

## Article

# Prevalence and Factors Associated with Mental Health Problems among Essential and Nonessential Workers during the COVID-19 Pandemic, June 2021, in an Unstable and Developing Country: A Cross-Sectional Study

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**Abstract:** The two main goals of this research were to assess workers' mental health (anxiety, depression, and job burnout syndrome) and examine factors related to mental health burdens in two groups of workers. The study was conducted as an online cross-sectional study. The target population consists of workers in essential activities who worked during the pandemic (health, defense, trade, finance, and media), as well as a group of workers who were particularly impacted by the protection measures and either worked under a different regime or were unable to work (caterers, musicians). A questionnaire was constructed for the needs of this research and the scales for anxiety, depression, and burnout syndrome were used. In total, 42.2% of non-essential workers and 39.5% of essential workers reported anxiety symptoms, circa 20% of non-essential activity workers and essential activity workers reported depression, and 28.9% of non-essential activity workers and 33.7% of essential activity workers reported burnout. A significant association has been found between certain sociodemographic and health characteristics of respondents, as well as financial stress (worry about losing a job), social stress, media stress, and respondents' trust in competent authorities and COVID-19 prevention measures, and symptoms of anxiety, depression, and burnout syndrome. The findings of this study pointed to mental health issues in other activities and highlighted the need for and importance of examining mental health in the population of non-essential activities. It is indicative of significant points that can be investigated in the future for prevention.

**Keywords:** anxiety; depression; burnout; mental illness; coronavirus; employee



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## 1. Introduction

The COVID-19 pandemic is unprecedented in recent world history, both in terms of its rapid emergence and the global scope and consequences it has left behind. It caused a crisis that affected not only people's health and the health system but all forms of social functioning, including work, in a short period. Sets of measures to prevent and suppress infection were implemented all over the world, and life and work during the pandemic changed dramatically, quickly, and forcibly. With the new changes, as well as the current fear and concern for one's own and family members' lives and health, and the sense of hopelessness caused by uncertainty about the future course of life and work, it is unavoidable that the population will face a significant psychological burden [1,2]).

### 1.1. Literature Review

Previous research revealed that previous epidemics had a significant impact on the affected population's mental health [3]. As a result, *The Lancet Psychiatry* emphasized in June 2020 that research on the impact of the COVID-19 pandemic on mental health, with a special focus on vulnerable groups [4], was urgently needed, as did Rajkumar [5] a little later in the same year.

According to data obtained during the COVID-19 pandemic, higher levels of depression, anxiety, stress and burnout were reported [6,7] and especially in “essential” workers [8], e.g., healthcare workers [9]. In the literature there is evidence that those people working in nonessential activities, for example teachers, are prone to mental burden [10]. A significant number of works on the topic of mental health during the COVID-19 pandemic have been published thus far, but the majority of studies have been conducted in China [11–13], with a significantly smaller number of studies conducted in European countries [14], including the authors of the work from Germany highlighted [15]. Nonetheless, despite significant research, there is still a need for new knowledge [14]. Bauerle et al. pointed out that due to population differences, it is impossible to interpret and apply the results from China in European countries, and that additional research is unavoidable. Furthermore, the majority of studies were conducted on the population of health workers [16–18]; however, in a short publication in the journal *Psychiatry Research* [19], the authors highlighted the importance of assessing mental health and the health of other essential workers. Essential activities are those in which workers were required to work during the pandemic, exposing them to the risk of contracting COVID-19 and passing it on to their loved ones. However, there is conflicting evidence in the literature regarding which activities are considered essential [20]. In general, essential activities include health, trade, defense and security; information and communications; banking (finance); and transportation [21]. Data are scarce in the literature on the impact of the pandemic on the mental health of workers who were unable to work due to the implementation of prevention measures or who worked under a different regime.

Factors influencing mental health during the pandemic are widely researched in a wide range of samples. Considering the role of sociodemographic factors, results show that the female gender predicts high-level stress, anxiety and depression, and also higher depression was associated with a preoccupation with relationships [22]. Some studies have shown that the COVID-19 impact on mental health was more common in females in their fifth decade of life with preexisting comorbidities [10]. Besides sociodemographic factors (young age, female gender), during the quarantine, a low income, a fear of infection, and a lack of social support were also found as risk factors [23]. The research highlighted the need for strong social support for health workers in the time of the COVID-19 pandemic to protect their mental health [24]. In the general population, people with suspected infection and who have contact with patients with COVID-19 commonly have mental health symptoms [25]. Loss of income, history of psychiatric symptoms, social isolation, low quality of social relations and low quality of the information received were identified among the risk factors [26,27]. Furthermore, according to data, information overload about COVID-19 and social media overload were positively associated with anxiety (Yangyng). In contrast, another study found that exposure to information about COVID-19 had not contributed to stress levels [28]. Despite all of these data, lack of knowledge about factors associated with mental health outcomes in the working population, especially in non-essential activity workers, is lacking.

### 1.2. Aims

Keeping in mind the importance of examining workers' mental health, the absence of data on other work groups besides medical workers, and the lack of data from the Balkans, the goals of this research project are: (1) During the pandemic, assess workers' mental health (anxiety, depression, and job burnout syndrome) in both essential (health, defense, media, transportation, and trade) and non-essential activities (finance, state administration,

e.g., educators, restaurateurs, musicians, etc.) in the Republic of Srpska one year after the start of the pandemic, and determine the possibility of a difference between them. (2) Examine factors related to the mental health burdens of workers in essential and non-essential activities (socio-demographic characteristics, health characteristics of respondents and their family members, health, financial, social, and media stress, as well as respondents' trust in competent authorities) and the existence of differences between them. (3) Assess the national authorities' efforts to provide psychological support, as well as the respondents' need for such assistance.

## 2. Materials and Methods

This study was conducted as a cross-sectional study in the Republic of Srpska in two weeks, from 1 June to 15 June 2021. The target population consists of workers in essential activities who worked during the pandemic (health, defense, trade, finance, and media) as well as a group of workers who were particularly impacted by the protection measures and either worked under a different regime or were unable to work (caterers, musicians). The survey was created on the Google platform and distributed via social media to the intended workforce (Facebook, Twitter, and LinkedIn). The target groups' union representatives (health workers, internal affairs, trade, tourism, catering and service industries, media, and graphic artists) were notified in writing to distribute the questionnaire to their members via e-mail. Participants could complete the questionnaire using a variety of devices (computer, phone, tablet). Participants were also encouraged to share the survey with their colleagues. The inclusion criteria are that the respondents give their voluntary consent to participate in the research, that they are citizens of the Republic of Srpska, that they are over the age of 18, and that they were or are currently employed. The study was conducted voluntarily and anonymously, and the participants gave their permission to participate. To ensure data accuracy, the survey was designed to be accessed only once from a single IP address. The Ethics Committee of the Institute for Occupational and Sports Medicine of the Republic of Srpska granted permission for this study to be conducted.

Based on the review of the previous literature on the impact of the COVID-19 pandemic on mental health and the extraction of variables of interest, a questionnaire was constructed for the needs of this research. The questionnaire was reviewed by specialists in the fields of occupational medicine, epidemiology, public health, and psychiatry. A pilot survey of the questionnaire was conducted in the worker population before implementation. The questionnaire consists of standard socio-demographic data (gender, country and place of residence, age, marital status, parentage, vocational education), data on employment and workplace (employment, employment activity, workplace), data on the health status of the respondent and family members, COVID-19 status, financial (job loss, income reduction), social (changes in daily habits), and media stressors during the COVID-19 pandemic. The questionnaire assessed citizens' trust in the competent authorities, as well as their self-assessment of the risk of infection. It also includes questions about psychological support received thus far and workers' opinions on the need for it in the future. The most commonly used scales for assessing anxiety (GAD-7), depression (PHQ-2), and burnout syndrome at work (CBI) were used to assess the mental state of workers. The GAD-7 scale is a scale for self-assessment of the degree of anxiety and consists of seven statements that express personal attitudes in the last two weeks, and the answers are arranged in the form of a four-point Likert scale (0, not at all; 1, a few days; 2, almost every other day; 3, almost every day). In the general population, internal consistency was  $\alpha = 0.89$  [29]. The scale was validated and translated into Serbian and has shown that the GAD-7 questionnaire is a viable measure of generalized anxiety disorder [30]. A score of 5 or above indicates the presence of anxiety, which is graded as mild (5–9), moderate (10–14), or severe (15 and above) [15]. The PHQ-2 questionnaire is a component of the PHQ-9 questionnaire; it consists of two items that measure the degree of depression patients have felt in the last two weeks. It is used as a screening tool for depression, e.g., in a "first-step" approach. The answers were set in the form of a four-point Likert scale (0, never; 1, several days; 2, almost every other day; 3,

almost every day), and a score above 3 is indicative of a depressive disorder. The PHQ was translated and validated into the Serbian language. The results have shown good reliability of the whole scale ( $\omega = 0.89$ ) [31]. The Copenhagen Burnout Inventory (CBI) is a 19-item questionnaire that measures burnout syndrome in three domains: personal burnout (PB) (6 items: questions 1–6), work-related burnout (WRB) (7 items: questions 7–13), and client-related burnout (CRB) (6 items: questions 14–19). Responses to the CBI are given on a five-point Likert scale, ranging from 0 to 4, where 0 means never and 4 means always. The answers were then transformed into percentages of time: 0 = 0%, 1 = 25%, 2 = 50%, 3 = 75%, and 4 = 100%, according to the instructions of the questionnaire authors. The score on each scale was calculated as the average percentage of the question scores on that scale, and the total score was calculated as the average score of the three scales together. The CBI was translated and validated into the Serbian language. The Cronbach's alpha for the entire scale was 0.936, the Cronbach's alpha for the personal burnout scale was 0.906, and the Cronbach's alpha for the work-related burnout scale was 0.765, while the Cronbach's alpha for the client-related burnout scale was 0.901 [32,33].

The survey had 235 respondents. One participant refused to participate in the study, and four others did not respond to the consent question at all, so their responses were excluded from further data analysis. In addition, 8 respondents stated that they did not live in the Republic of Srpska and 1 student participated in the study but was later excluded. Some of the respondents did not fill out the standardized GAD-7, PHQ-2, and CHI scales, and they were excluded from the research. A total of 35 respondents (14.89%) were excluded, and the final sample included 200 respondents. According to the Republic Institute for Statistics data [34], the number of employees in the Republic of Srpska in 2021 was 279,030, and the sample included less than 1% of employees.

### *Statistical Analysis*

Descriptive and inferential statistical methods were used in this work. Among the methods of descriptive statistics, measures of central tendency (arithmetic mean and median), measures of variability (standard deviation), and relative numbers were used. The normality of the distribution was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. Differences in the distribution of independent variables between different categories of outcome variables were tested using the Student t-test or the Mann–Whitney test, and for variables with multiple modalities, the ANOVA or Kruskal–Wallis test was applied, depending on the normality of the distribution. The Pearson chi-square test was used to measure the difference in the distribution of categorical variables. The questionnaires GAD-7, PH-2, and CBI (with its three scales, PB, WRB, and CRB) were used as outcome variables. As independent variables, we used sociodemographic data (gender, place of residence, age, marital status, parentage), work characteristics (employment, employment activity, workplace), health (data on the respondent's and family members' health status, COVID-19 status, self-assessment for the risk of infection), financial burdens (job loss, income reduction), social stress (reduction in contact, changes in daily habits), and media stressors (monitored information duplication). Hierarchical regression was used to evaluate the predictive value of independent variables in blocks. The results are presented tabularly and graphically. Probabilities are marked in the tables with \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$  and that  $p$  values are given. Statistical data analysis was performed using IBM SPSS Statistics 25 software.

## **3. Results**

### *3.1. Characteristics of the Respondents*

A total of 200 workers from the Republic of Srpska participated in the survey, but some of the respondents (about 24 or 12%) did not answer about the workplace or activity in which they were employed, and they were excluded from further analyses. The total sample included 176 employees, of whom 90 (51.1%) were employed in non-essential activities, i.e., activities that did not work during the epidemic or worked under a changed regime (reduced working

hours, working from home, etc.), while 86 (48.9%) workers worked in essential activities (health, defense, and media). Female workers (>60%), those aged up to 45 (>80%), the urban population (>80%), and the highly educated (>50%) participated in the research more often. Workers in non-essential and essential activities were similar in terms of sociodemographic and health characteristics ( $p > 0.05$ ). The sociodemographic and health characteristics of the examined working population of the Republic of Srpska are shown in Table 1.

**Table 1.** Sociodemographic and health characteristics of the examined working population of the Republic of Srpska.

Sociodemographic and Health Characteristics			
	Nonessential Activities N = 90 (51.1%)	Essential Activities N = 86 (48.9%)	
	N (%)	N (%)	<i>p</i>
Socodemographic characteristics			
Gender			
Male	35 (38.9)	29 (33.7)	0.0532
Female	55 (61.1)	57 (66.3)	
Residence			
Urban	77 (85.6)	75 (87.2)	0.461
Rural	13 (14.4)	11 (12.8)	
Age (years)			
18–24	10 (11.1)	3 (3.5)	0.170
25–34	29 (32.2)	32 (37.2)	
35–44	38 (42.2)	42 (48.8)	
45 and higher	13 (14.5)	9 (10.5)	
Marital status			
Married/extramarital union	59 (65.6)	60 (69.8)	0.379
Divorced/separated	6 (6.7)	2 (2.3)	
Single	25 (27.8)	24 (27.9)	
Parenting			
Yes	52 (57.8)	49 (57.0)	0.518
No	38 (42.2)	37 (43.0)	
Household			
Alone	7 (7.8)	6 (7.0)	0.534
With family	83 (92.2)	80 (93.0)	
Professional qualifications			
Unqualified/ /Primary school	2 (2.2)	0	0.585
Secondary school	26 (29.9)	25 (29.1)	
Faculty	48 (53.3)	47 (54.7)	
Mr/Dr sci	14 (15.6)	14 (16.3)	
Employee status			
Unemployed before COVID-19	4 (4.4)	5 (5.8)	0.914
Dismissal from work because of COVID-19	5 (5.6)	5 (5.8)	
Employee	81 (90.0)	76 (88.4)	
Health characteristics			
Personal health			
Have somatic/psychiatric disease	11 (12.2)	7 (8.1)	0.459
Healthy	79 (87.8)	79 (1.9)	
Family health			
Have somatic/psychiatric disease	13 (14.4)	9 (10.5)	0.285
Healthy	77 (85.6)	77 (89.5)	
Personal COVID-19 status			
Positive	46 (51.12)	47 (54.7)	0.375
Negative	44 (48.9)	39 (45.3)	
Family COVID-19 status			
Positive	52 (57.8)	54 (62.8)	0.682
Negative	38 (42.2)	32 (37.2)	



An amount of 14.4% of workers in non-essential activities and 8.1% of workers in essential activities had one of their household members out of work. Workers in non-essential activities reported that 22.2% were mostly concerned and 5.6% were very concerned about possible job loss during the COVID-19 epidemic. In contrast, only 12.8% and 1.2% of workers in essential activities reported that they were mostly concerned and very concerned about possible job loss during COVID-19, respectively. Based on the self-assessment of the risk of infection, workers in essential and non-essential activities assessed their risk for infection the next month similarly (0.05). More than 60% of workers essential and nonessential activities reported that they reduced social contact. A similar proportion of workers in essential and nonessential activities reported media stress (circa 12%). More than 50% of workers in essential and 70% of workers in non-essential activities reported that they did not have confidence in the competent authorities and measures to prevent COVID-19. Data on health, financial, social, and media stress, trust in competent authorities and epidemiological measures of the examined working population of the Republic of Srpska are shown in Table 2.

Only 10.5% of workers in essential activities and 14.4% of workers in nonessential activities received psychological support or help during the pandemic. There are no statistically significant differences in receiving psychological support between workers in essential and nonessential activities ( $p > 0.05$ ). More than half of the workers in both groups reported that psychological help would be useful in future. Data on psychological support are presented in Table 3.

**Table 2.** Data on health, financial, social, and media stress, trust in competent authorities and epidemiological measures.

Data on Health, Financial, Social, and Media Stress, Trust in Competent Authorities and Epidemiologic Measures			
	Nonessential Activities N = 90 (51.1%)	Essential Activities N = 86 (48.9%)	
	N (%)	N (%)	<i>p</i>
Health stress			
Risk for infection of the next month (%)			
0—no risk	26 (28.9)	17 (19.8)	0.173
10–40	32 (35.6)	40 (46.5)	
50—Moderete risk	29 (32.2)	23 (26.7)	
60–90	2 (2.2)	6 (7.0)	
100—High risk	1 (1.1)	0	
Finance stress			
Job loss in household because of COVID-19			
Yes	13 (14.4)	7 (8.1)	0.140
No	77 (85.6)	79 (91.9)	
Decrease in income because of COVID-19			
<25%	11 (12.2)	6 (7.0)	0.068
25–50%	20 (22.2)	8 (9.3)	
>50%	5 (5.6)	5 (5.8)	
Not yet, but believe it will	6 (6.7)	4 (4.7)	
They are not and don't believe it will	10 (11.1)	8 (9.3)	
No	38 (42.2)	55 (64.0)	
Worry about job loss because of COVID-19			
Don't worry at all	13 (14.4)	26 (30.2)	0.019 *
Worry a little	37 (41.1)	40 (46.5)	
Neutral	15 (16.7)	8 (9.3)	
Sometimes worry	20 (22.2)	11 (12.8)	
Very often worry	5 (5.6)	1 (1.2)	

Table 2. Cont.

Data on Health, Financial, Social, and Media Stress, Trust in Competent Authorities and Epidemiologic Measures			
	Nonessential Activities N = 90 (51.1%)	Essential Activities N = 86 (48.9%)	
	N (%)	N (%)	<i>p</i>
Social stress			
Reducing social contact because of COVID-19			
Yes	58 (64.4)	58 (67.4)	0.398
No	32 (35.6)	28 (32.6)	
Disruption of daily routines because of COVID-19			
Never	5 (5.6)	5 (5.8)	0.867
Rarely	13 (14.4)	16 (18.6)	
Sometimes	45 (50.0)	43 (50.0)	
Mostly	24 (26.7)	18 (20.9)	
All the time	3 (3.3)	4 (4.7)	
Media stress			
Information about COVID-19			
Never	24 (26.7)	20 (23.3)	0.557
Rarely	34 (37.8)	27 (31.4)	
Sometimes	21 (23.3)	28 (32.6)	
All the time	11 (12.2)	11 (12.8)	
Trust in authorities			
Trust in authorities and epidemiologic measures			
Yes	24 (26.7)	35 (40.7)	0.136
No	63 (70.0)	48 (55.8)	
Other (not sure)	3 (3.3)	3 (3.5)	

\*  $p < 0.05$ .

Table 3. Data on psychological support.

Data on Psychological Support			
	Nonessential Activities N = 90 (51.1%)	Essential Activities N = 86 (48.9%)	
	N (%)	N (%)	<i>p</i>
Psychological support			
Do you have psychological support or help during the pandemic?			
Yes	13 (14.4)	9 (10.5)	0.285
No	77 (85.6)	77 (89.5)	
Do you think psychological help would be useful in future?			
Yes	51 (56.7)	54 (62.8)	0.385
No	39 (43.3)	31 (36.0)	
Not sure	0	1 (1.2)	
What kind of psychological support would be useful?			
Professional literature	10 (19.2)	14 (26.4)	0.777
Personal psychotherapy	28 (53.8)	27 (50.9)	
Group psychotherapy	14 (27.0)	12 (22.6)	

### 3.2. Mental Health

An amount of 42.2% of non-essential workers and 39.5% of essential workers reported anxiety symptoms. Depression symptoms were reported by 20% of workers in both activities, and burnout syndrome was reported by 28.9% of non-essential activity workers and 33.7% of essential activity workers. However, no statistically significant difference in the frequency of anxiety, depression, and burnout syndrome symptoms was found concerning the worker's activity ( $p > 0.05$ ). Frequency of anxiety, depression and burnout syndrome are presented in Table 4.

**Table 4.** Frequency of anxiety, depression, and burnout syndrome.

Anxiety, Depression, and Burnout Syndrome			
	Nonessential Activities N = 90 (51.1%)	Essential Activities N = 86 (48.9%)	
	N (%)	N (%)	<i>p</i>
Anxiety (GAD-7)			
No	52 (57.8)	52 (60.5)	0.634
Yes	38 (42.2)	34 (39.5)	
• Low	17 (18.9)	15 (17.4)	0.634
• Moderate	17 (18.9)	12 (14.0)	
• High	4 (4.4)	7 (8.1)	
Depression (PHQ-2)			
No	78 (80.0)	69 (80.2)	0.560
Yes	18 (20.0)	17 (19.8)	
Burnout syndrome (CBI)			
Total burnout			
No	64 (71.1)	57 (66.3)	0.299
Yes	26 (28.9)	29 (33.7)	
• Personal burnout			0.512
No	63 (70.0)	61 (70.9)	
Yes	27 (30.0)	25 (29.1)	
• Job burnout			0.477
No	60 (66.7)	56 (62.1)	
Yes	30 (33.3)	30 (34.9)	
• Client burnout			0.404
No	56 (62.2)	51 (59.3)	
Yes	34 (37.8)	35 (40.7)	

Contrary to sociodemographic and health characteristics that cannot be influenced, the importance of other characteristics (health stress, financial, social and media stress, as well as trust in competent authorities and epidemiologic measures) opens the door for interventions that could be useful in future. Furthermore, hierarchical multiple regression in six blocks was used to investigate the relationship and contribution of the investigated group (sociodemographic and health characteristics, health stress, financial stress, social stress, media stress, and workers' trust in competent authorities) to the variance of anxiety, depression, and burnout syndrome in essential and non-essential work activities. Preliminary analyses demonstrated that the assumptions of normality, linearity, multicollinearity and variance homogeneity were not violated. Household, work engagement, personal health, and family health were transformed into dichotomous variables in the analysis, and COVID-19 variable information was divided into three groups. (1—Never, 2—Occasionally + Rarely, and 3—Frequently + Constantly or Always). COVID-19 status was also converted into a binary variable (positive: persons who reported that they had symptoms and were



not tested, persons who had symptoms and this was confirmed by a test, and persons who had symptoms but the test was negative; negative: persons who did not have symptoms and who did not have symptoms but were tested due to contact, and the test was negative).

Results of hierarchical linear regression showed that variable gender and job loss in the household were statistically significant factors associated with anxiety symptoms in workers of nonessential activities. Variable information about COVID-19 was a statistically significant factor associated with anxiety symptoms in workers in essential activities. Variable personal health was a statistically significant factor associated with anxiety symptoms in both groups of workers. Results of hierarchical linear regression-anxiety are presented in Table 5.

Results of the hierarchical linear regression showed that variable gender and job loss in the household were statistically significant factors associated with symptoms of depression in workers of nonessential activities. Variable trust in authorities was a statistically significant factor associated with symptoms of depression in workers of essential activities. Variable personal health was a statistically significant factor associated with symptoms of depression in both groups of workers. Results of hierarchical linear regression-depression are presented in Table 6.

Results of the hierarchical linear regression showed that social stress was a statistically significant factor associated with symptoms of burnout syndrome in workers of nonessential activities. Media stress was a statistically significant factor associated with symptoms of burnout syndrome in workers of essential activities. Variable personal health was a statistically significant factor associated with symptoms of burnout syndrome in both groups of workers. Results of hierarchical linear regression-burnout syndrome are presented in Table 7.

**Table 5.** Hierarchical linear regression—anxiety.

Variable	Anxiety											
	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6	
	NE	E	NE	E	NE	E	NE	E	NE	E	NE	E
Gender	0.322 **	0.176	0.306 **	0.046	0.220 *	0.051	0.237	0.054	0.237 *	0.039	0.244 *	0.119
Residence	0.046	−0.201	0.010	−0.189	0.053	−0.229	0.031	−0.238	0.031	−0.194	0.041	−0.165
Age	−0.041	0.060	−0.094	0.060	0.049	−0.069	0.041	−0.081	0.041	−0.110	0.043	−0.089
Marital status	0.015	−0.255	−0.086	−0.193	−0.180	0.063	−0.172	0.068	−0.172	−0.020	−0.146	−0.079
Parenting	0.020	0.346	0.163	0.301	0.177	0.143	0.179	0.141	0.179	0.248	0.163	0.296
Household	−0.033	−0.042	−0.122	0.122	−0.122	0.109	−0.107	0.076	−0.107	0.027	−0.098	0.021
Professional qualification	−0.027	0.001	−0.007	−0.117	0.045	0.016	0.039	−0.020	0.039	−0.021	0.036	−0.030
Personal health			0.416 ***	0.405 **	0.292 **	0.441 **	0.292 **	0.439 **	0.292 **	0.435 **	0.287 **	0.386 **
Family health			0.270 **	0.112	0.091	0.085	0.086	0.096	0.086	0.097	0.104	0.081
Personal COVID-19 status			0.008	−0.083	−0.044	0.077	−0.038	0.052	−0.038	−0.020	−0.025	−0.002
Family COVID-19 status			0.025	−0.040	0.034	0.138	0.039	0.110	0.038	0.055	0.049	−0.040
Risk of infection COVID-19			−0.060	0.101	−0.074	−0.021	−0.101	−0.026	−0.101	−0.033	−0.105	0.101
Employment					−0.017	−0.315	−0.018	−0.323	−0.018	−0.285	−0.026	−0.285
Job loss in household					0.273 *	−0.031	0.251 *	−0.007	0.251 *	0.079	0.243	−0.120
Decrease in income					0.128	−0.006	0.102	−0.024	0.102	−0.116	0.103	0.297
Worry about job loss					0.119	0.293	0.094	0.278	0.093	0.317	0.075	0.021
Reducing social contacts							−0.053	0.007	−0.053	−0.048	−0.026	−0.082
Disruption of daily routines							0.158	0.110	0.158	0.082	0.135	0.131
Information about COVID-19									0.002	0.275	0.011	0.410 *
Trust in authorities											0.104	0.277
R <sup>2</sup>	10.2	14.1	34.7 ***	29.0	42.1 ***	44.3 *	44.2 ***	45.2	44.2 ***	49.00 *	45.0 ***	54.3 *
ΔR <sup>2</sup>			22.4	15.0	7.5	15.3	2.0	0.8	0	4.6	0.9	4.6

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

**Table 6.** Hierarchical linear regression—depression.

Variable	Depression											
	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6	
	NE	E	NE	E	NE	E	NE	E	NE	E	NE	E
Gender	0.249 *	0.102 *	0.237 *	0.026	0.149	0.005	0.167	−0.013	0.166	−0.019	0.178	0.071
Residence	−0.009	−0.303	−0.049	−0.380 *	−0.017	−0.405 *	−0.044	−0.397 *	−0.049	−0.378 *	−0.034	−0.346
Age	−0.060	0.123	−0.109	0.128	0.029	0.074	0.019	0.076	0.029	0.064	0.033	0.087
Marital status	−0.014	−0.288	−0.091	−0.147	−0.153	−0.033	−0.140	−0.029	−0.133	−0.067	−0.093	−0.133
Parenting	0.050	0.279	0.135	0.184	0.122	0.109	0.118	0.095	0.106	0.140	0.082	0.195
Household	0.097	0.085	0.179	0.156	−0.184	0.216	−0.167	0.217	−0.171	0.187	−0.157	0.181
Professional qualification	−0.075	−0.087	−0.051	−0.087	−0.011	0.023	−0.017	0.034	−0.019	0.033	−0.025	0.321
Personal health			0.448 ***	0.277	0.324 **	0.306 *	0.322 **	0.310 *	0.322 **	0.309 *	0.315 **	0.024
Family health			0.200	0.044	0.008	0.012	0.002	0.024	−0.002	0.033	0.026	0.254
Personal COVID-19 status			−0.062	0.176	−0.109	0.291	−0.105	0.306	−0.108	0.275	−0.088	0.015
Family COVID-19 status			0.049	−0.014	0.082	0.092	0.087	0.111	0.097	0.087	0.113	0.023
Risk of infection COVID-19			−0.081	0.135	−0.082	0.078	−0.114	0.073	−0.115	0.070	−0.121	0.062
Employment					0.002	0.314	0.024	−0.300	0.023	−0.283	0.011	0.007
Job loss in household					0.367 **	−0.037	0.341 **	−0.054	0.343 **	−0.018	0.330 **	−0.038
Decrease in income					0.031	0.009	0.001	0.006	−0.007	−0.034	−0.006	0.033
Worry about job loss					0.127	0.014	0.097	0.038	0.103	0.055	0.075	−0.283
Reducing social contacts							−0.049	0.052	−0.045	0.028	−0.003	−0.010
Disruption of daily routines							0.184	−0.091	0.188	−0.103	0.153	−0.048
Information about COVID-19									−0.040	0.118	−0.025	0.269
Trust in authorities											0.159	0.312
R <sup>2</sup>	7.4	18.8	32.8 ***	35.5	41.7 ***	39.8	44.4 ***	40.3	44.5 ***	41.2 *	46.5 ***	47.0
ΔR <sup>2</sup>			25.4	13.7	8.9	7.3	2.7	0.5	0.1	0.8	2.0	5.8

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

**Table 7.** Hierarchical linear regression—burnout syndrome.

Variable	Burnout Syndrome											
	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6	
	NE	E	NE	E	NE	E	NE	E	NE	E	NE	E
Gender	0.055	0.122	0.040	−0.039	0.011	−0.032	0.074	−0.017	0.072	−0.035	0.074	0.016
Residence	−0.125	−0.056	−0.159	−0.079	−0.162	−0.119	−0.185	−0.119	−0.193	−0.068	−0.190	−0.050
Age	115	0.102	0.047	0.098	0.72	0.002	0.092	0.010	0.107	−0.024	0.108	−0.011
Marital status	−0.109	−0.276	−0.121	−0.229	−0.111	−0.031	−0.172	−0.039	−0.162	−0.142	−0.154	−0.179
Parenting	0.108	0.170	0.098	0.121	0.062	−0.012	0.181	0.002	0.164	0.125	0.159	0.156
Household	0.79	−0.042	−0.082	0.145	−0.082	0.097	−0.038	0.107	−0.045	0.027	−0.042	0.023
Professional qualification	−0.044	0.03	0.049	−0.124	0.047	−0.050	0.037	−0.031	0.033	−0.033	0.032	−0.038
Personal health			0.266 *	0.519	0.240	0.549 **	0.269 *	0.548 **	0.269 *	0.544 **	0.267 *	0.513 **
Family health			0.036	0.028	−0.032	0.008	−0.032	0.004	−0.037	0.028	−0.031	0.018
Personal COVID-19 status			−0.158	−0.147	−0.165	−0.041	−0.112	−0.034	−0.118	−0.118	−0.114	−0.093
Family COVID-19 status			−0.002	−0.101	0.032	0.031	0.073	0.037	0.087	−0.028	0.091	−0.063
Risk of infection COVID-19			0.063	0.100	0.071	0.011	0.024	0.019	0.024	0.012	0.022	0.007
Employment					0.069	−0.191	0.035	−0.197	0.034	0.169	0.032	−0.152
Job loss in household					0.165	0.073	0.154	0.069	0.157	−0.145	0.155	
Decrease in income					−0.076	−0.055	−0.134	−0.038	−0.147	0.328	−0.146	0.183
Worry about job loss					0.081	0.291	0.054	0.282	0.062	−0.152	0.056	−0.148
Reducing social contacts							−0.352 **	−0.053	−0.347 **	−0.117	−0.338 **	−0.138
Disruption of daily routines							0.260 *	−0.006	0.267 *	−0.038	0.259 *	−0.008
Information about COVID-19									−0.059	0.320	0.056	0.405 *
Trust in authorities											0.034	0.175
R <sup>2</sup>	5.0	5.8	14.3	27.8	16.4	36.1	28.9	36.3	29.2	42.5	29.3	44.3
ΔR <sup>2</sup>			9.3	22.0	2.1	8.3	12.6	0.2	0.3	6.2	0.1	1.8

\*  $p < 0.05$ ; \*\*  $p < 0.01$ .

#### 4. Discussion

According to our data, this is the first study in our area and beyond that addresses the mental health problems of workers in essential and non-essential activities during the pandemic, as well as factors related to mental burdens and the problem of psychological support and vaccination in the Republic of Srpska for the aforementioned groups of workers. Only 200 workers from the Republic of Srpska took part in the study, which according to data from the Republic of Srpska's Statistical Office [34] represents less than 1% of the working population. Representatives of the unions for the examined essential and non-essential activities were invited in writing to participate in the research, but not a single union responded. Workers' low turnout, combined with the unions' lack of reaction, speaks to the working population's likely great distress. Given the uncertainty of the future, it is possible that they were preoccupied with solving the problem of existence and thus did not participate in the research. This assumption is supported by the literature data, which show that the pandemic had a disproportionately greater impact on unstable and developing countries [35]. The study population included a larger proportion of females. Earlier studies have indicated that women are more inclined to respond to emotional stress and we should keep that in mind when interpreting the results. Furthermore, according to the data, the urban population and workers under the age of 45 made up more than 80% of the respondents in both questioned industries, most likely because the research was conducted online, i.e., because of better internet availability and greater IT knowledge. The fact that respondents in both types of activities had a higher professional qualification, with more than 60% having a Master's, PhD, or similar degree, confirms the previously stated assumption. One year after the pandemic, the results of the research showed that there was no difference in employment, i.e., in job loss due to the COVID-19 pandemic among the examined activities, but respondents from non-essential activities more often expressed concern about the possible loss of work in the specified period. We did not find data from other countries to compare with these results, while research from the general population showed a moderate level of worry in the studied populations during the pandemic, and the worry was mainly related to infection, death of loved ones, isolation, and discrimination [36–38]. Contrary to expectations, no statistically significant difference in health, social, or media stress was found between workers of essential and non-essential activities ( $p > 0.05$ ), pointing to unjustified neglect and lack of research among the population of workers of non-essential activities during the COVID-19 pandemic.

The first goal of this research was to assess the mental status of workers in essential and non-essential activities. Anxiety symptoms were experienced by 42.2% of non-essential workers and 39.5% of essential workers. Symptoms of depression were reported by 20% of workers in non-essential activities and 19.8% of workers in essential activities, and burnout syndrome at work was reported by 28.9% of workers in non-essential activities and 33.7% of workers in essential activities. According to the results of this research, the prevalence of anxiety symptoms in the Republic of Srpska is significantly higher compared to the results from the literature, in which the prevalence of anxiety and depression symptoms was 19% and 20.5%, respectively, [14], 28% and 22%, respectively [39], and 33% and 30%, respectively [40]. These findings indicate that the pandemic inevitably had far-reaching consequences in less developed and unstable countries, i.e., countries with lower incomes and greater instability, as the authors predicted [35]. Given that, even before the pandemic, mental illnesses were highlighted in the literature as one of the most significant global disease burdens and leading causes of disability [41], it is clear that the issue of mental health is now critical for society and the country as the pandemic stabilizes.

The findings of this study revealed that healthcare workers reported burnout syndrome more frequently (31.7%), which is consistent with the findings of other studies (29%), which the authors explained by point to the nature of the work of healthcare workers at the time: intense workloads at work (extended shifts, increased volume of patients, etc.) [42]. There was no statistically significant difference in mental status between workers performing essential and non-essential tasks. These findings suggest that the mental health

of workers engaged in non-essential activities is also jeopardized, and a smaller number of studies back up this claim [43,44]. Data in the literature show that workers who work from home are more likely to experience negative emotions and that working from home is a risk factor for mental health [45], which is supported to some extent by the findings of this study. Furthermore, the mental health of workers in non-essential activities is neglected in the research literature [46], so the findings of this study pointed to mental health issues in other activities and highlighted the need for and importance of examining mental health in the population of non-essential activities.

The second goal of this study was to look into a variety of factors related to mental burdens (sociodemographic characteristics, health characteristics of respondents and family members, health, financial, social, and media stress, and respondents' trust in competent authorities). Hierarchical linear regression revealed a statistically significant association between certain sociodemographic and health characteristics of respondents, as well as financial stress (worry about losing a job), social stress, media stress, and respondents' trust in competent authorities and COVID-19 prevention measures, and symptoms of anxiety, depression, and burnout syndrome at work. The above findings are consistent with the findings of other studies, which show that financial stress (low income, job loss, income reduction) and health stress (presence of other physical diseases) have a significant impact on the mental health of the working population during the pandemic [42,47]. We cannot influence socio-demographic, health, and financial characteristics; however, the results showed an insight into information about COVID-19, which is consistent with the findings of other studies [48,49], and we can use this as a key point in the prevention of mental burdens in future crises.

The next goal was to determine the availability and need for psychological support in the Republic of Srpska. Only 11.5% of respondents stated that they had some type of psychological help available more than a year after the pandemic began, even though the literature emphasizes that the problem of preserving mental health has a special significance in pandemic conditions [50]. Many countries have developed various systems for increasing resources and preserving mental health [47] in the form of digital support, recommendations, and guides, and it is unavoidable that in the coming period we should move toward forming national strategies for preserving the mental health of the working population, which will allow society and states to be insured against future crises.

The findings demonstrated that a lack of confidence in the appropriate authorities persisted in the Republic of Srpska a year after the pandemic. More than a half of workers in essential activities and 70% of workers in non-essential activities reported a lack of trust in the competent authorities and COVID-19 prevention measures. Based on these findings, it is possible to conclude that the Republic of Srpska's population, in addition to the need for future health education, must also work to increase public trust in the competent authorities to be better prepared for potential new crises.

The findings of this study should be interpreted in light of the limitations, particularly the study's design (cross-sectional), which prevents the formation of cause-and-effect relationships. Future research should be the follow-up to allow for the formation of causality. One of the limitations is that we used an online questionnaire to collect data, so the participants were only those who had online access. Future research might consider the use of traditional methods (face-to-face). We used self-reported data and in future research we should collect data using other methods (semi-structured interviews, qualitative approaches). It should also be noted that the sample is not representative of the Republic of Srpska's working population. Future similar studies should increase the sample to verify the results obtained in our research and to be able to generalize the data. The lower participation rates of men, people from rural areas, less educated people, and older people may have influenced the study's findings. Moreover, future studies should attempt to collect a larger number of participants in each category to make a statistically representative comparison. In addition, this study was conducted in the part of Bosnia and Herzegovina (Republic of Srpska) and this is limited to this context only. In future, we need to plan



nationwide and multicentric studies. Finally, in future studies, we need to assess more variables such as personal traits, emotional intelligence and similar characteristics that could affect mental health outcomes.

However, this is the first study to address the concurrent problem of mental health for essential and non-essential activities in developing countries, making it a significant contribution to the scientific literature and opening up new avenues for future research. It also included a large number of potential mental burden factors (socio-demographic, work, health characteristics of respondents, health, financial, media, and social stress), and it is indicative of significant points that can be investigated in the future for prevention. The research instruments were translated and validated.

## 5. Conclusions

The prevalence of anxiety symptoms in the Republic of Srpska was higher, compared to other studies. Anxiety symptoms were reported in 42.2% of non-essential workers and 39.5% of essential workers, and other studies reported circa 19–33% anxiety symptoms [14,39,40]. These findings could indicate similar conclusions as other studies, that the pandemic had far-reaching consequences in less developed and unstable countries [35]. Furthermore, mental health outcomes in workers' essential and nonessential activities were similar, so the findings of this study pointed to mental health issues and highlighted the need for examining mental health in the population of non-essential activities. A significant association has been found between certain sociodemographic and health characteristics of respondents, as well as financial stress (worry about losing a job), social stress, media stress, and respondents' trust in competent authorities and COVID-19 prevention measures, and symptoms of anxiety, depression, and burnout syndrome, and it is indicative of significant points that can be investigated in the future for prevention. This paper could serve as an impetus for future research focused on exploring the long-term consequences of the pandemic.

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