

The Gender Dimension of Vulnerability in Disaster Caused by the Coronavirus (Covid-19)

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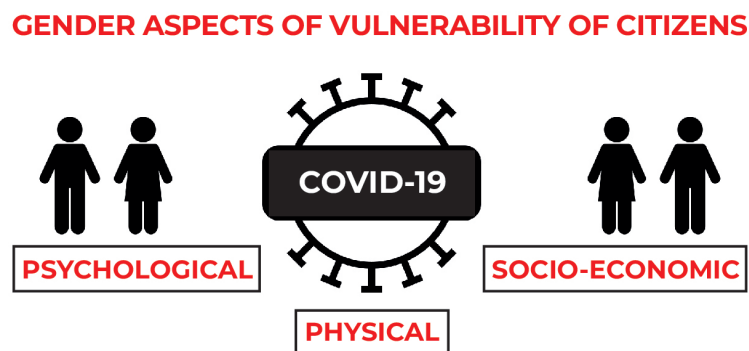
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Submitted: 2023-05-23 • Accepted: 2023-10-04 • Published: 2023-10-12

Abstract: The subject of the research is an examination of the way in which the disease COVID-19 affects the gender aspects of the vulnerability of citizens, with special reference to their physical, socio-economic and psychological vulnerability. For the purposes of this research, the perception of risk and the preparedness of men and women for the SARS-CoV-2 virus pandemic were examined. The results of this research were obtained by applying a quantitative survey of the citizens of the Republic of Serbia about their experiences and attitudes regarding their vulnerability due to the COVID-19 pandemic, where special attention is paid to the gender dimension. A survey of 273 adult citizens was conducted and the results have shown that there is no significant connection between the gender category and the physical vulnerability of people caused by the COVID-19 pandemic. The obtained data indicate that approximately the same percentage of women and men had severe symptoms of the disease. Nevertheless, the results showed that there is a partial connection between the gender category and socio-economic vulnerability, as well as a clear connection between the gender category and the psychological vulnerability of people caused by the pandemic. In both cases, the results indicate that women are more vulnerable socio-economically and psychologically than men. As this topic is not sufficiently represented in foreign, and especially not in domestic literature, the results of this research can serve as guidelines for future investigations of the gender dimension of people in the conditions of disasters, such as the COVID-19 pandemic.

Keywords: disaster, vulnerability, coronavirus, dimension, gender, Serbia.

Graphical abstract



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eISSN 2620-0406

Citation: Cvetković, V., Čvorović, M., & Beriša, H. (2023). The gender dimension of vulnerability in disaster caused by the coronavirus (Covid-19). *NBP. Nauka, bezbednost, policija*, 28(2), pp. 32–54. <https://doi.org/10.5937/nabepo28-44649>



INTRODUCTION

A pandemic implies a wide spread of infectious diseases on a global level and generally affects a large part of the population. A pandemic can cause an extremely high rate of morbidity and mortality, with its consequences accounting for a quarter or even a third of total global mortality. In developing countries, the probability of death caused by infectious diseases and pandemics ranges from 5 to 10 per cent (Qiu et al., 2017). In addition to health, the pandemic can also have an impact on the economic, social, security and political structure. The economic consequences of the pandemic include economic losses, which directly lead to economic instability, direct and indirect costs and a significant, long-term burden (Akter et al., 2023; Adamović et al., 2021; Cvetković et al., 2021; Cvetković et al., 2019; Öcal et al., 2020).

According to the World Health Organization, the coronavirus pandemic (Severe Acute Respiratory Syndrome; COVID-19) has spread rapidly throughout the planet. It is believed to have originated in the Chinese province of Wuhan, but this highly contagious respiratory virus has since spread to over 140 countries on 6 continents as of mid-March 2020 (Cron & Catham, 2020). The pandemic of the SARS-CoV-2 virus has shown the necessity and urgency of reviewing social behaviour and the quality of the health system, in order to effectively support and improve health at the level of the entire international community. Different global and specific mechanisms to fight this virus are known, but the gender analysis of these efforts is still insufficiently marketed (Gyasi & Anderson, 2020). The increasing number of cases outside of China prompted the World Health Organization (WHO) to declare the COVID-19 pandemic on March 11, 2020 (Ortolan et al., 2020).

Although the virus itself does not discriminate between men and women, rich and poor, regardless of context, growing evidence indicates that men and women from the lowest income and socially marginalized groups have borne the brunt of the crises accompanying the pandemic (Kabeer et al., 2021). The impact on the social structure is reflected in the closure of numerous institutions and schools (Domingo & Ormilla, 2022), the inability to travel, the deepening of other, existing social problems (Kabir et al., 2022), prohibited gatherings and events, as well as numerous psychological impacts on people (Cvetković & Stanišić, 2015). Security, as a category threatened by the pandemic, is not a recent phenomenon when we talk about lifestyle and economic stability. Pandemics no longer represent only the domain of public health and medicine, but also a serious social issue, a question of development and security at the global level (Qiu et al., 2017). The COVID-19 pandemic is the worst biological disaster recorded in recent times, which has penetrated all parts of the world (Shaw et al., 2021).

Vulnerability as a concept includes an economic element, which primarily refers to access to capital, as well as other resources. However, increasing awareness of what actually causes natural disasters is not sufficient to reduce their impact, unless it also includes an understanding of how economic systems affect people at many different levels (Canon, 1994). Political fragmentation, the absence of a central government, violence, as well as general political instability can be classified as political vulnerability factors (Tierney, 2012). Emphasizing and strengthening the central importance of environmental concerns in disaster management stands out as a priority, which requires good management of natural resources as a means of preventing disasters and reducing their impact on people,



their homes and livelihoods (Srinivas & Nakagawa, 2008). Finally, the scientific use of the concept of vulnerability is deeply rooted in the geographical concept. Geography, in this context, represents a kind of bond between socio-ecological and biophysical dimensions of vulnerability. Geographical factors of vulnerability are primarily related to the inadequate use and neglect of rural areas (Paul, 2013).

Disaster risk reduction emphasizes the importance of a gender approach, which indicates that both sexes are part of the same society (Xuesong & Kapucu, 2019; Aleksandrina et al., 2019; Öcal, 2019; Kumiko & Shaw, 2019). However, it is important to understand that gender is a social, cultural and personal construct, not a biological category based on male/female sex. Gender interactions imply relationships between men and women and result in socially constructed roles, responsibilities and functions, related to the identities of men and women of all ages. Differences between men and women appear as a biological category, but also as a consequence of gender-based roles, behaviour and power. However, confusion often occurs when using the words sex and gender. Sex refers to a biological category, i.e. biological differences between men and women, while gender is a social construction and refers to differences between men and women that are determined by social and cultural factors. However, it is important to note that although the difference between these two concepts is obvious and significant, it is not always easy to attribute differences in disease-related processes that are uniquely linked to sex or gender, given that sex and gender, in this context, are not independent of each other (World Health Organization, 2007). It is important to note that the gender perspective observes the responsibilities of men and women, as well as their mutual relations. Disaster risk reduction emphasizes the importance of a gender approach, which indicates that both sexes are part of the same society. This, however, does not mean that they are equal, that they have the same levels of education, or opportunities under normal circumstances, and especially not in the event of a disaster. Thus, gender roles are learned through the process of socialization: they are not fixed, but changeable (Ashraf & Azard, 2015). However, it seems that people have more strongly adapted to traditional gender roles and more strongly believed in traditional gender stereotypes than was the case before the pandemic (Rosenfeld & Tomiyama, 2021).

The existence of various initiatives and efforts to combat the gender gap in socio-economic conditions, such as the Gender-Based Development Index and the Gender Empowerment Measure, have contributed to a clearer theoretical framework, as well as the precise goals of the instruments that should eliminate gender inequality. These goals are (Dijkstra & Hanmer, 2000): to identify the extent of gender inequality over time; to identify the causes, to propose policies to reduce inequality; to monitor the impact and implementation of these policies over time. The COVID-19 pandemic has further deepened the existing gender inequalities, both within the family and at work. These deep-rooted gender inequalities, which existed even before the pandemic, led to the virus affecting the economic and market position of women and men differently (Yavorsky et al., 2021). However, it is also important to consider the fact that the vulnerability of the gender dimension is not the result of only one factor, such as the “head of the household” argument or poverty, but it is a construct that reflects historical and cultural specificities and patterns of relationships in social institutions, culture and everyday life. There is considered to be a double explanation for the promotion of gender equality. First, equality between women and men, in terms of equal rights, opportunities and responsibilities, is a matter of human rights and



social justice. Second, promoting gender equality is a prerequisite for a sustainable disaster management system (Ashraf & Azard, 2015).

In the scientific work, the authors deal with the gender dimension of human vulnerability caused by the SARS-CoV-2 virus pandemic. In the context of studying gender dynamics and disasters of this scale, it is important to precisely determine the relevant categories of human vulnerability. In this regard, this paper deals with the study of gender differences in physical, socio-economic and psychological vulnerability. When we talk about the physical vulnerability of people amid a pandemic, it is most important to look at the immunological system of people, as well as the differences in the mortality rate between men and women. In addition, it is equally important to look at numerous socio-economic inequalities and their impact on people during the pandemic. Finally, it is essential to look at the numerous psychological consequences caused by the SARS-CoV-2 virus pandemic and their impact on men and women.

LITERATURE REVIEW

A large number of authors through their research tried to reach appropriate conclusions and results about disaster risk reduction, a more comprehensive approach to respect inequality and differences based on sex and gender (De Silva & Jayathilaka, 2014; Reyes & Lu, 2016; Erman et al., 2021; Aronsson-Storrier & Dahlberg, 2022), People's experience of disasters is based, in part, on gender relations. This can often lead to the denial of basic human rights of women and girls in crises. Considered from a global aspect, the concept of the gender dimension of various social issues and problems is extremely significant and is rooted in different social profiles and the appearance of anthropological heterogeneity around the world (Işık et al., 2015).

In the context of the pandemic, it is important, first of all, to take into account the anthropological concept of health, illness, care, body, language and communication in the conditions of the disease of COVID-19, and then look at intersectional and gender sensitivity (Briggs, 2020). The results of numerous studies concerning the consequences of the SARS-CoV-2 virus indicate that the mortality rate is higher in men. However, these results suggest that far more severe socio-economic consequences can be felt in women (Rafaeli & Hutchinson, 2020; Ortolan et al., 2020; Smith et al., 2020; Bali et al., 2020; Wenham et al., 2020). As a result, it is essential to assess intersectional and gender sensitivities. Also, it is important to take into account the gender-distorted image and perception of power and decision-making when it comes to healthcare on a global level, and it is also crucial to emphasize the role of women and their leadership in such contexts. Gender equality is more than just a moral imperative. When gender representation is understood to go beyond mere symbolism, this leads to smarter, more ethically correct and more efficient decision-making, especially in crises. The inclusion of women in decision-making processes improves security and stability, community trust and financial responsibility, and focuses on reducing the existing inequalities. Promoting gender representation involves different perspectives and approaches to solving problems, which results in faster and better decisions being made (Bali et al., 2020).



The COVID-19 pandemic has caused global social, economic and social upheavals (Luoto & Varella, 2021). Sex, i.e. biological and physiological traits that characterize men and women, as well as gender, i.e. the continuum of socio-culturally constructed roles and behaviours associated with men, women and the diversity of the gender spectrum, are among the most important determinants of health and disease outcomes. However, these underlying factors are often overlooked in biomedical research and rarely included in clinical care (Spagnolo et al., 2020). The existing data analysis indicates that the SARS-CoV-2 virus mostly affects the elderly population, as well as population with pre-existing health problems (Davies et al., 2020; Mustafa & Selim, 2020; Cortis, 2020; Hutchins et al., 2020; Caramelo et al., 2020). Considerably less attention is directed to determining the death rate when the context of gender is taken into account. Reporting sex-specific mortality estimates can vary widely and change over time. Although the observed dominance of the male population, when it comes to prevalence and mortality, as a result of the SARS-CoV-2 virus, can be explained by biological differences between men and women, it is important to take into account the potential long-term effect of gender-based factors that influence the mortality rate, especially if we pay attention to various socio-economic contexts (Bischof et al., 2020).

The increase in the number of new cases caused panic in every individual. The economies of the countries are equally affected. However, the direct and indirect impact of this pandemic on gender issues and gender needs appears as a secondary aspect of discussions about the spread and impact of the COVID-19 pandemic (Nepal & Aryal, 2020). The outbreak and spread of the COVID-19 pandemic caused fear of an impending economic crisis and recession. Social distancing, self-isolation and travel restrictions have led to a reduction in the workforce in all economic sectors and the loss of many jobs. Schools are closed, and the need for goods and manufactured goods is reduced. In contrast, the need for medical supplies has increased significantly. The food sector is also facing increased demand due to panic buying and food stockpiling (Nicola et al., 2020).

A significant increase in the level of anxiety and fear in people in the conditions of the pandemic is linked to the feeling of loneliness and uncertainty, as a result of the consequences of this disease. It is this uncertainty that is connected to the measures in force, which are related to staying at home, quarantine and social distancing. This can lead to significant psychological and psychiatric disorders, such as post-traumatic stress disorder, depression, anxiety, panic disorders and conduct disorders. Predisposing factors include isolation from family, loneliness, misinformation on social media, financial insecurity, and stigmatization (Wu et al., 2005; Sood, 2020; Lai et al., 2020). When dealing with chronic stressors, such as a pandemic, it can be extremely easy to deplete individuals' coping resources. This ultimately increases their reactivity to stress or enhances immediate negative emotional reactions to stress (Nelson & Bergeman, 2021). In response to emotional or physical stress, the human body triggers a complex physiological response that is known and still incompletely understood (Cool & Zappetti, 2019).

Healthcare workers may be inadequately prepared and supported to cope with the stresses and such a negatively affected work environment. For healthcare workers, a positive attitude towards a stressful situation was the main protective factor, while women, seeking social support, avoidance strategies and working with patients infected with the SARS-CoV-2 virus, were risk factors (Babore et al., 2020). Within the relationship between the



health sector and health workers towards this virus, it is important to investigate their response to the pandemic, in terms of perceived stress and coping strategies, in order to implement targeted prevention and intervention programs. The COVID-19 pandemic and related stressors have had a strong impact on everyday life, as well as the sleep regime of individuals. Dreams can provide insight into how the mind processes changing realities; dreams not only enable the consolidation of new information but can also enable the creative “playing out” of low-risk simulations of hypothetical events and threats. Although there are studies analysing dreams in high-stress situations, little is known about how the pandemic affected dreams (Kilius et al., 2021).

Some demographic data from different geographic regions indicate certain differences in the severity of infection. However, it turned out that these data on gender differences, when it comes specifically to the SARS-CoV-2 virus, are diverse. This virus mostly affects people with comorbidities, including older people with diseases such as cardiovascular disease, chronic respiratory/pulmonary disease, and active cancers. These chronic conditions are disproportionately present in men compared to women. Also, factors such as (Gyasi & Anderson, 2020) choosing a certain lifestyle, such as harmful alcohol consumption or excessive smoking, can contribute to this; socio-cultural attitudes, including masculine norms and stoically induced reluctance to ask for help.

What is interesting is that, as stated by Craig and Churchill (Craig & Churchill, 2021), although women took over most of the care of children during the pandemic, this role for men increased drastically, compared to the period before the pandemic. In this sense, the gender gap has been reduced, but there is still an evident difference in the performance of housework between men and women. Caregiving duties are highly feminized on many levels, whether it is formal or informal caregiving, public or private sector. This feminized care economy ends up becoming a “shock absorber” in times of crisis, further subsidizing care services as states and families can no longer pay for them, while increasing women’s duties, exposure, and susceptibility to disease (John et al., 2020). There are significant cross-national differences in the types of policies implemented by political decision-makers to control and prevent the spread of the virus, test the population, and provide adequate care to infected patients. Among other things, these policies differ depending on the gender of politicians (Luoto & Varella, 2021): early findings indicate that women are, on average, more focused on reducing the direct human suffering caused by the SARS-CoV-2 virus, while male leaders implement riskier short-term decisions, probably with the aim of minimizing economic disruptions (Luoto & Varella, 2021).

The role of immunological differences between women and men in responses to SARS-CoV-2 virus infection seems to be warranted. There is ample evidence to suggest that their antiviral immunity differs. The cause of this can be the signalling of sex steroid hormones (testosterone, oestrogen and progesterone), genetics, as well as the composition of sex-specific microbes. In the context of the COVID-19 pandemic, these differences may influence the susceptibility and initial response to the virus, as well as the choice of acute and long-term therapy. In current and future trials related to COVID-19, gender, as a biological variable, should be considered and understood, along with the broader gendered implications of the COVID-19 crisis (Bischof et al., 2020; Bwire, 2020; Brodin, 2021).

Also, it is important to consider the broader concept of immune differences, as well as how biological factors intersect with gender differences in exposure, transmission, and



socioeconomic means. Consequently, the pandemic may not only lead to differences in susceptibility and disease manifestation between men, women and people with non-binary identities but also exacerbate unequal access to treatment and lead to long-term vulnerability. When it comes to women, their body is subject to significant changes during pregnancy, and these go hand in hand with changes in the immune system and certain diseases, which are especially difficult during pregnancy. However, initial research conducted in connection with the SARS-CoV-2 virus indicates that the number of infected pregnant women is not that large and that there is no concrete evidence of vertical transmission of the disease from mother to child (De Paz et al., 2020). Reproductive hormones differ between men and women and are involved in how the immune system mounts an inflammatory response to pathogens. Men have a lower innate antiviral immune response to a range of infections, including hepatitis C and HIV. Studies conducted on experimental mice suggest that this may also be true for coronaviruses, although concrete evidence is lacking when it comes to the SARS-CoV-2 virus (Gyasi & Anderson, 2020).

Observing the situation with the COVID-19 pandemic, certain factors that influence the reduction or increase in morbidity and mortality rates can be clearly distinguished, based on observations regarding the spread of this disease in Russia and certain European countries. These factors are (Kalabikhina, 2020): the specificity of data collection, diagnosing diseases and determining the cause of death; demographic factors (such as gender, age and household composition); geospatial factors (e.g. availability of public transport, air pollution, characteristics of climatic conditions); socio-economic factors; epidemiological, regulatory and socio-economic factors (income per capita, expenditure on health care, indicators of the health system, type of social protection and epidemiological measures taken to suppress the virus); socio-cultural factors (frequency of social contacts, the experience of previous epidemics and pandemics, hygiene routines). Another influence of the gender dimension of the SARS-CoV-2 virus is the fact that there is a higher proportion of women when we talk about infected healthcare workers because the vertical hierarchy in medicine affects the increased risk of infections among women (Kalabikhina, 2020). The Information Office of China suggests that more than 90% of health workers in Hubei province are women, highlighting the gendered nature of the health workforce and the risk that health workers predominantly carry (Wenham et al., 2020).

METHOD

The subject of this research is the examination of the way in which the COVID-19 pandemic affects the gender aspects of the vulnerability of citizens, with special reference to their physical, socio-economic and psychological vulnerability. In other words, the research aims to determine to what extent the impact of the pandemic varies when it comes to the dimension of gender. The Republic of Serbia, like the rest of the world, has been significantly affected by this pandemic, as evidenced by the constant increase in the number of infected citizens. Research on gender dynamics in the context of the impact of the SARS-CoV-2 virus on men and women is carried out by examining the connection between the gender category and the level of vulnerability of citizens, as well as their perception of risk and the level of knowledge and information in this area. By implementing dif-



ferent policies and programs, which adequately interpret gender dystonia in this context, clear recommendations can be singled out for effective and gender-sensitive reduction of the risk of the spread and negative impact of the COVID-19 pandemic.

STUDY AREA

Since March 6, 2020, when the first case of the coronavirus was officially confirmed in the Republic of Serbia, the health and economic situation in the country has been changing rapidly. On the other hand, the COVID-19 pandemic was officially declared on March 11, 2020, by the World Health Organization. Looking at the large number of studies that study this topic from the aspect of the gender dimension (Alon et al., 2020; Liu et al., 2020; Bischof et al., 2020; Galasso et al., 2020; Ausín et al., 2021; Ortolan et al., 2020; De Paz et al., 2020; Kopel et al., 2020; Wenham et al., 2020) a clear distinction can be established when it comes to the impact of this pandemic on men and women.

For this reason, it is important to regularly conduct research on the impact of the SARS-CoV-2 virus on changes in the immune system of citizens, the socio-economic circumstances in which they live, and their mental health. This research covers the experiences of the citizens of Belgrade with the SARS-CoV-2 virus in the period from March 2020 to September 2021. The research was conducted in September 2021.

SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

From the total number of respondents, it was determined that the sample includes more women (53.8%) than men (46.2%). The largest percentage of respondents belongs to the age group from 18 to 30 years old (59%), followed by a slightly smaller percentage of respondents from the age group from 31 to 45 years old (20.5%). Furthermore, respondents who belong to the age group of 46 to 60 make up a slightly smaller percentage (16.5%). Finally, the smallest percentage of respondents belongs to the age group 65+ (4%). The largest percentage of citizens (36.6%) have a higher education, while a slightly lower percentage of citizens (35.5%) have a secondary education. The percentage of citizens who have a higher level of education is 12.8%, and those with a master's degree is 14.3%. The largest percentage of respondents (36.3%) stated that they were single, and a slightly lower percentage (30%) that they were married. The percentage of respondents who are in a relationship is 28.6%. The largest percentage of respondents (59.7%) are employed, while a slightly smaller percentage (34.4%) are students (Table 1).



Table 1. *Basic Socio-Economic and Demographic Information of Respondents (n = 273)*

Variable	Category	(f)	%
Gender	Male	126	46.2
	Female	147	53.8
Age	18–30	161	59
	31–45	56	20.5
	46–64	45	16.5
	65+	11	4
Marital status	Single	99	36.3
	In a relationship	78	28.6
	Married	82	30
	Divorced or widow	9	3.3
Education	Secondary school (grade 8–9)	98	35.9
	High school (grade 11–12)	35	12.8
	Undergraduate	100	36.6
	Master/Doctorate	1	0.4
Employment status	Yes	163	59.7
	No	4	1.5
TOTAL		273	100

ANALYSES

The data were generated by surveying adult citizens about their attitudes and experiences when it comes to the levels of their vulnerability, preparedness, knowledge and awareness about this topic. After the citizen survey was conducted, the obtained data were entered into the statistical program SPSS (Statistical Package for Social Sciences), after which a detailed data check was started, with the aim of removing potential errors. After that, a descriptive statistical analysis was applied and the connection of the gender category with the levels of citizens' vulnerability was examined. The results of the research are tabulated, with accompanying explanations, interpretations and a discussion that provide insight into additional explanations when comparing the obtained data. In order to statistically analyse the data, the Chi-square of independence was used.

QUESTIONNAIRE DESIGN

The questionnaire that was used for the purpose of this research was adapted and created based on questionnaires used in other researches (Cvetković et al., 2020; Alon et al., 2020; Galasso et al., 2020; Dang & Nguyen, 2021; Muric et al., 2021). This questionnaire includes 30 questions and is designed so that the question is answered by entering a short answer, circling the offered answer or by rating it on a scale from 1 to 5. First of all, a trial test was



conducted to determine whether the questions are sufficiently clear and concise. For the purpose of this questionnaire, simple language was used, and the questionnaire itself was constructed so that it was clear and understandable to the respondents.

RESULTS

In order to establish the basis for determining the level of physical vulnerability of the respondents, the respondents were asked the question “Have you been infected with the SARS-CoV-2 virus?”. The results show that a slightly higher percentage of respondents (56%) answered that they were not infected. The other 44% of respondents stated that they were infected with the SARS-CoV-2 virus. When it comes to the experiences of infected citizens about the severity of their illness, it was found that the largest percentage of respondents (34.8%) stated that they had mild symptoms, while a slightly smaller percentage (31%) stated that they had very mild symptoms. 27% of respondents had moderate symptoms. 5.6% had severe symptoms, and 1.6% had very severe symptoms (Figure 1).

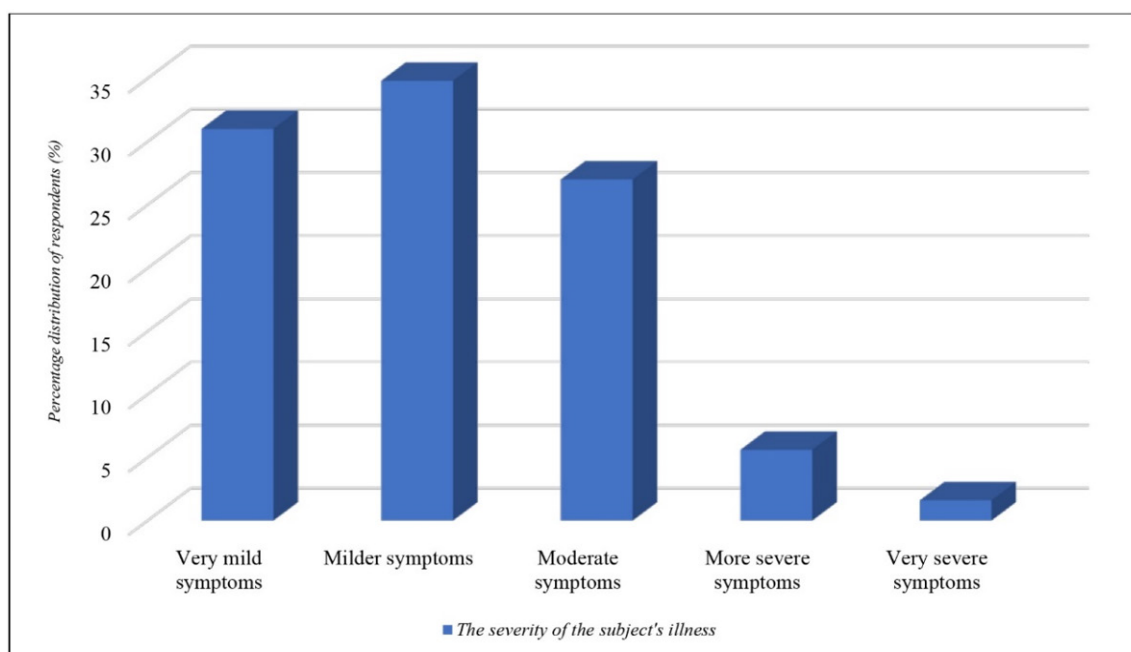


Figure 1. *The Level of Physical Threat from the SARS-Cov-2 Virus*

The SARS-CoV-2 virus most often affects people suffering from chronic diseases. To the question: “Do you suffer from any chronic disease?”, a smaller percentage of respondents (17.9%) answered affirmatively, while 82.1% of respondents answered that they do not suffer from chronic diseases.

In relation to the views of respondents to what extent they believe they behave in a socially responsible manner in the conditions of the pandemic, the results show that the same percentage of those who believe they behave very responsibly (34.8%) and those who believe they behave responsibly (33.7%) is the same. There is a slightly smaller percentage of respondents (22.3%) who believe that they behave partially responsibly. Approximately 7%



of respondents believe that they behave socially irresponsibly, and the smallest percentage (2.2%) includes those who believe that they behave very irresponsibly (Figure 2).

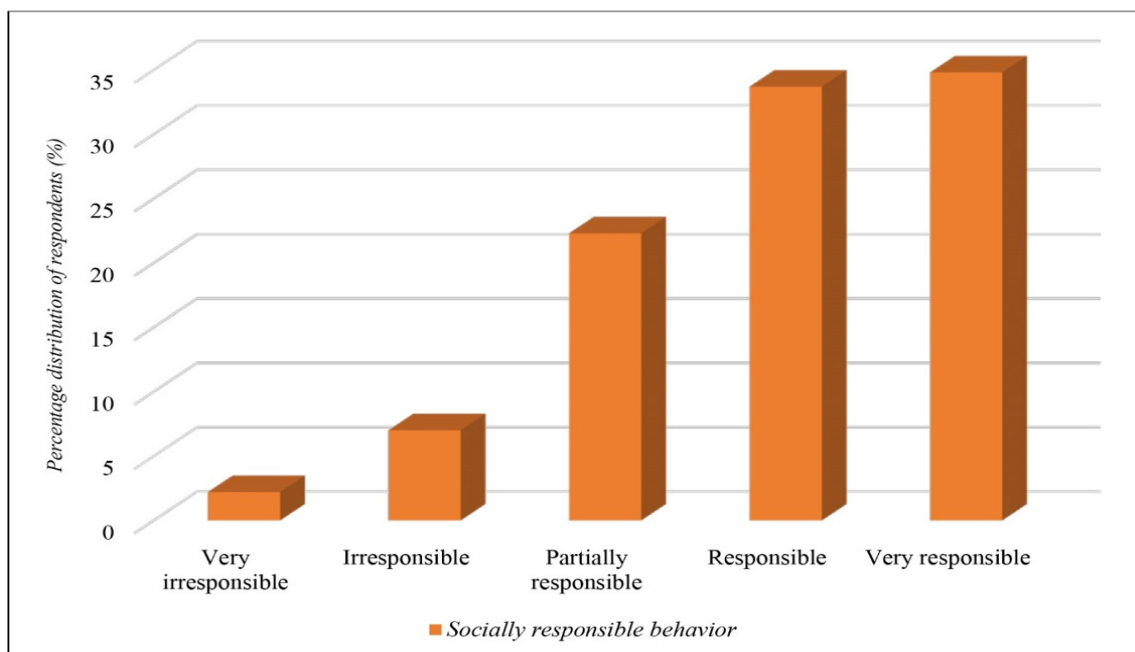


Figure 2. *Socially Responsible Behaviour in Epidemic Conditions*

Concerning the question of whether the consequences of the pandemic have threatened your daily rhythm, it was determined that by far the largest percentage (72.5%) of respondents believe that the consequences of the pandemic have threatened their daily life, while 27% believe that this is not the case. Then, it was determined that a higher percentage of respondents (55.4%) believed that their work was not threatened since the beginning of the pandemic. However, as many as 44.6% of respondents pointed out that their jobs were threatened. About the attitudes of respondents regarding their ability to work from home in pandemic conditions, it was determined that a higher percentage (54.9%) of those who, among other things, had the opportunity to work from home due to the nature of their work. However, 45.1% of respondents did not have that option. In addition, a significantly larger number of respondents (72%) stated that the conduct of teaching activities was difficult, while 28% believed that this was not the case. To the question: “Were you satisfied with the quality of the online teaching?”, a significantly higher percentage (67.1%) of students answered that they were not satisfied, while 32.9% of them answered this question in the affirmative.

When asked to what extent the respondents respected the measures that were in force, the largest percentage of them (57.5%) stated that they absolutely respected the measures. 22.3% of respondents answered that they respected the measures, while 14.7% of them stated that they partially respected them. The lowest percentage includes those (1.5%) who answered that they did not respect the implemented measures at all (Figure 3). With the views of the respondents that the situation with the SARS-CoV-2 virus and the implemented measures hurt their relationships with other people, the results show that a higher percentage of respondents believe that the pandemic and its consequences did not affect their relationships with other people, while 46.5% of them said they did.



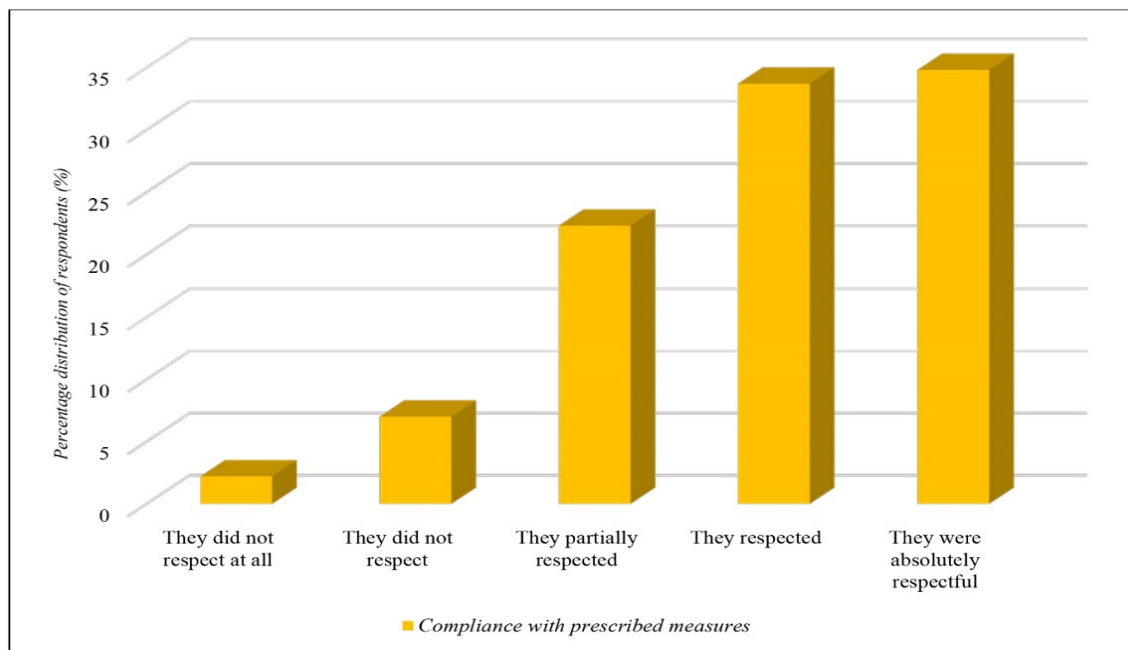


Figure 3. *Compliance with Prescribed Measures in Epidemic Conditions*

When asked to what extent respondents feel afraid of contracting the SARS-CoV-2 virus, the largest percentage of them (28.9%) answered that there is no fear. However, approximately the same percentage of respondents (27.5%) stated that there is still a partial fear of infection. A slightly smaller percentage (23.1%) stated that they are not afraid of this virus at all. Only 6.2% of respondents answered this question that there is absolute fear of infection present (Figure 4). Concerning the attitudes that show the extent to which the pandemic has negatively affected the mental health of respondents, the largest percentage of respondents (24.9%) answered that the pandemic did not negatively affect their mental health at all. Approximately the same percentage of respondents stated that it partially had a negative impact (20.9%) and that it had a negative impact (21.2%). The smallest percentage of respondents (14.3%) stated that the pandemic had an absolutely negative impact on their mental health. A higher percentage of respondents (58.2%) answered that they had been vaccinated to protect themselves from the SARS-CoV-2 virus. In contrast, 41.8% of respondents answered that they had not been vaccinated. To the question: “How would you rate the seriousness of the health situation we are in?”, the largest percentage of respondents (31.9%) answered that they considered the situation to be serious. A slightly smaller percentage of them (28.6%) chose the option that the health situation was absolutely serious. Approximately the same percentage of respondents (27.1%) believes that the situation is partially serious, while only 2.9% of them believe that it is not serious at all. The obtained results show that by far the largest percentage of respondents (91.2%) think they know the most common symptoms of the SARS-CoV-2 virus. Only 2.2% stated that they did not know, while 6.6% of respondents were not sure. Out of 273 respondents, 253 of them, i.e., 92.7% stated that they have health insurance. Only 20 of them, i.e. 7.3%, stated that there is none. To the question: “To what extent do you think that the Crisis Staff made adequate and timely decisions to combat the SARS-CoV-2 virus?”, the largest percentage of respondents

(39.2%) stated that they did not agree with the decisions made. In contrast, only 8.8% of respondents answered that they agreed or absolutely agreed with the decisions of the Crisis Staff. Such results can be explained by the level of trust, that is, the distrust that citizens have in the competent institutions and the fact that there is an increasing number of infected people every day, and extremely mild epidemiological measures are in force.

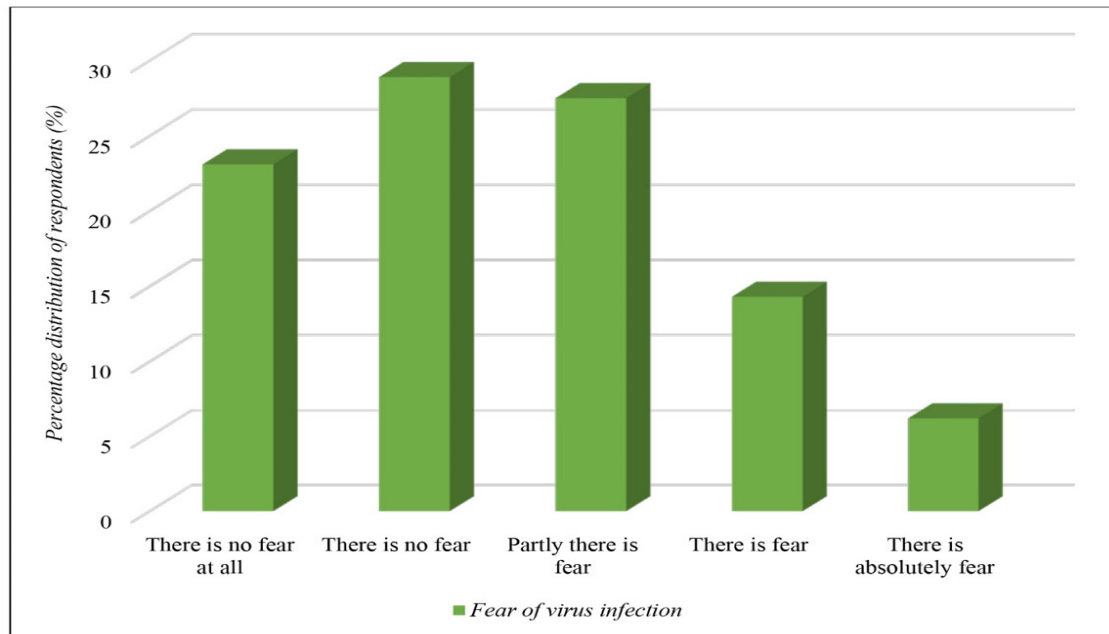


Figure 4. *Fear of Infection with the SARS-Cov-2 Virus*

Following the previous question and the obtained results on the attitudes of citizens when it comes to the decisions of the Crisis Staff, the attitudes of the respondents were also examined to the extent to which they believed that the introduction of the curfew was justified. The largest percentage of respondents (36.6%) believes that the introduction of the curfew was not justified at all. On the other hand, there is almost the same percentage of respondents stated that the introduction of the curfew was not justified (19.8%), as well as those who believe that it was partially justified (19.4%). Only 24.2% of respondents believe that the measure of introducing a curfew was justified or was absolutely justified. Respondent's answers to the question of how they would evaluate the media's coverage of the pandemic itself show that the largest percentage of respondents (35.5%) believe that the media's coverage is very bad. 26.4% of them answered that they think it is partly good, and the smallest percentage of respondents (6.6%) think that the media coverage of the pandemic itself is absolutely good. The fact that the majority of respondents believe that the course of the pandemic was poorly covered by the media can be justified by inadequate crisis communication. This means that, first of all, the credibility of those who represent the source of information has decreased, so the citizens' trust in the seventh force has also decreased. In addition, the content that was posted was often ambiguous and contradictory.

In further work, using the Chi-square test, the association of gender with different variables was examined. The results show that there is no statistically significant correlation between



gender and the following variables: perceptions of SARS-CoV-2 infection ($p = 0.560$); the severity of the underlying disease ($p = 0.863$); socially responsible behaviour of respondents in pandemic conditions ($p = 0.327$); job threat ($p = 0.576$); threats to the performance of teaching activities ($p = 0.576$); the negative impact of the virus on mutual interactions ($p = 0.379$); the decision to vaccinate ($p = 0.733$); making timely decisions by the crisis headquarters ($p = 0.126$); media reporting during the epidemic ($p = 0.825$) (Table 2).

On the other hand, a statistically significant connection was found with the following variables: perception of deterioration ($p = 0.560$); behaviour of respondents following the recommended measures ($p = 0.001$); fear of virus infection ($p = 0.040$); the impact of the pandemic on the mental health of respondents ($p = 0.001$); assessment of the seriousness of the health situation ($p = 0.002$); the justification of introducing a curfew ($p = 0.012$) (Table 2).

Table 2. Results of the Chi-Square Test of the Gender and Selected Variables

Variable	Sig. (2-Tailed)	df	X ²
Infection with the SARS-CoV-2 virus	0.340	2	0.560
The severity of the disease	0.863	4	1.28
Perception of rate of violence	0.168	2	3.56
Perception of the status of sexual and gender minorities	0.030*	2	7.02
Socially responsible behaviour of respondents in	0.327	4	4.63
endangerment of the daily rhythm of the respondents	0.010**	1	6.51
Threat of workplace	0.576	1	0.31
Threats to the performance of teaching activities	0.576	1	0.31
Behaviour of respondents by recommended measures	0.001**	4	21.67
The negative impact of viruses on mutual interactions	0.379	1	0.774
Fear of catching a virus	0.040*	4	10.04
The impact of the pandemic on the mental health of respondents	0.001**	4	23.65
The decision to vaccinate	0.733	1	0.11
Assessment of the seriousness of the health situation	0.002*	4	16.42
Making timely decisions by the crisis headquarters	0.126	4	7.20
The justification for introducing a curfew	0.012*	4	12.84
Media coverage during the epidemic	0.825	4	1.58

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

Further analysis shows that when it comes to the deterioration of the status of sexual and gender minorities, in the case of women and men, the percentage of those who answered that they were not sure (54.4% and 57.9%) is the highest. However, twice as many women (27.2%) than men (15.1%) stated that they believed that the state of emergency and the



implementation of measures contributed to the deterioration of the status of sexual and gender minorities. About 18.4% of women believe that this is not the case, as well as 27% of men. It can be assumed that the obtained results are related to the broad media picture in Serbia. About the threat to the daily rhythm of the respondents, it was determined that 78.9% of women believe that the consequences of the pandemic have threatened their daily life, while 21.1% of them do not think so. On the other hand, 65.1% of men believe that their daily rhythm is threatened, while almost twice as many, i.e. 34.9% of them believe that this is not the case. About the respondents' behaviour by the recommended measures, the results show that the largest percentage of women (63.9%) absolutely respected the measures that were in force. Only 1.4% of them answered that they did not respect the introduced measures. When it comes to men, a slightly higher percentage (56.3%) believes that the COVID-19 pandemic has not negatively affected their relationships with other people, while 43.7% of them believe that it has.

Then, it was determined that the largest percentage of women (30.6%) answered that there was no fear of infection, while the smallest percentage of them (7.5%) answered that there was absolute fear. The largest percentage of male respondents (31%) answered that there was absolutely no fear, while there was the same percentage (34%) of those who answered that there was no fear and that there was partial fear of infection. The lowest percentage is of men (4%) who stated that there was absolute fear. In addition, it was determined that the largest percentage of women (23.8%) responded that the pandemic hurt their mental health. Almost the same percentage of them (23.1%) answered that it partially influenced them, and the smallest percentage (13.6%) that it did not influence them at all. When it comes to men, the largest percentage of them (38%) stated that the pandemic did not affect their mental health at all. Nevertheless, the same percentage of men (18.3%) answered that it partially influenced, as well as that it influenced their mental health.

The majority of women (36.7 percent) say the health situation is critical. On the other hand, the majority of males (28.6 percent) feel that the issue is only partially serious. The least percentage of women (1.4 percent) and men (4.8 percent) believe the problem is insignificant. On the other hand, although the largest percentage of women (27.9%) believe that the introduction of the curfew measure was not justified at all, a slightly smaller percentage of them (25.2%) still believe that it was partially justified. By far the largest percentage of men (46.8%) believes that it was not justified at all, while the smallest percentage of those (11.1%) believes that the introduction of the curfew was justified.

DISCUSSION

The main goal of this research was to examine the gender dimension of human vulnerability caused by the COVID-19 pandemic. In the previous literature, as well as in numerous studies, the physical, socio-economic, and psychological vulnerability of citizens to this virus has been examined (Gyasi & Anderson, 2020; Bischof et al., 2020; Roesch et al., 2020; Ortolan et al., 2020; Ausin et al., 2021; Song et al., 2020; Barrett, 2020; Rafaeli & Hutchinson, 2020; Dang & Nguyen, 2021). To determine the gender dimension of people's physical vulnerability caused by the coronavirus pandemic, respondents were asked questions about whether they had been infected with this virus and how severe their symptoms



were. The results obtained from this research indicate that there is no significant connection between the category of gender and the physical vulnerability of people caused by the COVID-19 pandemic, as well as that a slightly higher percentage of women were infected, while the percentage of men were slightly lower.

The results also show that 1.5% of women had severe symptoms, while this was the case for 1.7% of men. The results obtained in this research do not match the research conducted by Ortolan et al. (2020). Based on their research, conducted by a meta-analysis on a random sample, where the mortality rate and the severity of the disease were examined, it was determined that the ratio of men to women was 1:0.9. The results of this research suggest that men are slightly more susceptible to infection, that they have more severe symptoms, and that the death rate from this virus is almost twice as high in men than in women. Contrary to this, another study (Nepal & Aryal, 2020) conducted in Nepal indicates that women are more susceptible to infection because they live in a country characterized by extremely low incomes and limited availability of resources for women's health. For example, health facilities in Nepal suspended all interventions, which were not considered urgent. Contraception and the right to abortion were made possible, but access to facilities that provided women's health care was impossible, due to the advent of quarantine and the ban on movement. During that period, women were prohibited from fully exercising their basic reproductive rights.

When it comes to the gender dimension of the socio-economic vulnerability of people caused by the coronavirus pandemic, the results of this research indicate that there is a partial connection between the gender category and the socio-economic vulnerability of the respondents. A significantly higher percentage of women (78.9%) than men (65.1%) believe that the consequences of the pandemic have disrupted their daily rhythm of life. Also, 63.5% of women declared that they absolutely respected the prescribed measures to prevent the spread of the SARS-CoV-2 virus, while this was the case with 50% of men. When asked if they believe that their workplace has been threatened at some point since the beginning of the pandemic, a slightly higher percentage of women (46%) than men (42.6%) responded in the affirmative. The results of the research conducted in Israel, by Kristal and Yaish (2020), coincide with the results obtained in this research. The survey was conducted on 2,040 Israeli adults, men and women of legal age, who were employed or self-employed in the first week of March 2020. The results showed that 35% of those who were employed in the first week of March no longer had a job at the end of April. Only 39% of women aged 18–24 remained employed in April (compared to 61% of young men). The economic downturn after the coronavirus crisis hurt women's attachment to the labour market, compared to men, both in terms of the overall level of employment and in terms of working hours. These negative consequences can be seen most clearly among the younger population of women.

Within this research, special attention was paid to the impact of the COVID-19 pandemic on gender and sexual minorities. The largest percentage of respondents to the question of whether they believe that the state of emergency and implemented measures have contributed to the deterioration of the status of gender and sexual minorities answered with I am not sure, which clearly indicates the need to carry out comprehensive and urgent education, information, as well as conducting additional research on this topic. As Liu et al., (2020) point out, complex socio-structural factors, including manifestations of hom-



ophobia, transphobia and biphobia at multiple levels, create inequalities that manifest at all levels of health, especially when combined with other forms of discrimination, such as racism. The higher rate of HIV virus and cancer among members of sexual and gender minorities makes them significantly more vulnerable when it comes to infection with the SARS-CoV-2 virus. In addition, they are also more likely to suffer from chronic diseases, such as diabetes, asthma and hypertension (which are closely related to the risks of the coronavirus).

When examining the connection between the gender category and the psychological vulnerability of people caused by the COVID-19 pandemic, results were obtained that indicate a significant connection. Namely, the results of the Chi-square test (χ^2) were obtained, based on which it can be determined that there is a significant statistical connection between gender and the respondents' fear of being infected with the coronavirus. Almost twice as many women (7.5%) stated that they feel an extreme fear of infection than men (4%). When asked whether the consequences of the pandemic hurt their mental health, as many as 19% of women answered affirmatively, while this was the case with only 8.7% of men. The results of this research coincide with the results of the research conducted by Song et al. (2020) in China 2020, in the period from February 20 to 27. This research aimed to establish the psychological stress caused by the COVID-19 pandemic, taking into account the gender dimension of the respondents. The results showed that women up to the age of 45 are most susceptible to this type of stress, as well as that there are clear gender differences about stress, adaptation to the current life/work status, strategies for coping with and enduring the situation with the pandemic, but also the need for psychological support.

It is important to emphasize that there are numerous limitations of this research. The first limitation is the fact that a relatively larger percentage of the younger population was examined, among which there is an extremely small number of those who had severe symptoms. In the majority of cases, the disease COVID-19 manifests itself in young people either asymptotically or with milder symptoms. Another limitation is the duration of the study because the pandemic is still ongoing and the situation with the coronavirus in Serbia is subject to rapid changes. In addition, it is known that the virus mutates over time and that a new strain of the coronavirus appears which can have completely different symptoms. Another limitation of the study is the honesty of the respondents when answering questions, such as those related to whether they followed the prescribed measures, which were in force, and which were adopted to prevent the spread of the virus. Precisely because of this, one can justifiably doubt the reliability of the obtained data. Finally, it is important to take into account the social, cultural and economic conditions in the Republic of Serbia. In other countries and different cultures, gender inequalities may be more or less pronounced than in our country. However, one thing is certain - a crisis, such as the COVID-19 pandemic, will always further deepen them.

CONCLUSIONS

As the COVID-19 pandemic is still active, the differences between male and female mortality and susceptibility to infection remain an area of active investigation. Nevertheless, when reviewing the previous domestic and foreign literature, relatively similar results can be observed, not only when it comes to the physical vulnerability of men and women,



but also when we talk about the socio-economic and psychological factors of their vulnerability. The results showed that a slightly higher number of women were infected with this virus, while the severity of the disease in men and women was quite equal. There is a slightly higher percentage of men than women who had severe symptoms. However, it is important to take into account that for the purpose of this research, a large number of young people were examined, and it is assumed that the virus most often manifests itself asymptotically or with milder symptoms.

It was also established that women behaved more socially responsibly in the conditions of the pandemic than men, as well as that they respected the prescribed measures that were in force to a greater extent. Also, a higher percentage of women believe that their daily rhythm is threatened by the consequences of the pandemic, than when it comes to men. However, there is no significant connection between the gender category and the threat to the workplace of employees since the beginning of the pandemic, as well as the negative impact of the virus on the respondents' relationships with other people. In addition, the results show that there is a significant connection between the gender category and the respondents' fear of being infected with the SARS CoV-2 virus. The same is the case when it comes to the connection between gender and the negative impact of the pandemic on the mental health of the respondents. On the other hand, the results indicate that a larger percentage of women believe that the health situation we are in is serious. When it comes to the views of respondents on the justification of the introduction of curfew, a clear connection between their views and the category of gender can be observed. However, the results show that there is no significant relationship between the gender category and the respondents' attitudes about media reporting during the pandemic, as well as the respondents' decisions to get vaccinated against the SARS-CoV-2 virus.

Based on this research, it can be determined that not enough attention has been paid to the gender dimension when it comes to the vulnerability of people caused by the pandemic of this virus. Special attention should be paid to highly stigmatized topics, which are often absent from domestic literature. The existing literature suggests that men have a higher risk of more severe infection and mortality from this virus. It is believed that elevated oestrogen levels in SARS-CoV-2 patients may reduce the severity and chance of death. On the other hand, in the domain of socio-economic vulnerability, women are significantly more affected by this pandemic, both in terms of job loss and the overall level of employment, as well as in terms of working hours, as well as work related to doing housework and taking care of children and household.

In general, it can be said that the pandemic contributed to the development of certain situations and circumstances, such as increased sensitivity and the manifestation of the disease in men; deterioration of the status of women due to their dominant role in running the household and taking care of children, poor access to digital tools, poor digitization of women's jobs before the pandemic itself, increased risk of domestic violence; improving the position of men due to the greater digital potential of their workplaces; improving the status of women in terms of stability and demand in the labour market. Critical consideration of the burden of the health and socio-economic crisis and paying particular attention to the gender dimension can improve understanding and direct our efforts during the pandemic. This is precisely why it is believed that the construction of gender-responsive national policies and practices will ensure equal and visible opportunities when it comes to public health during the COVID-19 pandemic.



FUNDING

This research was funded by the Scientific-Professional Society for Disaster Risk Management (SPS-DRM), Belgrade, Serbia (<http://upravljanje-rizicima.com/>) and International Institute for Disaster Research (<https://idr.edu.rs/>).

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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