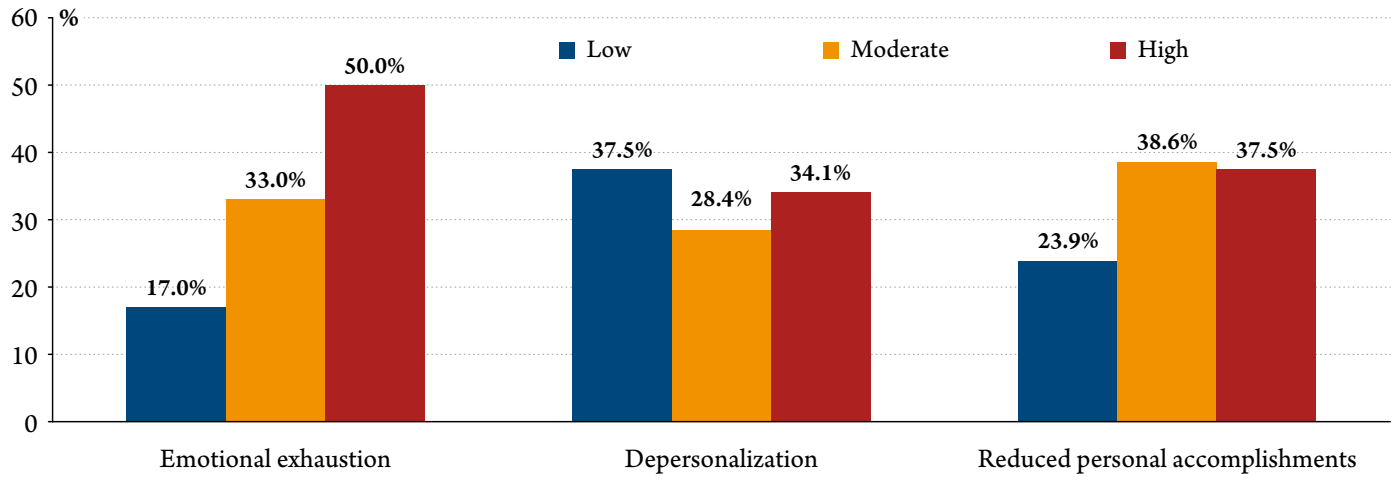

Table 1. Gender-specific features of the psychological status, burnout syndrome, and quality of life of outpatient physicians

Parameter	All physicians	Female	Male	p
Age, years	44.0±13.1	45.3±13.2	37.6±12.1	0.047
Age < 40 years, %	46.3	43.6	64.3	n/s
Employment for up to 10 years, %	52.3	47.3	85.7	0.0037
Burnout syndrome				
Emotional exhaustion, score	24.7±9.4	25.8±9.1	18.3±9.3	0.0009
High emotional exhaustion, %	50.0	55.3	16.7	0.0086
Depersonalization, score	7.9±5.1	8.1±5.1	7.3±4.7	n/s
High depersonalization, %	34.1	34.2	33.3	n/s
Reduced personal accomplishments, score	32.0±6.5	32.3±6.2	30.5±8.3	n/s
High reduction of personal accomplishments, %	37.5	35.5	50	n/s
Level of stress (VAS)				
Level of stress, VAS score	7.1±2.1	7.3±2.1	5.5±1.8	0.003
Increased stress (≥5 points), %	92.3	93.3	85.7	n/s
High stress (≥7 points), %	66.3	72.2	28.6	0.002
Highest possible stress (9–10 points), %	24.8	28.6	0	0.0002
Anxiety symptoms				
HADS-A, score	4.8±3.5	5.0±3.4	3.2±3.7	0.08
Any anxiety symptoms (HADS-A ≥8), %	23.8	26.3	8.3	n/s
Clinically pronounced anxiety symptoms (HADS-A ≥11), %	6.8	6.6	8.3	n/s
Depressive symptoms				
HADS-D, score	4.9±3.3	4.9±3.2	5.3±4.0	n/s
Any depressive symptoms (HADS-D ≥8), %	22.7	22.3	25.0	n/s
Clinically pronounced depressive symptoms (HADS-D ≥11), %	5.7	2.6	25.0	0.023
Quality of life				
Quality of life, score	3.6±0.73	3.6±0.8	3.6±0.7	n/s
The proportion of physicians who assessed their quality of life as worse than good, %	41.6	42.8	33.3	n/s
The proportion of physicians who assessed their quality of life as good and very good, %	58.4	57.1	66.6	n/s
Very satisfied with physical health				
Very satisfied with physical health, score	3.4±0.9	3.4±0.9	3.6±0.7	n/s
The proportion of physicians who assessed their satisfaction with physical health as worse than good, %	42.0	44.2	33.3	n/s
The proportion of physicians who assessed their satisfaction with physical health as good and very good, %	58.0	55.8	66.6	n/s

If not otherwise specified, the data is expressed as the mean and standard deviation (M ± SD). VAS, visual analog scale; n/s, not significant.

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while the highest possible levels were observed in every fourth specialist (see Table 1). The mean stress level (VAS) was significantly higher in female physicians than in male physicians (7.3±2.1 vs. 5.5±1.8; p<0.003). Thus, the proportion of female physicians with high levels of stress was much more significant (72.2% vs. 28.6%; p=0.0021). The maximum level of stress (VAS 9–10) was observed in 28.6% of female physicians and was absent in male physicians.

60.9% of outpatient physicians included in the study did not present anxiety or depressive symptoms. 39.1% of physicians showed anxiety and/or depressive symptoms at any level. 10.2% had clinically pronounced anxiety and/or depression, and 2.3% had a combination of both.

Anxiety symptoms were observed in 23.8% of the specialists included in the study. Gender-related analysis showed a trend towards a slightly higher severity of anxiety in female physicians when compared to male physicians (5.0±3.4 vs. 3.2±3.7). Depressive symptoms of any level were observed in 22.7% of outpatient physicians. At the same time, the proportion of male physicians with clinically pronounced depressive symptoms was significantly higher than the proportion of female physicians (25.0% vs. 2.6%; p=0.023).

According to the WHOQOL-BREF, 58.4% of physicians included in the study had a good and very good quality of life, other specialists were divided in a roughly equal extent (21% each): poor or neither poor nor good quality of life (Figure 2, A).

Physicians assessed their health as follows: 58.4% of the doctors included in the study were satisfied and very satisfied with their health; 34.8% of specialists were neither satisfied nor dissatisfied; 6.8% of physicians were dissatisfied with their health (Figure 2, B).

Table 2 demonstrates that outpatient physicians had the highest mean score in the social sphere. This included home environment, social support, and sexual activity, while the lowest score for the physical health evaluating physical pain and discomfort, activities of daily living, energy, and fatigue, mobility, sleep and rest.

There were no significant gender-related differences in the quality of life and health satisfaction among the physicians included in the study (see Table 1).

Analysis of the characteristics of psychological status, burnout syndrome, and quality of life depending on age and years of employment showed that the mean levels of burnout, stress, anxiety, depression, and satisfaction with health among polyclinic physicians were approximately the same and did not differ statistically significantly (Table 3).

The only exception was a significantly higher level of quality of life in younger physicians (less than 40 years) (3.8±0.5 vs. 3.4±0.8) and physicians with less than 10 years of professional experience (3.8±0.7 vs. 3.4±0.7).

Discussion

The study revealed a high prevalence of burnout syndrome in primary care physicians. Emotional exhaustion is the most well-known inverse indicator of physician's well-being [25]. 50.0% of the physicians included in the study had a high level of emotional exhaustion. At the same time, high emotional exhaustion was significantly more common in female physicians than in male physicians (55.3% vs. 16.7%). Every third physician had a high level of depersonalization and reduced personal accomplishments (34.1% and 37.5%, respectively; these two parameters did not have significant gender-related differences).

Stress is a leading factor in the development of burnout syndrome. This study clearly demonstrates high levels of stress in primary care physicians. Increased levels of stress (VAS≥5) was observed in 92.3% of physicians; high stress (VAS≥7) in ⅔ of physicians; and every fourth specialist had the highest possible level of stress (VAS 9–10). At the same time, the proportion

Figure 2. Quality of life (A) and satisfaction with health (B) of outpatient physicians (WHOQOL-BREF)

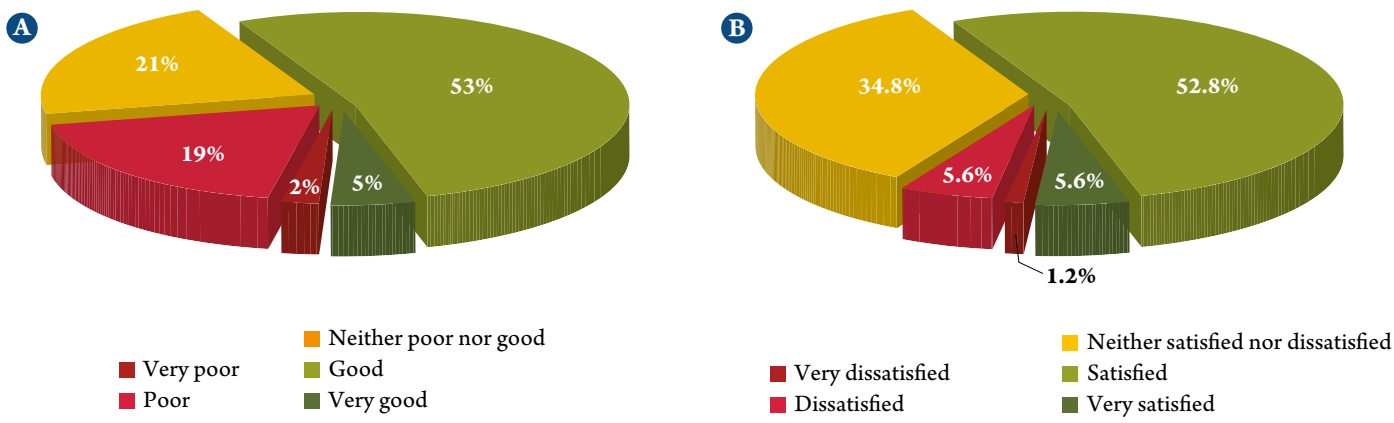

Table 2. Comparative assessment of four domains of quality of life of outpatient physicians

Domains of quality of life		Score
Domain 1	Physical health	54.3 ± 10.1
Domain 2	Psychological health	63.2 ± 11.0
Domain 3	Social relations	71.3 ± 17.5
Domain 4	Environment	60.8 ± 14.3

The data are expressed as the mean and standard deviation (M ± SD).

of female physicians with the high and highest possible levels of stress (VAS) is significantly higher than that of male physicians. This data are consistent with the findings by Rybina [28]. They show that female physicians experience professional stress 1.5 times more often than male physicians. Women seem to be more sensitive to stress factors when performing activities that require empathy.

Currently, the pathogenesis of burnout syndrome in health care professionals is not limited only to stress, which represents only one of the scenarios of developing the burnout syndrome. Depressive symptoms, which are often combined with burnout syndrome, have a significant role.

According to our data, 39.1% of primary care physicians presented anxiety and/or depressive symptoms of any level, and 10.2% had clinically pronounced anxiety and/or depression. The proportion of male physicians with clinically pronounced depressive symptoms was significantly higher than among female physicians (25.0% vs. 2.6%; p=0.023). The proportion of physicians who assessed their quality of life as worse than good was 42.0%. About the same number of physicians (41.6%) were not satisfied with their health (and chose the answer «worse than good»).

The data obtained in this study is consistent with the findings of several earlier publications. Oliveira et al. [29] observed that depressive symptoms occurred in 22% of American anesthesiologists, while another 17% were at high risk of developing burnout and depression. One in five pediatrician interns were shown to have signs of depression, and three in four physicians had signs of the burnout syndrome. Sonneck et al. also confirmed a higher prevalence of depressive disorders in female health care professionals [31]. Suicide (an extreme manifestation of depression) was reported in Austrian male physicians, which was 50% more often than in female physicians.

In 2012, the European General Practice Research Network Burnout Study Group (EGPRN) actively studied the degree and characteristics of burnout in family doctors in 12 European countries [32].

The researchers analyzed the demographic characteristics, lifestyle, length of employment, and job satisfaction, as well as the standard Maslach burnout questionnaire. Only 1/3 of family doctors did not show emotional burnout; 43% of participants had signs of emotional exhaustion; 35% had signs of depersonalization; while 32% had reduced personal accomplishments. 12% of doctors showed signs of burnout in all three scales. According to the authors,

Table 3. Age-specific and length-of-employment-specific features of the psychological status, burnout syndrome, and quality of life of outpatient physicians

Score	Age, years		p	Length of employment, years		p
	Younger than 40	41 and older		Less than 10	11 or more	
Burnout syndrome						
Emotional exhaustion	24.6±9.9	24.9±9.3	n/s	24.0±9.3	25.3±9.7	n/s
Depersonalization	8.4±4.4	7.7±5.5	n/s	8.7±4.9	7.4±5.3	n/s
Reduced personal accomplishments	32.8±7.1	31.5±6.1	n/s	31.8±7.3	32.2±5.8	n/s
Level of stress						
Level of stress (VAS)	7.0±2.1	7.2±2.3	n/s	7.0±2.1	7.3±2.1	n/s
Anxiety and depressive symptoms						
HADS-A score	5.1±3.6	4.5±3.4	n/s	4.9±3.7	4.7±3.3	n/s
HADS-D score	4.7±3.7	5.0±3.1	n/s	4.9±4.0	5.0±2.7	n/s
Quality of life						
Quality of life	3.8±0.5	3.4±0.8	0.001	3.8±0.7	3.4±0.7	0.01
Very satisfied with physical health	3.5±0.8	3.3±1.0	n/s	3.4±1.0	3.3±1.0	n/s

The data is expressed as the mean and standard deviation (M ± SD). VAS, visual analog scale; n/s, not significant.

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Противопоказан пациентам с клиренсом креатинина (КК) менее 60 мл/мин. *Пациенты с печеночной недостаточностью.* Поиск начальной и поддерживающей дозы проводить индивидуально, применяя амлодипин и периндоприл в монотерапии. *Дети и подростки.* Не назначать. **ПРОТИВОПОКАЗАНИЯ*.** Повышенная чувствительность к действующим веществам, или другим ингибиторам АПФ, или другим производным дигидропиридина, или к любому вспомогательному веществу в составе препарата; ангионевротический отек в анамнезе на фоне терапии ингибитором АПФ; наследственный/идиопатический ангионевротический отек; беременность и период грудного вскармливания (см. раздел «Применение при беременности и в период грудного вскармливания»); совместное применение с алискиреном у пациентов с сахарным диабетом и/или умеренными или тяжёлыми нарушениями функции почек (СКФ <60 мл/мин/1,73м^2 площади поверхности тела (см. разделы «Взаимодействие с другими лекарственными средствами» и «Фармакодинамика»); совместное применение с антагонистами рецепторов ангиотензина II (АРА II) у пациентов с диабетической нефропатией; совместное применение с комбинированными лекарственными препаратами, содержащими валсартан + сакубитрил (см. разделы «Взаимодействие с другими лекарственными средствами» и «Особые указания»); экстракорпоральная терапия, ведущая к контакту крови с отрицательно заряженными поверхностями (см. раздел «Взаимодействие с другими лекарственными средствами»); выраженный двусторонний стеноз почечных артерий или стеноз артерии единственной функционирующей почки (см. раздел «Особые указания»); тяжелая артериальная гипотензия (САД менее 90 мм рт.ст.); шок (включая кардиогенный); обструкция выходного тракта левого желудочка (например, выраженный стеноз устья аорты); гемодинамически нестабильная сердечная недостаточность после острого инфаркта миокарда; почечная недостаточность (КК менее 60 мл/мин); возраст до 18 лет, наследственная непереносимость галактозы, лактазная недостаточность и глюкозо-галактозная мальабсорбция. **ОСОБЫЕ УКАЗАНИЯ*.** *Повышенная чувствительность/ангионевротический отек.* Прием препарата должен быть прекращен, пациент должен наблюдаться до полного исчезновения признаков отека. Ангионевротический отек с отеком гортани может привести к летальному исходу. При совместном применении с ингибиторами mTOR повышается риск ангионевротического отека. *Совместное применение с препаратами, содержащими валсартан + сакубитрил.* Противопоказано. Применение одного препарата не ранее чем через 36 часов после прекращения приема другого. *Анафилактоидные реакции при проведении афереза ЛПНП.* В редких случаях могут развиваться угрожающие жизни реакции. Временно прекратить терапию перед каждой процедурой. *Анафилактоидные реакции при проведении десенсибилизации.* Временно прекратить терапию перед каждой процедурой. При случайном приеме препарата анафилактоидная реакция возникала снова. *Нейтропения/агранулоцитоз/тромбоцитопения/анемия.* С крайней осторожностью применять периндоприл у пациентов с системными заболеваниями соединительной ткани, на фоне приема иммунодепрессантов, аллопуринола или прокаинамида. Контролировать лейкоциты в крови. *Реноваскулярная гипертензия.* У пациентов с двусторонним стенозом почечных артерий или артерии единственной почки возрастает риск развития тяжелой гипотензии и почечной недостаточности. Прием диуретиков – дополнительный фактор риска. Ухудшение функции почек возможно при незначительном изменении концентрации креатинина у пациентов с односторонним стенозом почечной артерии. *Двойная блокада РААС.* Совместное применение ингибиторов АПФ с АРА II или алискиреном повышает риск гипотензии, гиперкалиемии и нарушения функции почек (включая острую почечную недостаточность). Поэтому двойная блокада РААС не рекомендуется. Противопоказано применение ингибиторов АПФ в сочетании с АРА II у пациентов с диабетической нефропатией. *Беременность.* Прекратить лечение. При необходимости назначить другую гипотензивную терапию. *Первичный гиперальдостеронизм.* Прием препарата не рекомендуется. *Артериальная гипотензия.* У пациентов с повышенным риском развития симптоматической артериальной гипотензии и у пациентов со стенокардией и цереброваскулярными заболеваниями необходимо тщательно контролировать АД, функцию почек и содержание K^+ в сыворотке крови. Преходящая артериальная гипотензия не является препятствием для дальнейшего приема препарата. После восстановления объема циркулирующей крови и АД лечение может быть продолжено. *Митральный стеноз/аортальный стеноз/гипертрофическая кардиомиопатия.* С осторожностью. *Нарушение функции почек.* Пациентам с КК менее 60 мл/мин рекомендуется индивидуальный подбор доз периндоприла и амлодипина и необходим регулярный контроль содержания K^+ и креатинина в сыворотке крови. У пациентов со стенозом почечных артерий возможно повышение мочевины и креатинина в крови. Наличие реноваскулярной гипертензии обусловливает повышенный риск тяжелой гипотензии и почечной недостаточности. Амлодипин не выводится посредством диализа. *Печеночная недостаточность.* В редких случаях на фоне ингибиторов АПФ возникает холестатическая желтуха. При прогрессировании развивается фульминантный некроз печени, иногда с летальным исходом. При появлении желтухи или значительного повышения «печеночных» ферментов прекратить прием препарата. При тяжелой печеночной недостаточности повышать дозу постепенно, обеспечивая мониторинг состояния. *Этнические различия.* Периндоприл, возможно, оказывает менее выраженное действие у пациентов негроидной расы. У них чаще развивается ангионевротический отек. *Сухой кашель. Хирургическое вмешательство/анестезия.* Прекратить лечение за сутки до операции. *Гиперкалиемия.* Регулярный контроль K^+ в крови у пациентов старше 70 лет, с почечной недостаточностью, ухудшением функции почек, сахарным диабетом, дегидратацией, острой декомпенсацией сердечной недостаточности, метаболическим ацидозом, совместным применением K^+-сберегающих диуретиков, солей K^+. *Сахарный диабет.* В течение первого месяца терапии контролировать глюкозу в крови. *Сердечная недостаточность.* С осторожностью. *Гипертонический криз.* Эффективность и безопасность не установлены. *Пожилые пациенты.* Увеличение дозы с осторожностью. **ВЗАИМОДЕЙСТВИЕ С ДРУГИМИ ЛЕКАРСТВЕННЫМИ СРЕДСТВАМИ*.** *Совместное применение противопоказано.* Алискирен: у пациентов с сахарным диабетом и/или нарушением функции почек (СКФ <60 мл/мин). Экстракорпоральная терапия. Валсартан + сакубитрил. *Нерекомендуемые комбинации:* алискирен: у пациентов, не имеющих диабета или нарушения функции почек; АРА II, эстрамустин, ко-тримоксазол (сульфаметоксазол + триметоприм), K^+-сберегающие диуретики (триамтерен, амилорид), соли K^+, препараты лития, дантролен (внутривенное введение), грейпфрут или грейпфрутовый сок. *Сочетания, требующие особого внимания:* гипогликемические средства (инсулин, производные сульфонилмочевины), K^+-несберегающие диуретики, K^+-сберегающие диуретики (эплеренон, спиронолактон), рацекадотрил, ингибиторы mTOR (сиролимус, эверолимус, темсиролимус), нестероидные противовоспалительные препараты, включая ацетилсалициловую кислоту ≥3 г/сут, алтеплаза, индукторы и ингибиторы CYP3A4, баклофен. *Сочетания, требующие внимания:* глиптины (линаглиптин, саксаглиптин, ситаглиптин, вилдаглиптин), симпатомиметики, препараты золота, аллопуринол, прокаинамид, такролимус, циклоспорин, симвастатин, гипотензивные средства, вазодилататоры, кортикостероиды, тетракозактид, α-адреноблокаторы (празозин, альфузозин, доксазозин, тамсулозин, теразозин), амифостин, трициклические антидепрессанты, нейролептики, средства для общей анестезии. **ПРИМЕНЕНИЕ ПРИ БЕРЕМЕННОСТИ И В ПЕРИОД ГРУДНОГО ВСКАРМЛИВАНИЯ*.** Противопоказан. **ФЕРТИЛЬНОСТЬ*. ВЛИЯНИЕ НА СПОСОБНОСТЬ УПРАВЛЯТЬ ТРАНСПОРТНЫМИ СРЕДСТВАМИ, МЕХАНИЗМАМИ*.** Возможно вследствие головокружения, сонливости и других побочных реакций. **ПОБОЧНОЕ ДЕЙСТВИЕ*.** *Очень часто:* отеки. *Часто:* сонливость, головокружение, головная боль, дисгевзия, парестезия, нарушения зрения (включая диплопию), звон в ушах, вертиго, ощущение сердцебиения, «приливы» крови к коже лица, артериальная гипотензия, одышка, кашель, боль в животе, тошнота, рвота, диспепсия, изменение частоты и характера стула, диарея, запор, кожный зуд, экзантема, кожная сыпь, припухлость в области суставов (припухлость в области лодыжек), спазмы мышц, повышенная утомляемость, астения. *Нечасто:* ринит, эозинофилия, гиперчувствительность, гипогликемия, гиперкалиемия, гипонатриемия, бессонница, лабильность настроения, депрессия, нарушение сна, тремор, гипестезия, обморочные состояния, тахикардия, аритмия, васкулит, бронхоспазм, сухость во рту, ангионевротический отек лица, конечностей, губ, слизистых оболочек, языка, голосовых складок и/или гортани, алопеция, пурпура, изменение цвета кожи, повышенная потливость, крапивница, реакции фоточувствительности, пемфигоид, артралгия, миалгия, боль в спине, нарушение мочеиспускания, никтурия, поллакиурия, почечная недостаточность, эректильная дисфункция, гинекомастия, периферические отеки, боль в грудной клетке, боль, недомогание, лихорадка, увеличение массы тела, снижение массы тела, повышение концентрации мочевины и креатинина в крови, падение. *Редко:* спутанность сознания, обострение псориаза, повышение концентрации билирубина в крови, повышение активности «печеночных» ферментов. *Очень редко:* лейкопения/нейтропения, агранулоцитоз, панцитопения, тромбоцитопения, гемолитическая анемия у пациентов с врождённой недостаточностью глюкозо-6-фосфатдегидрогеназы, гипергликемия, гипертонус, периферическая нейропатия, инсульт, стенокардия, инфаркт миокарда, эозинофильная пневмония, гиперплазия десен, панкреатит, гастрит, гепатит, желтуха, цитолитический или холестатический гепатит, повышение активности «печеночных» ферментов, ангионеротический отек (отек Квинке), многоформная эритема, синдром Стивенса-Джонсона, эксфолиативный дерматит, острая почечная недостаточность, снижение гемоглобина и гематокрита. *Неуточненной частоты:* экстрапирамидальные расстройства, синдром Рейно, токсический эпидермальный некролиз. Синдром неадекватной секреции антидиуретического гормона можно считать очень редким осложнением, связанным с ингибиторами АПФ. **ПЕРЕДОЗИРОВКА*. ФАРМАКОЛОГИЧЕСКИЕ СВОЙСТВА*. ФАРМАКОДИНАМИКА*** Периндоприл – ингибитор фермента, превращающего ангиотензин I в ангиотензин II (ингибитор АПФ). Амлодипин – блокатор «медленных» кальциевых каналов, производное дигидропиридина, ингибирует трансмембранный переход ионов кальция в кардиомиоциты и гладкомышечные клетки сосудистой стенки. **ФОРМА ВЫПУСКА*.** 29/30 таблеток x 1/3 (флакон + дозатор), 5 мг + 5 мг, 10 мг + 10 мг, 5 мг + 10 мг, 10 мг + 5 мг. **Регистрационное удостоверение:** ЛСР-000836/10.

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the degree of burnout is closely related to the country of residence, job satisfaction, alcohol, smoking, and the use of psychotropic drugs, male gender, and age [18].

An analysis of the individual components of burnout revealed specific gender-related differences. It was found in this study that female physicians had significantly higher emotional exhaustion scores. Other studies showed that male physicians had depersonalization scores [33]. Men appear to be dominated by instrumental values, while women are guided by emotional values. They are more responsive to patients' complaints and are more susceptible to stress. At the same time, in several studies no gender-related particularities of burnout syndrome were observed [34].

The analysis of age-related characteristics carried out in certain studies showed that health care professionals above 40 years of age, with 15 years or more of employment, are most susceptible to burnout [35, 36]. Other studies revealed little negative correlation between the prevalence of burnout syndrome, years of employment [37] and age [13]. del Carmen et al. [38] in their recent study established that young health care professionals with less than 10 years of employment after graduation were more susceptible to burnout (OR 1.36; 95% CI 1.05–1.77). Doctors with a longer length of employment, more than 30 years after graduation, were less susceptible to burnout (OR 0.59; 95% CI 0.40–0.88) when compared to doctors with an average length of employment (11–20 years).

One of the limitations of this study is that it included only polyclinics whose managers authorized the study, and whose physicians who agreed to participate in the study.

Although this sample is random, it is not entirely representative of all outpatient physicians. Another limitation is the discrepancy in modern scientific literature regarding cut-off points for assessing burnout syndrome and its components. According to a range of data, the prevalence of burnout syndrome in the general population of health care professionals ranges from 0 to 80.5%; emotional exhaustion from 0 to 86.2%; depersonalization from 0 to 89.9%; and reduced personal accomplishments from 0 to 87.1%. Due to discrepancies in the definition of burnout syndrome criteria, an accurate assessment of the prevalence of burnout syndrome and its correlation with gender, age, length of employment, the specialties of physicians, and the presence of depressive symptoms, is still rather vague. A harmonized definition of burnout syndrome and standardize its assessment needs to be established.

Conclusion

The study revealed a high prevalence of personal factors potentially affecting the professional activities of outpatient physicians (district primary care physicians, general practitioners, and cardiologists): a high level of stress; anxiety and depressive symptoms; burnout syndrome; unsatisfactory quality of life; and low satisfaction with one's own health. These factors can adversely affect health care professionals and the quality of medical care. Management decisions need to be taken and measures implemented, in order to create the best possible psychological climate for physicians in the workplace. New strategies need to be developed for the prevention and correction of physicians' psychological state, and comprehensive programs aimed at improving the professional environment need to be introduced, in order to preserve and strengthen mental health and increase the professional prestige of the medical profession.

No conflict of interest is reported.

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REFERENCES

1. Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S et al. Prevalence of Burnout Among Physicians: A Systematic Review. JAMA. 2018;320(11):1131–50. DOI: 10.1001/jama.2018.12777
2. Kim MH, Mazenga AC, Simon K, Yu X, Ahmed S, Nyasulu P et al. Burnout and self-reported suboptimal patient care amongst health care workers providing HIV care in Malawi. PLOS ONE. 2018;13(2):e0192983. DOI: 10.1371/journal.pone.0192983
3. Saijo Y, Chiba S, Yoshioka E, Kawanishi Y, Nakagi Y, Ito T et al. Job stress and burnout among urban and rural hospital physicians in Japan. Australian Journal of Rural Health. 2013;21(4):225–31. DOI: 10.1111/ajr.12040
4. Freudenberger HJ. Staff Burn-Out. Journal of Social Issues. 1974;30(1):159–65. DOI: 10.1111/j.1540-4560.1974.tb00706.x
5. Maslach C, Schaufeli WB, Leiter MP. Job Burnout. Annual Review of Psychology. 2001;52(1):397–422. DOI: 10.1146/annurev.psych.52.1.397
6. Kumar S. Burnout and Doctors: Prevalence, Prevention and Intervention. Healthcare. 2016;4(3):37–46. DOI: 10.3390/healthcare4030037
7. West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. The Lancet. 2016;388(10057):2272–81. DOI: 10.1016/S0140-6736(16)31279-X
8. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D et al. Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population. Archives of Internal Medicine. 2012;172(18):1377–85. DOI: 10.1001/archinternmed.2012.3199

ISSN 0022-9040. Kardiologiia. 2021;61(6). DOI: 10.18087/cardio.2021.6.n1538

9. Shanafelt T, Goh J, Sinsky C. The Business Case for Investing in Physician Well-being. JAMA Internal Medicine. 2017;177(12):1826–32. DOI: 10.1001/jamainternmed.2017.4340
10. Shanafelt TD, Hasan O, Dyrbye LN, Sinsky C, Satele D, Sloan J et al. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. Mayo Clinic Proceedings. 2015;90(12):1600–13. DOI: 10.1016/j.mayocp.2015.08.023
11. West CP, Dyrbye LN, Sinsky C, Trockel M, Tutty M, Nedelec L et al. Resilience and Burnout Among Physicians and the General US Working Population. JAMA Network Open. 2020;3(7):e209385. DOI: 10.1001/jamanetworkopen.2020.9385
12. Jager AJ, Tutty MA, Kao AC. Association Between Physician Burnout and Identification With Medicine as a Calling. Mayo Clinic Proceedings. 2017;92(3):415–22. DOI: 10.1016/j.mayocp.2016.11.012
13. Shanafelt TD, Mungo M, Schmitgen J, Storz KA, Reeves D, Hayes SN et al. Longitudinal Study Evaluating the Association Between Physician Burnout and Changes in Professional Work Effort. Mayo Clinic Proceedings. 2016;91(4):422–31. DOI: 10.1016/j.mayocp.2016.02.001
14. Kobyakova O.S., Deev I.A., Kulikov E.S., Pimenov I.D., Khomyakov K.V. Burnout in doctors and medical errors. Is there a connection? Social Aspects of Population Health. 2016;1(47):1–5. [Russian: Кобякова О.С., Деев И.А., Куликов Е.С., Пименов И.Д., Хомяков К.В. Эмоциональное выгорание у врачей и медицинские ошибки. Есть ли связь? Социальные аспекты здоровья населения. 2016;1(47):1-5]. DOI: 10.21045/2071-5021-2016-47-1-5
15. Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. BMJ. 2012;344:e1717. DOI: 10.1136/bmj.e1717
16. Salyers MP, Bonfils KA, Luther L, Firmin RL, White DA, Adams EL et al. The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. Journal of General Internal Medicine. 2017;32(4):475–82. DOI: 10.1007/s11606-016-3886-9
17. Ahola K, Väänänen A, Koskinen A, Kouvonen A, Shirom A. Burnout as a predictor of all-cause mortality among industrial employees: A 10-year prospective register-linkage study. Journal of Psychosomatic Research. 2010;69(1):51–7. DOI: 10.1016/j.jpsychores.2010.01.002
18. Oreskovich MR, Kaups KL, Balch CM, Hanks JB, Satele D, Sloan J et al. Prevalence of Alcohol Use Disorders Among American Surgeons. Archives of Surgery. 2012;147(2):168–74. DOI: 10.1001/archsurg.2011.1481
19. Rotenstein LS, Ramos MA, Torre M, Segal JB, Peluso MJ, Guille C et al. Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students: A Systematic Review and Meta-Analysis. JAMA. 2016;316(21):2214–36. DOI: 10.1001/jama.2016.17324
20. Mata DA, Ramos MA, Bansal N, Khan R, Guille C, Di Angelantonio E et al. Prevalence of Depression and Depressive Symptoms Among Resident Physicians: A Systematic Review and Meta-analysis. JAMA. 2015;314(22):2373–83. DOI: 10.1001/jama.2015.15845
21. Pereira-Lima K, Mata DA, Loureiro SR, Crippa JA, Bolsoni LM, Sen S. Association Between Physician Depressive Symptoms and Medical Errors: A Systematic Review and Meta-analysis. JAMA Network Open. 2019;2(11):e1916097. DOI: 10.1001/jamanetworkopen.2019.16097
22. Petrie K, Crawford J, Baker STE, Dean K, Robinson J, Veness BG et al. Interventions to reduce symptoms of common mental disorders and suicidal ideation in physicians: a systematic review and meta-analysis. The Lancet Psychiatry. 2019;6(3):225–34. DOI: 10.1016/S2215-0366(18)30509-1
23. Zhevelik O.D., Dzyuman E.M., Mikheeva G.F. Emotional burnout among mental health professionals. Ugra health care: experience and innovations. 2017;1(10):34–7. [Russian: Жевелик О.Д., Дзюман Е.М., Михеева Г.Ф. Эмоциональное «выгорание» среди медицинских работников сферы психического здоровья. Здравоохранение Югры: опыт и инновации. 2017;1(10):34-7]
24. Panagioti M, Geraghty K, Johnson J, Zhou A, Panagopoulou E, Chew-Graham C et al. Association Between Physician Burnout and Patient Safety, Professionalism, and Patient Satisfaction: A Systematic Review and Meta-analysis. JAMA Internal Medicine. 2018;178(10):1317–31. DOI: 10.1001/jamainternmed.2018.3713
25. Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory (MBI). 4th editon. [Internet] Available at: https://www.mindgarden.com/maslach-burnout-inventory-mbi/685-mbi-manual.html
26. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatrica Scandinavica. 1983;67(6):361–70. PMID: 6880820
27. World Health Organization. WHOQOL-BREF : introduction, administration, scoring and generic version of the assessment: field trial version, December 1996. [Internet] Available at: https://www.who.int/publications-detail-redirect/WHOQOL-BREF
28. Tsvetkova L.A., Yakovlev G.N. Current problems of clinical psychology and psychophysiology: materials of the scientific and practical conference 'Ananyev. readings-2004', October 26-28, 2004. (P. 189-190). -SPb.: Publishing House of St. Petersburg University;2004. – 304 p. [Russian: Цветкова Л.А., Яковлев Г.М. Актуальные проблемы клинической психологии и психофизиологии: материалы науч.-практ. конф. 'Ананьев. чтения – 2004', 26–28 окт. 2004 г. (С.189–190). – СПб.: Изд-во С.-Петерб. ун-та, 2004. – 304с.]. ISBN 5-288-03534-2
29. de Oliveira GS, Chang R, Fitzgerald PC, Almeida MD, Castro-Alves LS, Ahmad S et al. The Prevalence of Burnout and Depression and Their Association with Adherence to Safety and Practice Standards: A Survey of United States Anesthesiology Trainees. Anesthesia & Analgesia. 2013;117(1):182–93. DOI: 10.1213/ANE.0b013e3182917da9
30. Fahrenkopf AM, Sectish TC, Barger LK, Sharek PJ, Lewin D, Chiang VW et al. Rates of medication errors among depressed and burnt out residents: prospective cohort study. BMJ. 2008;336(7642):488–91. DOI: 10.1136/bmj.39469.763218.BE
31. Sonneck G, Etzersdorfer E, Nagel-Kuess S. Imitative suicide on the Viennese subway. Social Science & Medicine. 1994;38(3):453–7. DOI: 10.1016/0277-9536(94)90447-2
32. Soler JK, Yaman H, Esteva M, Dobbs F, Asenova RS, Katic M et al. Burnout in European family doctors: the EGPRN study. Family Practice. 2008;25(4):245–65. DOI: 10.1093/fampra/cmn038
33. Ogus ED, Grenglass ER, Burke RJ. Gender-role differences, work stress and depersonalization. Journal of Social Behavior and Personality. 1990;5(5):387–98
34. Evdokimov V.I., Esaulenko I.E., Gubin A.I., Popov V.I. Assessment of professional burnout in healthcare workers. Methodological Recommendations. -SPb.: Polytechnic;2009. - 82 p. [Russian: Евдокимов В.И., Есауленко И.Э., Губин А.И., Попов В.И. Оценка профессионального выгорания у медицинских работников. Методические Рекомендации. – СПб.: Политехника, 2009. - 82с]. ISBN 978-5-904031-08-4
35. Logutova E.V. Gender features of the professional burnout syndrome in medical workers. Azimuth of Scientific Research: pedagogy and psychology. 2017;6(2):268–71. [Russian: Логутова Е.В. Гендерные особенности проявления синдрома профессионального выгорания у медицинских работников.

Азимут Научных Исследований: педагогика и психология. 2017;6(2):268-71]
36. Vodopyanova N.E., Starchenkova E.S. Burnout syndrome: diagnosis and prevention. -M.: Piter;2005. - 336 p. [Russian: Водопьянова Н.Е., Старченкова Е.С. Синдром выгорания: диагностика и профилактика. - М.: Питер, 2005. - 336с]. ISBN 978-5-469-00289-5
37. Volobaev V.M. On the question of the clinical approach to the diagnosis of burnout syndrome. Psychotherapy. 2008;6:23–4. [Russian: Волобаев В.М. К вопросу о клиническом подходе к диагностике синдрома эмоционального выгорания. Психотерапия. 2008:6;23-4]
38. del Carmen MG, Herman J, Rao S, Hidrue MK, Ting D, Lehrhoff SR et al. Trends and Factors Associated with Physician Burnout at a Multispecialty Academic Faculty Practice Organization. JAMA Network Open. 2019;2(3):e190554. DOI: 10.1001/jamanetworkopen.2019.0554

ISSN 0022-9040. Kardiologiia. 2021;61(6). DOI: 10.18087/cardio.2021.6.n1538