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PREVALENCE OF BURNOUT SYNDROME IN HEALTHCARE WORKERS IN NORTH AND SOUTH AMERICA, AND ASIA FROM 2018 TO 2022

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Abstract. The article explores issues concerning prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022. Thus for this purpose, a great number of scientific sources that are related to the topic of the research were examined.

Healthcare professionals face a tremendous strain during the performing of their activities that often may lead to stress and burnout syndrome. In particular, duties of healthcare workers include high responsibility for life and health of a patient, self-discipline, urgent decision-making, empathy, high productivity during extreme conditions, constant psychological and intellectual tension.

During the past 30+ years, burnout syndrome was studied by scientists, practitioners, and also by general public all around the world. It should be noted, that nowadays a lot of employees (in particular, healthcare workers) are faced with rapid changes in our modern working life, namely, time pressure, pressure of higher productivity/quality of work, need to learn new skills, increasing demands of adaptation to new types of work, hectic jobs, etc., that in result may cause burnout syndrome.

Burnout syndrome of healthcare workers is usually associated with poor quality of medical care and may lead to medical errors, exhaustion, inefficiency, and conflicts. High levels of burnout syndrome among medical professionals of different countries around the world vary from 7,4% to 66%.

The issues concerning prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022 have not been sufficiently identified and also require more detailed research.

Research of scientists that used the Maslach Burnout Inventory (hereinafter – the MBI), and the Copenhagen Burnout Inventory (hereinafter – the CBI) to research the burnout syndrome in healthcare workers of different specialties (including "Family Medicine") were included in this article.

Based on the conducted research, the following conclusions can be reached: the research carried out to identify prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022 found out the presence of burnout syndrome in healthcare workers ranging from 1,3% to 82,1%. Moreover, prevalence of burnout syndrome in healthcare workers in North and South America varied from 1,3% to 73,5%, whereas in Asia it varied from 5,2% to 82,1%. Factors that associated with burnout in healthcare workers in North and South America, and Asia were examined. The majority of scientific studies on the identification of the prevalence of burnout syndrome in healthcare workers from 2018 to 2022: a) in North and South America have been conducted in Canada, the United States of America, the Federative Republic of Brazil, and the Argentine Republic, etc., whereas b) in Asia have been conducted in China, Japan, India, Pakistan, Iran, Lebanon, Saudi Arabia, Turkey, Oman, Cyprus, Israel, Jordan, and Kazakhstan, etc. Intensivists, psychiatrists, resident physicians, oncologists, general surgeons, internal medicine physicians, and emergency medicine physicians are special categories of healthcare workers who are at a high risk of formation of burnout syndrome that may develop due to the specific of professional activity.

Keywords: burnout syndrome, healthcare workers, physician, North and South America, Asia.

Introduction. Healthcare professionals face a tremendous strain during the performing of their activities that often may lead to stress and burnout syndrome [1 p317]. In particular, duties of healthcare workers include high responsibility for life/health of patient and require self-discipline, urgent decision-making, empathy, high productivity during extreme conditions, constant psychological and intellectual tension [2 p123].

C. Maslach et al. [3 p99; 4] determined that burnout syndrome may develop in individuals that do 'people work' and it has 3 key burnout signs: a) emotional exhaustion (hereinafter – EE), b) depersonalization (hereinafter – DP)/feeling of cynicism, and c) sense of reduced personal accomplishment (hereinafter – PA). According to the Lexicon of psychiatric and mental health terms by WHO,

burnout is a state of physical and/or emotional exhaustion that arises as a result of stress of strict performance demands occurring from the nature of one's activity in which individual is engaged [5 p18]. It is characterized by fatigue, reduced work quality, depression, insomnia, turning to alcohol or/and other drugs for temporary relief or/and sometimes suicide [5 p18].

Burnout syndrome is included in the International Classification of Diseases of the 11th Revision by WHO and is determined as a syndrome developing from workplace stress that hasn't been successfully managed (QD85 Burnout) [6].

Burnout syndrome has different clinical symptoms, in particular, H.J. Freudenberger and G. Richelson [7 p62-7] described some of them, including exhaustion,

boredom/cynicism, detachment, heightened irritability and impatience, a feeling of omnipotence, paranoia, a sense of being unappreciated, denial of feelings, disorientation, and psychosomatic complaints. Moreover, burnout syndrome can also manifest in negative attitudes towards work/clients, fatigue, insomnia, absenteeism, poor work performance, negative self-concept, increased use of such chemical agents as alcohol, tobacco, coffee, drugs, overeating or loss of appetite, passive feelings (pessimism, meaninglessness, hopelessness, depression, apathy), aggressive feelings (restlessness, anger, tension), guilt [8 p390], etc. Burnout syndrome in healthcare workers is usually associated with poor quality of medical care [9 p555] and may lead to medical errors, exhaustion, inefficiency, conflicts [10 p536], etc.

High levels of burnout syndrome among medical professionals of different countries around the world vary from 7,4% to 66% [11 p30]. C. Karuna et al. [12 p316] conducted systematic review and meta-analysis on prevalence of burnout syndrome among GPs worldwide (across 29 countries). Wide-ranging prevalence of burnout syndrome was scored across different dimensions (6% to 33%), whereas mean burnout syndrome scores were the following: 16,43 for EE, 6,74 for DP, and 29,28 for PA [12 p316]. T. Wright et al. [13 p385] conducted a systematic review and meta-analysis on the prevalence of burnout syndrome among primary healthcare professionals in middle- and low-income countries. The overall prevalence of burnout syndrome varied from 2,5% up to 87,9%, whereas the pooled prevalence of high levels of EE was 28,1%, high levels of DP was 16,4%, and high levels of reduced PA was 31,9% [13 p385]. Furthermore, high scores of EE and DP were most prevalent among nurses (33,1% and 30%), family physicians (26,1% and 11,5%), and community health workers (21,3% and 10%, respectively) [13 p387].

According to Medscape US Physician Burnout & Depression Report 2023 in physicians (n=9175) across 29 specialties, burnout scores were above 37%, whereas the highest burnout scores were in physicians of Emergency Medicine (65%), Internal Medicine (60%), Pediatrics (59%), OB/GYN and Infectious Diseases (58% each), and Family Medicine (57%) [14], etc. Too many bureaucratic tasks (61%), lack/absence of respect from colleagues/coworkers (38%), too many work hours (37%), insufficient compensation (34%), lack of control/autonomy (31%), computerization of practice (25%), lack/absence of respect from patients (23%) were the main reasons for burnout syndrome [14]. Moreover, C. Maslach and M.P. Leiter [15 p44-7] formulated an approach in which burnout syndrome arises as a result of a mismatch between the characteristics of an individual and the requirements of professional activity; the greater the presence of mismatch, the higher the probability of the development of burnout syndrome; in particular, scientists established 6 areas of professional life in relation to this mismatch and considered them situational predictors of burnout syndrome: a) "workload" is mismatch between the requirements of professional activity and the specialist's personal resources, in particular, when job demands exceed human limits; b) "control" is mismatch between the authoritarian policy of the administration of a certain organization and the specialist's desire to gain independence in making decisions at work and choosing ways to achieve planned results and/or

solve problems (role conflict/ambiguity); c) "reward" is mismatch between the desired and real recognition of the job contributions of the employee (monetary, intrinsic, and social); in particular, it may manifest not only in the form of insufficient salary, etc., but also in the form of the lack of recognition of the specialist by colleagues, supervisor, etc., for ones achieved successes and/or loss of internal reward as pride of doing something of great importance; d) "community" is mismatch between expectations and feeling of lack of opportunity for positive interaction with subjects of professional activity (in particular, conflicts at the workplace, incapacity to perform work as a team, closeness, mutual support, etc.); e) "fairness" is mismatch between the desire for a respectful and fair attitude towards individual as a specialist of a certain organization and the absence of it; f) "values" is mismatch between the morality, ethical principles, ideals and motivations of a specialist and the requirements of professional activity.

The aim of the research: to determine the issue of prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022.

Materials and methods: generalization and analysis of scientific publications, and also the Internet information based on the topic of this specified research. The sources were searched in the following scientometric databases: Web of Science, Scopus, PubMed, and Google Scholar by using such keywords as burnout syndrome, healthcare workers, physician, North America, South America, Asia.

Research results and their discussion. The issues concerning prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022 have not been sufficiently identified and also require more detailed research.

Research of scientists that used the Maslach Burnout Inventory [4], and the Copenhagen Burnout Inventory [16 p192-206] to investigate burnout syndrome in healthcare workers of different specialties (including "Family Medicine") were included in this article.

During the past 30+ years, burnout syndrome was studied by scientists, practitioners, and also by general public all around the world [17 p210]. It should be noted, that nowadays a lot of employees (in particular, healthcare workers) are faced with rapid changes in our modern working life, namely, time pressure, pressure of higher productivity/quality of work, need to learn new skills, increasing demands of adaptation to new types of work, hectic jobs, etc., that in result may cause burnout syndrome [17 p210].

Taking into account the above-mentioned thesis, we consider it necessary to start our research on the issue of prevalence of burnout syndrome in healthcare workers in North and South America.

North and South America

The majority of scientific studies on the identification of prevalence of burnout syndrome in this region have been conducted in Canada, the United States of America, the Federative Republic of Brazil, and the Argentine Republic, etc.

A national survey of emergency medicine physicians (n=416) was conducted in Canada (all Provinces/Territories except Nunavut) to measure burnout syndrome by using MBI-HSS (MP) [18 p288-9]. 60% of respondents had high levels of burnout syndrome (either

high levels of EE/DP), 41% had high EE scores and 53% of participants had high levels of DP [18 p290]. Younger/female physicians were more likely to have higher levels of burnout syndrome than their colleagues; increasing age (older physicians) was associated with lower levels of EE and DP scores, whereas nonbinary or female gender was associated with higher levels of EE, while having children that live at home was associated in this study with lower levels of DP [18 p288]. Another cross-sectional study was performed in Canada (Vancouver) to assess the prevalence of burnout syndrome among internal medicine physicians (n=302) during the COVID-19 pandemic at 2 academic hospitals by using MBI-HSS (MP) [19]. Prevalence of burnout syndrome scored 68%, 63% for EE, 39% for DP, and 22% for reduced PA [19]. Furthermore, 21% of participants said that they had quit a position or were going to quit the profession; in addition, women were more likely to experience EE and low PA [19]. Overall, 2 out of 3 physicians of internal medicine suffered from burnout syndrome during the COVID-19 pandemic [19]. A cross-sectional study was performed in Canada (Ontario) among oncologists (n=418) to assess the prevalence of burnout syndrome and explore its workplace drivers [20 p60]. 73% of respondents had symptoms of burnout syndrome (high EE or/and DP scores), 64,9% faced high levels of EE, 47,2% experienced high levels of DP, and 27,2% reported low levels of PA (the MBI-HSS (MP) [20 p60-2]. Furthermore, significant drivers of burnout syndrome were feeling unappreciated on job, working in chaotic or hectic atmosphere, not being comfortable to talk about workplace stress to peers, and experiencing marginal or poor control over workload [20 p60].

A prospective cohort study of burnout syndrome, depression and medical errors was performed among pediatric resident physicians (n=388) in 7 pediatric medical centers of the United States and Canada [21 p1150]. 46% and 20% of respondents screened positive for burnout syndrome (MBI-HSS) and depression, respectively [21 p1150]. Overall, authors established that residents with screened-positive depression were 3 times more likely to commit harmful medical errors [21 p1150].

In the United States, 3898 anesthesiologists were surveyed to identify the risk factors and prevalence of burnout syndrome by using the MBI-HSS [22 p683]. 59,2% of respondents were at high risk for burnout syndrome, whereas 13,8% hit the criteria of burnout syndrome (all 3 burnout dimensions), EE, DP, and reduced PA were reported by 53,3%, 37,2%, and by 25,9% of participants, respectively [22 p683-7]. Working ≥ 40 h/week, perceived staffing shortage, and perceived lack of support in work life were associated with a high risk of burnout syndrome as independent factors [22 p683]. Furthermore, perceived lack of support in work life and at home were strongly associated with burnout [22 p683]. The aim of another study was to identify the prevalence of burnout syndrome among physicians of maternal-fetal medicine (n=538) and its associated factors in the United States [23]. The prevalence of burnout syndrome among respondents was 56,5%, whereas 45,4% of participants faced high levels of EE, 31,4% experienced high levels of DP, and 11% had low PA (MBI-HSS) [23]. Less career satisfaction, dissatisfaction with supervisor, after-work charting, self-perception burnout, and fewer years in practice were positively

associated with burnout syndrome [23]. Moreover, women had significantly higher scores of EE, DP, and lower PA rates than men [23].

A cross-sectional study was carried out to identify the prevalence of burnout syndrome and its associated factors in Latin America (15 countries) among 297 rheumatologists by using the MBI [24 p376; 25]. 56,6% of respondents had burnout syndrome in at least 1 dimension, 17,2% in 2 dimensions, and 7,1 in all 3 burnout dimensions, whereas 35,7% scored high levels of EE, 26,6% hit high levels of DP, and 25,6% experienced reduced PA; 72,1% of participants mentioned that they wanted to participate in program aimed to reduce burnout syndrome [24 p376; 25]. Burnout syndrome was associated with young age, low satisfaction, less happiness, long working hours, anxiety, higher PHQ-9, income, suicidal thoughts, low self-esteem and presence of comorbidities [24 p376; 25]. While another cross-sectional study that aimed to determine the prevalence of burnout syndrome, discrimination, and also mistreatment among 111 neurosurgical residents training during the COVID-19 pandemic in Latin America (Argentina, Brazil, Bolivia, Colombia, Chile, Ecuador, Costa Rica, Mexico, El Salvador, Uruguay, Paraguay, and Venezuela) showed: high levels of EE (44,1%), high levels of DP (39,6%), and reduced PA (68,5%) by using the aMBI; participants that experienced discrimination for positive test on COVID-19 reported the highest levels of DP and EE; experiencing discrimination was a risk factor for having high levels of EE, whereas older age representing a protective factor for high levels of DP; high DP scores were associated with seven-fold increased risk for presenting suicidal ideation [26 p393-9].

A cross-sectional study was performed in 6 public intensive care units in Brazil (city of Fortaleza) to investigate the prevalence of burnout syndrome among healthcare workers (n=265) during the COVID-19 pandemic [27 p553]. 48,6% of respondents hit high levels of EE, 29,4% reported high levels of DP, and 18,1% experienced low levels of PA (MBI-HSS), whereas the independent determinants of DP were age <33 years and female gender; increased workload was associated in this study with both DP and EE [27 p553]. Another cross-sectional study was performed in Brazil (São Paulo) among 304 oncology nursing professionals at Hospital de Câncer de Barretos to investigate the prevalence of burnout syndrome and its predictive factors by using the MBI-HSS [28 p341-2]. 42,1% of participants experienced high levels of EE, 11,2% had high levels of DP, and 11,8% reported low levels of PA, whereas 8,9% were determined as presenting burnout syndrome (high EE/high DP), and 1,3% had 3-dimensional burnout (high EE/high DP/low PA) [28 p343-4]. Furthermore, impatience with colleagues, melancholy, and single marital status were identified as predictors of burnout syndrome [28 p341].

An observational cross-sectional study was carried out in Argentina (Buenos Aires) during COVID-19 pandemic among physicians in a teaching hospital to assess the frequency of burnout syndrome, stress, depression, and anxiety [1 p317-8]. The prevalence of burnout syndrome was 73,5% (n=302; MBI), stress 93,7%, depression 21,9%, and anxiety 44% [1 p317-9]. Authors stated that emergency physicians and residents that had 24-hour shifts experienced higher levels of burnout syndrome, depression, and anxiety [1 p317].

A cross-sectional, prospective study was performed in Mexico to assess the prevalence of burnout syndrome among endoscopists and gastroenterologists (n=411) by using the MBI [29]. The overall prevalence of burnout syndrome was 26,3%, whereas 20,4% of respondents faced EE, 10,7% hit DP, and 3,6% experienced reduced PA [29]. In addition, such factors as work unrelated to medicine, performing endoscopic procedures, frequent reprimands from superiors, lack of support from coworkers upon complications, living in a large city, and work violence/harassment were associated with burnout syndrome [29].

Asia

The majority of scientific studies on the identification of the prevalence of burnout syndrome in this region have been conducted in China, Japan, India, Pakistan, Iran, Lebanon, Saudi Arabia, Turkey, Oman, Cyprus, Israel, Jordan, and Kazakhstan, etc.

A mixed-methods study was conducted in Southeast Asia to identify the impact of COVID-19 pandemic on clinical demands such as burnout syndrome and explore its risk factors among gastroenterologists [30 p3056]. Participating countries were the following: Singapore, Malaysia, Brunei, Philippines, Thailand, and Indonesia [30 p3059]. The pooled prevalence of burnout syndrome was 17,1% and it was lowest in Indonesia (5,2%), and highest in Malaysia 35,1%, whereas in other countries were the following scores: 11,9% in the Philippines, 20,5% in Thailand, 30,3% in Singapore, 33,3% in Brunei; EE was present among 12,3% to 50% of respondents, DP scored in 4,6% to 33,8%, PA scored in 25,1% to 52,9% (MBI-HSS) [30 p3060]. Public sector gastroenterologists, trainees, the presence of depression, stress at work because of the pandemic, and lack of awareness or/and access to mental health support services were independently associated with burnout syndrome [30 p3063].

Another cross-sectional study (multinational survey) was conducted in physicians (n=992) and nurses (n=3100) of Asian intensive care units to identify the prevalence of burnout syndrome and its associated factors [31 p2079]. Participating counties or region were the following: Japan, China, Hong Kong, Taiwan, United Arab Emirates, Saudi Arabia, India, Nepal, Bangladesh, Indonesia, Brunei, Philippines, Laos, Thailand, Singapore, and Vietnam [31 p2081]. High levels of burnout syndrome were reported in both physicians (50,3%) and nurses (52%), moreover, physicians and nurses scored high levels of EE in 39,9% and 41,4%, respectively, high levels of DP in 35,2% and 37,5%, respectively, and impaired PA of 54,7% and 52,8%, respectively (MBI-HSS) [31 p 2083]. Prevalence of burnout syndrome by country or by region scored: 34,6% in Bangladesh, 40,3% in the Philippines, 42,4% in Japan, 46,4% in Saudi Arabia, 47,4% in Thailand, 49,2% in Indonesia, 51,1% in Singapore, 55,4% in India, 61,2% in China, 61,5% in Hong Kong, 63,5% in Taiwan, [31 p2084] etc. Work-life imbalance and work demand were determined as the predominant risk factors for burnout syndrome [31 p2089].

A national cross-sectional study was performed to investigate burnout syndrome and well-being in Chinese medical professionals of different specialties (n=25120) [32]. 60,8% of the respondents experienced at least 1 symptom of burnout syndrome, while 11,2% faced all 3 symptoms of burnout, 35,5% had high levels of EE, 30,0%

had high levels of DP, and 38,4% reported low levels of PA (MBI-HSS) [32]. Scientists established that medical professionals who were male, working in tertiary hospitals, with shorter working years, and with such specialties as: psychiatry, emergency medicine, intensive care, internal medicine, pediatrics, and oncology had the highest risk of experiencing burnout symptoms [32]. In China, a cross-sectional study among general practitioners (n=3236) was conducted to examine the interrelations between professional identity, job satisfaction, burnout syndrome, and turnover intentions [33]. Respondents had medium or high levels of EE and DP (65,02% and 35,38%, respectively), and 62,05% of GPs faced reduced PA (MBI-HSS); 71,08% of participants expressed turnover intention [33]. Authors claimed that the effect of emotional exhaustion and depersonalization on turnover intention was mediated by job satisfaction, while the effect of emotional exhaustion on job satisfaction was moderated by professional identity [33]. Similar results were obtained in a cross-sectional multicenter study regarding the prevalence of burnout syndrome among intensivists (n=1813) from different provinces (except Tibet) in mainland China [34]. The prevalence of burnout syndrome was 82,1% and severe burnout faced 38,8% of respondents, high levels of EE scored 39,2%, high levels of DP hit 43,7%, and impaired PA faced 68,2%; mean scores of 3 dimensions of burnout syndrome were the following: EE was 24,14±10,90, DP was 9,69±5,70, and PA was 28,55±9,82 (MBI) [34]. Authors stated that income satisfaction, the number of children, and difficult treatment decisions were independently associated with burnout syndrome rates among critical care physicians [34].

A multicenter observational study was performed in Japan in physiotherapists (n=566) during the COVID-19 pandemic [35]. 17,5% of respondents hit the criteria for burnout (MBI-GS); furthermore, burnout syndrome was associated with a feeling of slight burden by infection control, the year of experience of physiotherapy, relaxation time, and staffing standards for physiotherapy that might be established in accordance with the number of beds [35]. Similar results were found out in another cross-sectional study among attending physicians (n=1061) of Japan that showed the prevalence (17,2%) of burnout syndrome (the MBI-GS) and its associated factors [36 p226]. Respondents with burnout syndrome had significantly fewer years of practice/experience as a physician, were (more likely) females, and worked more h/week [36 p226].

A cross-sectional study was conducted among physicians (n=87) that worked in tertiary care hospital in Pakistan (Karachi) to assess the mental impact and the prevalence of burnout syndrome during the COVID-19 pandemic [37 p2185]. Mean scores: for EE were 25,29±12,51, for DP were 16,13±5,63, and for PA were 33,40±7,03, whereas high levels of EE (54%), DP (77%), and low levels of PA (31%) were reported by participants (MBI-HSS (MP) [37 p2185-7].

The aim of another study was to evaluate the prevalence of burnout syndrome in healthcare workers (n=2026) of India during the COVID-19 pandemic by using the CBI [38 p664]. 44,6% of respondents faced personal burnout (mean± SD score: 49,72±18,68), 26,9% hit work-related burnout (mean± SD score: 39,69±20,43), and 52,8% suffered from pandemic-related (client-related) burnout (mean± SD score: 51,37±15,12) [38 p664-5].

Participants of age 21-30 years had higher levels of work-related and personal burnout, and female respondents had significantly higher chances of getting work-related and personal burnout [38 p 664]. Furthermore, doctors were 1,64 times, whereas staff support were five times more likely to suffer from pandemic-related burnout syndrome [38 p 664].

A cross-sectional study on the prevalence of burnout syndrome and its predictors was performed in the western region of Iran among primary health care (hereinafter - PHC) workers (n=524) by using the MBI [39]. 55,3% of respondents faced high levels of EE, 90,5% hit high levels of DP, and 98,9% experienced low levels of PA, in addition, 52,9% of participants suffered from high burnout (high EE, DP, and low PA scores) [39]. Furthermore, physicians, single, younger, and less experienced workers were more at risk to report high burnout [39].

In the City Cardiologist Centre of Almaty (Kazakhstan) the cross-sectional study on the prevalence of burnout syndrome was carried out among cardiologist medical personnel (n=259) by using the MBI-HSS (MP) [40]. High levels of EE, DP and reduced PA were reported by 32%, 52%, and 16% of physicians, and 26%, 45%, and 32% of nurses [40].

A cross-sectional study was carried out to investigate burnout syndrome and its correlates among Lebanese physicians (n=398) of different specialties by using the CBI [41]. Moderate (71,60%) and also high (19,1%) levels of burnout syndrome hit 90,7% of respondents, whereas 80,4% of them expressed personal, 75,63% faced work-related, and 69,9% of participants got client-related burnout [41]. Higher overall (total) burnout syndrome was associated with younger age, female gender, working in public hospitals, physician specialty, low income, insufficient sleeping hours, having a dependent child, extensive working hours, limited professional experience, and family members with comorbidities [41]. Moreover, good health, being married, history of COVID-19, financial well-being, previous pandemic experience, and altruism were associated with lower levels of burnout syndrome [41]. Similar results were found from another research on prevalence of burnout syndrome and its correlates among health care workers (n=1751) in Lebanon during the COVID-19 pandemic: moderate and high levels of personal (86,3%), work-related (79,2%), and client-related (83,3%) burnout (CBI) were detected among HCWs [42].

Cross-sectional research was performed to identify the prevalence of burnout syndrome and its determinants among physicians (n=150) of Family Medicine Department (King Abdul-Aziz Medical City) in Riyadh (Saudi Arabia) by using the MBI [43 p4624]. Scientists found high levels of EE and DP (21,3% and 38% respectively), and also high reduction of PA (27,3%), whereas being a staff physician, working more than eight h/day, with long years of practice, covering ER shifts, and being a military were associated with high burnout [43 p 4624-6]. Another cross-sectional study was carried out in Saudi Arabia among psychiatrists (n=101) to evaluate the prevalence of burnout syndrome, anxiety, depression, and stress during the COVID-19 pandemic [44]. 80,2% of participants suffered from burnout syndrome (high EE or/and DP; MBI-HSS), whereas 22,8% and 6,9% faced anxiety and depression, 10,9% hit stress [44]. Overall, more than

2/3 of psychiatrists in Saudi Arabia experienced burnout syndrome during the COVID-19 pandemic [44].

A national cross-sectional study was conducted in Turkey to identify the prevalence of burnout syndrome and its associated factors among attending general surgeons (n=615) by using the MBI-HSS (MP) [45]. The prevalence of burnout syndrome was 69,1% and severe burnout was 22% (high EE, DP, and low PA) [45]. 63,9% of respondents experienced high levels of EE, 47,8% faced high levels of DP, and 36,9% scored low levels of PA [45]. In addition, working in a research and training hospital or state hospital, working ≥ 60 h/week, and not often participation in social activities were the independent factors that were associated with burnout syndrome [45]. Furthermore, scientists established that over 2/3 of respondents suffered from burnout syndrome, and 1/5 of attending general surgeons were at a high risk of experiencing severe burnout syndrome [45].

A cross-sectional, analytical study was carried out to explore the prevalence of burnout syndrome and its risk factors among primary care physicians (n=190) in Oman (Muscat) [46 p205]. The prevalence of burnout syndrome was 6,3% (all 3 dimensions), whereas 17,8% of participants reported high levels of EE, 38,2% had high levels of DP, and 21,5% hit low PA (MBI-HSS) [46 p205]. Moreover, the most important burnout risk factor among primary care physicians was working more than 40 h/week [46 p 205].

A multi-center, cross-sectional study was carried out in Cyprus to identify the prevalence of burnout syndrome, anxiety, depression, and stress among health care professionals (n=381) during COVID-19 pandemic [47]. The prevalence of burnout syndrome (MBI), depression, stress, and anxiety among respondents were 12,3%, 15%, 18,11%, and 28,6% respectively [47]. Moreover, in parallel with the above-mentioned, several changes in healthcare workers' lives were present as: working longer hours, being separated from family and spending time in isolation [47].

Another research was performed in Israeli dental assistants (n=299) to identify the prevalence of burnout syndrome, work stress and its burnout-predicting factors [48]. High levels of burnout dimensions scored 26,4% for EE, 12% for DP, 45,8% for PA (MBI), and 18% of respondents reported very high to high levels of burnout syndrome [48]. Moreover, workload, income, and work hazards were determined as the most stressful workplace factors [48]. Whereas dentist-assistant relationship, patient type, workload, and salary were the main predictors of EE; patient suffering, years of practicing, dentist-assistant relationship, and work hazards were the main predictors of DP [48].

The aim of another cross-sectional study in Jordan was to determine the prevalence of burnout syndrome and its associated risk factors among resident physicians (n=481) of different specialties [49]. 77,5% of respondents experienced burnout syndrome, whereas mean \pm SD scores were the following: 63 ± 21 for personal burnout, 61 ± 18 for work-related, and 55 ± 23 for patient-related burnout (CBI) [49]. Moreover, psychological stress, longer working h/week, and OB/GYN residents were factors that were associated with higher burnout levels [49].

We consider it necessary to mention, that prevention of burnout syndrome in healthcare workers is of great

importance because this phenomenon can develop as a complication of performing a professional activity. Preventive measures of burnout in medical workers should include: timely monitoring of burnout syndrome manifestations, creating positive working relationships, learning resilience strategies, etc. (individual level), performing actions of reducing burnout risk, providing institutional resources, and also improving professional environment (organizational level) [50], etc.

Conclusions. Based on the conducted research, the following conclusions can be reached:

1. The research carried out to identify the prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022 found out the presence of burnout syndrome in healthcare workers ranging from 1,3% to 82,1%. Moreover, prevalence of burnout syndrome in healthcare workers in North and South America varied from 1,3% to 73,5%, whereas in Asia it varied from 5,2% to 82,1%. Factors that associated with burnout in healthcare workers in North and South America, and Asia were examined.

2. The majority of scientific studies on the identification of prevalence of burnout syndrome in healthcare workers from 2018 to 2022: a) in North and South America have been conducted in Canada, the United States of America, the Federative Republic of Brazil, and the Argentine Republic, etc., whereas b) in Asia they have been conducted in China, Japan, India, Pakistan, Iran, Lebanon, Saudi Arabia, Turkey, Oman, Cyprus, Israel, Jordan, and Kazakhstan, etc.

3. Intensivists, psychiatrists, resident physicians, oncologists, general surgeons, internal medicine physicians, and emergency medicine physicians are special categories of healthcare workers who are at a high risk of formation of burnout syndrome that may develop due to specific of professional activity.

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ПОШИРЕНІСТЬ СИНДРОМУ ПРОФЕСІЙНОГО ВИГОРАННЯ СЕРЕД МЕДИЧНИХ ПРАЦІВНИКІВ ПІВНІЧНОЇ ТА ПІВДЕННОЇ АМЕРИКИ Й АЗІЇ З 2018 ПО 2022 РОКИ

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Резюме. У статті розглядаються питання поширеності синдрому професійного вигорання (далі - СПВ) серед медичних працівників у Північній та Південній Америці й Азії з 2018 по 2022 роки. З цією метою було проаналізовано значну кількість наукових джерел, які стосуються теми дослідження.

Питання щодо поширеності СПВ серед медичних працівників у Північній та Південній Америці й Азії з 2018 по 2022 роки не були достатньо з'ясовані, тому, відповідно, потребують більш детального аналізу. У статтю включено праці науковців, які використовували МВІ та СВІ для визначення СПВ серед медичних працівників різних спеціальностей (зокрема, «Загальна практика – сімейна медицина»). У результаті проведеного дослідження щодо з'ясування поширеності СПВ серед медичних працівників у Північній та Південній Америці й Азії з 2018 по 2022 роки можна зробити висновки, що серед медичних працівників виявлено наявність СПВ у межах від 1,3% до 82,1%. Окрім того, поширеність СПВ серед медичних працівників у Північній та Південній Америці коливалася у межах від 1,3% до 73,5%, тоді як в Азії - від 5,2% до 82,1%. З'ясовано, що більшість наукових

досліджень щодо визначення поширеності СПВ серед медичних працівників з 2018 по 2022 роки були проведені у таких країнах Північної та Південної Америки, як: Канада, Сполучені Штати Америки, Федеративна Республіка Бразилія та Аргентинська Республіка тощо, тоді як серед країн Азії таких досліджень спостерігалось більше в Китаї, Японії, Індії, Пакистані, Ірані, Лівані, Саудівській Аравії, Туреччині, Омані, Кіпрі, Ізраїлі, Йорданії, Казахстані тощо. Також встановлено, що особливими категоріями

медичних працівників, які мають високий ризик формування СПВ, є лікарі-анестезіологи, лікарі фізичної та реабілітаційної медицини, клінічні ординатори, лікарі-онкологи, лікарі-хірурги, лікарі-терапевти та лікарі з медицини невідкладних станів.

Ключові слова: синдром професійного вигорання, медичний працівник, лікар, Північна та Південна Америка, Азія.

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