

Crisis Management in Healthcare Institutions With Reference to the Situation in Serbia During the Covid-19 Pandemic

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Abstract

Most crisis situations arise unexpectedly, bring numerous changes and require quick and adequate adaptation to changed and often difficult circumstances. Regardless of its origin and intensity, a crisis situation almost always includes healthcare institutions that must not and cannot stop performing their activities, nor allow a decline in the quality of work. Quality management of a crisis situation implies preparation and education of all workers for a crisis situation. The results of the research on crisis management in healthcare institutions during the COVID-19 pandemic show that there is a room for improvement in Serbia and that the key success factors are: care for the mental health of employees, communication and training, equipment and protocols, a safe and stable atmosphere at work and prevention. Considering the increase in the frequency of crisis situations, it is important to pay more attention to this topic.

Key words: crisis management, healthcare employees, healthcare institutions, COVID-19

JEL Classification: J24, J81

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1. Introduction

In the past, crisis situations were perceived as the product of a higher power or the result of God's will, and human activities in that period were reduced to magical rituals or religious ceremonies. Today, we view and approach crises quite differently and more seriously.

The word crisis is of Greek origin (*krisis*) and in ancient Greece it meant “judgment” or “decision”. In this context, a crisis is a pivotal moment that decides the further positive or negative outcome of a thing or situation. Hippocrates used it when describing the turning point in a disease. The modern concept of the term “crisis” comes from the medical literature, where it means a dangerous state of health of the organism that cannot recover easily and without consequences. Today, “crisis” is a common expression in everyday communication and refers to an unexpected and undesirable situation that happens to a person, group, organization, culture, society or the whole world.

A crisis represents a threat to the set goals, functioning, security, reputation or existence of any organization, including society as a whole. Regardless of the intensity and origin, every crisis is considered a danger because it can threaten the

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reputation or financial stability of the organization as well as human lives. Although the term “crisis” is often equated with the term “disaster”, in fact a crisis that is not well managed turns into a disaster. Likewise, one and the same event can represent a crisis for a certain area or society, and a disaster for others. Economic instability, political turmoil, various pandemics (AIDS, SARS, H1N1, Ebola, the most recent corona virus), cyclones, typhoons, hurricanes, tornadoes, heat waves, famine, volcanic eruptions, floods, fires, led to serious crises that turned into catastrophes both at the national and world level. “In 2021, natural disasters totaled over 430 events globally, causing 10,492 deaths, affecting over 100 million people and causing approximately US\$252 billion in economic losses” (Parker, 2024, pp. 326). The increasingly frequent occurrence of such situations, which always include the health sector because of the consequences of the said events, indicate the importance of the development and application of crisis management.

2. Literature review

2.1 Crisis management in healthcare institutions

Crisis management is a set of functions whose main task is to identify, study and predict possible crisis events, on the basis of which certain behavior models for timely reaction and the overcoming of crisis situation with minimal consequences and the fastest possible return to the normal state are created. Crisis management is challenging for management at all levels and is often described as “an impossible job, like driving a car on a dangerous downhill with your hands tied and blindfolded” (Đukić, 2017, pp. 350). The key role in crisis management is played by the crisis manager, but other employees should also be prepared so that the whole process goes as painlessly as possible for the institution, but also for society as a whole. If it is a crisis that affects the health sector, then we must start by reminding ourselves that health workers deserve special dedication and attention in those circumstances because “their work is specific, not everyone can do it and they often do it without the presence of other motivational factors other than personal satisfaction for contributing to the health of the population” (Krstić, Obradović, Terzić-Šupić, Stanisavljević, Todorović, 2019, pp. 38-39).

Management of healthcare institutions is an important factor in crisis management (Lujanac, Mihalinić, Markotić, Kožul, 2018, p. 116). Namely, whatever the crisis in question, health institutions must not and cannot stop performing their activities, nor allow a drop in quality. “Patient rights are fundamental human rights that apply to all individuals using healthcare services, regardless of their health condition” (Krstić, Šljivić, Tomić, Bataveljić, 2024, p. 2017).

The foundations of crisis management of healthcare institutions rest on planning and management in crisis situations, creating capabilities, knowledge and skills for responding to crisis situations and delivering services. In the period of COVID-19 pandemic, “hospitals had to adapt their operational processes to

maintain the regular service provision and meet the pandemic's new surging demands” (Abdi, Lega, Ebeid, & Ravaghi, 2022, p. 2). Vnučkova (2020) emphasizes that for modern organizations it is very important to have the “ability to respond quickly and have their action plans prepared”. Every organization should have “a crisis management team, because an individual (leader/manager) cannot respond to all challenges, especially if such an individual has never left their comfort zone and has no previous experience in dealing with crises” (Lukić, Jaganjac, Lazarević, 2020, p. 547). In situation when the organization does not have prepared crisis management team, it should be formed at the first sign of a crisis. Members need to understand their roles and establish a way of functioning before the crisis takes hold. In crises, when circumstances change rapidly, it is especially important to ensure that each employee has a role that matches their knowledge and abilities and to have employees who are ready to put all their energy and heart into the work. The absence of a team and its hasty formation when a crisis situation begins creates pressure that often leads to wrong choices of team members, which can have a negative impact on the final results of the organization's struggle.

In crisis situations, the function of human resource management becomes even more important because to manage human resources becomes a real challenge that most often affects whether the organization will emerge from the crisis as a winner or a loser (Brčić, Malbašić and Đukes, 2013, p. 280). The most important role is played by the medical managers who are the most important one when everything seems lost, to build trust and authenticity, so that team members can provide quality medical services to patients (Abrudan et al., 2022, p. 41). Leadership in that period is “even more difficult because the leaders themselves “live” in the crisis and are equally affected by it as those they lead” (Walton, Murray and Christian, 2020, pp. 244-245).

2.2 Preparation of healthcare workers for crisis management

Maximum preparedness of an institution for the prevention and management of crisis situations can only be achieved through education aimed at all groups of employees, as well as management.

To manage any crisis, and especially a mass health crisis, it is necessary to have experts who are trained in crisis management, who have experience in it and who are capable of teamwork.

Every institution in a crisis forms a crisis headquarters, whose head should have a developed ability to listen more than to talk, as well as to create a climate in which members of the headquarters will make suggestions for solving certain problems (Anđelković, Anđelković, Radosavljević, 2022, p. 40). Managers in managing employees during an emergency are expected to make interventions related to “communication, access to adequate personal protective equipment (PPE), adequate rest, and practical and psychological support” (Kisely et al., 2020, p. 7). The process of education and preparation of healthcare workers also includes

acquiring knowledge about timely risk assessment and planning of crisis interventions, communication in crisis situations, and management of stress and emotional reactions.

Part of the education that would be related to risk assessment, i.e. recognizing signs of crisis, includes recognizing signs and symptoms of crisis situations, including physical, emotional and social indicators. Health workers should be educated on planning and preparing for crisis situations, including protocols for handling, safety measures and resource management. Namely, since no organization can predict or prevent all crises, it is very important to prepare for them. Members of the crisis team should discuss how what is described in the crisis plan would work in practice. Such discussions initiate various questions and suggestions for improvements. This is not only training of employees, but also a kind of “quality control” of the written crisis plan.

Communication skills should primarily include learning about interacting with patients, their families and other team members during crisis situations.

Stress and emotional response management focuses on the importance of taking care of physical and mental health during crisis situations, in order to prevent burnout and improve resilience.

Preparing employees through crisis management training is important because it allows for the development of team spirit, improved communication and cooperation among healthcare professionals, and faster and better responses to emergencies. In addition, continuous education ensures that everyone is familiar with the latest protocols, guidelines, and best practices in crisis management.

2.2.1 Planning and preparing for crisis situations

Healthcare facility managers should prepare for potential crises by developing a crisis plan. When developing a plan, facility managers must have advanced knowledge of the facility’s operational strengths and limitations in order to create the most applicable plan. The plan serves to consider possible crisis scenarios, even the worst-case scenario, and to design the facility’s responses and procedures if a disaster occurs. Thanks to the plan, the health care facility should be able to quickly adapt to any unforeseen circumstances related to the event and prevent major damage.

Crisis planning involves developing following plans: for keeping financial stability, for managing internal and external crisis communication, a plan for availability of resources, plan of employees’ training, plan of analyzing the health care facility’s potential vulnerabilities, plan of health and safety guidelines for employees in healthcare institutions during a crisis, etc. Furthermore, at this phase of the process “hospital leaders should support the quick healthcare workforce training necessary for outbreak response, particularly for those without infectious disease expertise, including proper infection control practices and how to treat, isolate and report cases” (Abdi, Lega, Ebeid, & Ravaghi, 2022, p. 5). In that case, in order to overcome potential problems in the future and most importantly, to

protect the health of health workers and non-medical personnel, it is very important:

- “to inform employees in a timely fashion and provide them with clear and precise instructions;
- to organize trainings on occupational safety;
- to organize trainings for updating knowledge on infection prevention and control (IPC);
- to organize training on the use, putting on, taking off and disposing of protective equipment” (PPE) (The First Affiliated Hospital. 2020, p. 9).

The results of a survey conducted among healthcare workers in state Covid hospitals in Serbia during 2020 gave the following results when assessing the preparedness of healthcare workers for a crisis situation: the largest percentage of respondents stated that they “received training on occupational safety, training on updating knowledge on infection prevention and control, training on the use, putting on, taking off and disposing of protective equipment when the pandemic began, not before” (Ignjatović, Gavrić, Jovčić, 2023, p. 60). The same survey showed that the largest percentage of respondents received protocols for assessing, triaging, testing and treating patients at their workplace, that they were provided with adequate protective equipment, but that the protective equipment was occasionally lacking at their workplace. Therefore, we can conclude that instructions on the crisis situation were distributed to “all healthcare workers in detail and in a timely manner, but that the necessary training was mainly provided to employees at the beginning of the pandemic, which could be corrected and in the future implemented in the preparation process, not at the beginning of the crisis” (Ignjatović, Gavrić, Jovčić, 2023, p. 60). On the other hand, healthcare workers in Iran for example “said that they went through all useful trainings for pandemic on time, while trainings, for example, were weak in the USA” (Yusefi et al, 2022). A poor result in Serbia is the fact that protective equipment was occasionally lacking at the workplace.

2.2.2 Communication in crisis situations

Openness of communication channels and transparency towards the internal and external public is the most important obligation of every institution during the resolution of a crisis situation. Gathering and sharing truthful information is important to reduce the fear of uncertainty, to provide clear guidance on the next steps, as well as to show both employees and the public that the management is committed to resolving the crisis, etc. According to Abdi, Lega, Ebeid, & Ravaghi (2022, p. 4) “during the COVID-19 crisis, it was evident that interpersonal relationships and communication between management and hospital teams were crucial, as well as external communication and relations between hospital managers and various stakeholders because the COVID-19 pandemic led to a burden on healthcare institutions, which required good communication between different neighboring hospitals and close cooperation with universities and local authorities”.

Since healthcare workers may not have faced such an extreme situation before, it is crucial that leaders create a clear action plan that will be communicated to medical staff. They should also make an effort to educate their employees about crisis situations through preparation, protocols, instructions on communication and dealing with the stress and emotional reactions inevitable in such situations. In order to better inform and communicate with employees, press releases should be made available to them before they are sent to the media, and if possible, special briefings should be organized for them where they can ask questions about the crisis situation.

Well-established communication systems contributing to an integrative climate In organization, reducing conflicts, raising morale, improving employee performance and commitment, developing greater self-confidence, and increasing their job satisfaction. “In the research conducted in North Macedonia health workers who worked in COVID hospitals indicated that communication for overcoming organizational issues emerged during the pandemic and access to information regarding the pandemic had positive and statistically significant influence on the employees’ satisfaction of the human resource management in the healthcare organizations” (Eftimov & Bozhinovska, 2021, p. 180).

“The results of a survey conducted in state Covid hospitals in Serbia in 2020 gave the following results when assessing the development of the communication system: the largest percentage of respondents received clear and precise instructions on work and behavior during the pandemic, from the very beginning of the pandemic, healthcare workers received all the necessary information about the SARS-CoV-2 virus, as well as accurate instructions on providing information on the prevention of the SARS-CoV-2 virus to patients and the public” (Ignjatović, Gavrić, Jovčić, 2023, p. 60). We can conclude that the system of informing healthcare workers during the pandemic in Serbia functioned well.

2.2.3 Stress management and emotional reactions in crisis situations

“Healthcare workers are on the front lines in crisis situations, and most health systems, due to a lack of trained personnel, migration of skilled labor, and poor geographical distribution of workers” (Bandyopadhyay et al., 2020, p. 1), “do not have enough health care workers to care for a large number of patients” (Puvača et al., 2021, p. 3). “In crisis situations, everything should be done to improve and maintain the psychological resilience of health care workers in order to maintain the quality of health services” (Bozdag and Ergun, 2020, p. 2570). The reason is simple: “Ability to care for patients depends on the healthcare workforce's well-being — physical and emotional” (Abdi, Lega, Ebeid, & Ravaghi, 2022, p. 4).

“For employees in healthcare institutions, crisis like epidemics or pandemics present special challenges due to the unknown methods of treatment, social isolation after the first symptoms appear, as well as concerns for the safety

of patients, themselves, and their loved ones and depression, anxiety, and stress occur very often” (Tomašević, Stevanović, Kostić, 2024, p. 70) (Moitra et al., 2021, p. 6).

According to research, the “fear of uncertainty or infection is at the forefront of the psychological challenges faced by healthcare workers” ((Cabarkapa, Nadjidai, Murgier and Ng, 2020, p. 9) (San Juan, 2021, p. 1)). San Juan (2021, p. 1) states that in addition to these, the situation is further aggravated by: frustration, discrimination, isolation, and lack of contact with family.

“Stressors threaten the well-being and mental health of healthcare workers, thus jeopardizing the quality of care and the efficiency of healthcare systems in critical situations” (Sangra, 2022, p. 1), and in a difficult situation such as any “crisis situation, policymakers could increase employment in this sector, encourage more flexible work shifts and implement psycho-social and emotional support for this category of workers” (Trumello et al., 2020, p. 9). For example, “in the early stages of the COVID-19 pandemic, some hospitals in China set up an online psychological counseling group to provide emotional support to healthcare workers” (Abdi, Lega, Ebeid, & Ravaghi, 2022, p. 5). Employees should feel that they are part of the institution and that it takes care of them, and not that management is a power center that, with its reckless moves, additionally creates stressful situations.

The results of a survey conducted in state-run Covid hospitals in Serbia in 2020 gave the following results when assessing the management of stressful situations and emotional reactions of employees in a crisis situation: “employees in state-run healthcare institutions did not feel safe in their workplace during the pandemic, their working hours were respected during the pandemic, their shifts were not changed, they had the right to a break as in normal circumstances, but despite this they often felt tired or exhausted more than usual, there was one of their superiors to whom they could complain if they had a problem, but also, there was no one in the institution where they worked who was responsible for taking care of their mental health and who they could turn to for help during the pandemic” (Ignjatović, Gavrić, Jovčić, 2023, p. 60).

We can conclude that during the Covid pandemic it was positive that employees had more or less regular working hours, that their shifts were not changed, that they had the right to a break as in normal circumstances, because this certainly had a positive impact on preventing their tension and stress at work. Despite this, they stated that they often felt tired or exhausted at work and that they also did not feel safe. This should be reviewed and improved in the coming period because it is negatively correlated with work and productivity. All employees surveyed were unanimous in saying that no one was responsible for taking care of their mental health, which is not good. “The results of this research are in accordance with reports from medical staff from other countries which describe physical and mental exhaustion, the torment of difficult triage decisions, and the pain of losing patients and colleagues, all in addition to the infection risk” (Lancet, 2020, p. 922). “Research studies also show that derangement and negative

emotions were the main challenges for the physicians and nurses who were working in the covid-19 Intensive Care Units (ICU) in Iran and in Canada” (Yusefi et al., 2022).

3. Crisis management factors - research results

The aim of the research is to identify factors of importance for crisis management. The appropriate sample included 243 respondents, i.e. employees in secondary and tertiary healthcare institutions in Serbia, during the corona virus pandemic. A 16-item questionnaire was used for the purposes of the research. Questionnaires were distributed via e-mail and in direct contact with respondents. The research was conducted in the period from May to December 2020. Data were analyzed using the IBM SPSS 21 software package.

In order to identify relatively homogeneous sets of variables, exploratory factor analysis was used. For factor extraction, the Kaiser criterion was applied, according to which factors whose characteristic root is greater than 1 are taken into account. Exploratory factor analysis revealed 5 factors with an eigenvalue greater than 1. The significance of the Bartlett test ($\chi^2 = 2651.120$, $df = 120$, $p < 0.001$) suggests that there are certain interdependencies between variables, which justifies the application of factor analysis to reveal the basic structure of a set of variables in research. The Kaiser-Meyer-Olkin (KMO) indicator was 0.841, which confirms the adequacy of the sample for applying factor analysis.

Results of KMO and Bartlett's Test

Table 1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,841
Bartlett's Test of Sphericity	Approx. Chi-Square	2651,120
	df	120
	Sig.	,000

Source: Author's own calculation

Confirmatory factor analysis confirmed 5 factors, which made up 16 attitudes, whereby the total variance explained by 5 factors is about 81.57%. Based on the results shown in the table, the factor loadings are large enough and range from 0.788 to 0.868 for the first factor, 0.911 to 0.937 for the second factor, 0.842 to 0.881 for the third factor, from 0.874 to 0.887 for the fourth factor and from 0.751 to 0.839 for the fifth factor.

Results of confirmatory factor analysis

Table 2

Items		Factors				
		1	2	3	4	5
I1	There is sufficient protective equipment in the workplace.			,881		

Items		Factors				
		1	2	3	4	5
I2	There is adequate protective equipment provided at my workplace (masks, gloves, goggles, suits, hand sanitizer, soap and water, cleaning supplies).			,866		
I3	We receive protocols for assessing, triaging, testing, and treating patients at our workplace.			,842		
I4	We entitled to a break during the pandemic as in normal circumstances.	,788				
I5	I am feeling more tired or exhausted than usual during the pandemic due to work.	,858				
I6	There is always someone from my superiors to whom I can complain if I have a problem (I am tired, scared, ...) during the pandemic.	,845				
I7	There is someone in the institution where I am working who is responsible for taking care of our mental health and who you can turn to for help during the pandemic.	,868				
I8	I feel safe at my workplace during the pandemic.				,887	
I9	My working hours are respected during the pandemic.				,874	
I10	I have shifts changing during the pandemic.				,884	
I11	I received refresher training on infection prevention and control.					,751
I12	I received training on the use, donning, doffing, and disposal of protective equipment.					,839
I13	I am receiving accurate instructions on providing information on SARS CoV 2 virus prevention to patients and the public.					,836
I14	I receive all the necessary information about the SARS CoV 2 virus at my workplace from the very beginning.		,911			
I15	I receive clear and precise instructions about work and behavior during the pandemic at my workplace from the very beginning.		,915			

Items		Factors				
		1	2	3	4	5
I16	I have undergone occupational safety training.		,937			
% of Variance		36,942	14,692	12,433	9,758	7,740
Cumulative %		36,942	51,634	64,067	73,825	81,565

Source: Author's own calculation

Confirmatory factor analysis confirmed five factors. Four attitudes were used to measure the first factor, while three attitudes were used to measure the other factors.

F1: Mental health

F2: Communication and training

F3: Equipment and protocols

F4: Security and stability

F5: Prevention

Table 3 shows the descriptive statistics of the success factors of crisis management and the value of the Cronbach alpha coefficient. The highest mean value was recorded for factor F3 (9.9232), which means that respondents rated this factor the best. On the other hand, the lowest mean value was recorded for the F2 factor (3.2195). The highest dispersion of results was recorded in factor F1 (1.00652), and the lowest in factor F5 (.86651). Values of the Cronbach alpha coefficient, greater than 0.70, indicate a good internal consistency of each of the mentioned factors.

**Descriptive statistics of crisis management success factors
and internal consistency of factors**

Table 3

Factors	Mean	Std. Deviation	Cronbach's α
Mental health	3,8796	1,00652	.915
Communication and training	3,2195	,88934	.931
Equipment and protocols	3,9232	,88168	.902
Security and stability	3,8025	,89038	.890
Prevention	3,7750	,86651	.809

Source: Author's own calculation

Note: Mean values of crisis management success factors were calculated as: *I factor* = $I4 + I5 + I6 + I7/4$; *II factor* = $I14 + I15 + I16/3$; *III factor* = $I1 + I2 + I3/3$; *IV factor* = $I8 + I9 + I10/3$; *V factor* = $I11 + I12 + I13/3$.

4. Conclusion

The old proverb goes "Prevention is better than cure," and every responsible healthcare organization should have a crisis management plan in place. A well-formulated plan allows the organization to overcome the negative effects of crises and maintain its reputation at an optimal level.

Managers must take on the responsibility of strengthening their own

expertise in crisis management by improving the skills that may be needed in such situations. It is possible to obtain a crisis management certificate in numerous courses, and there are also many articles, webinars, and other resources on the subject that can be used.

The readiness of an organization to respond to a crisis situation is actually the readiness of its employees. "According to the report in the publication *Economic and Social Impact of COVID-19 (2020)*, which included a survey of the Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia) and which refers to the results of the JEE (Joint External Evaluation) and the GHSI (Global Health Security Index), all five countries received the lowest scores according to the GHSI index for health system capacity, which considers factors such as health capacity in clinical centers, hospitals and health centers; medical countermeasures and staff assignments; access to health care; communication with health workers in the event of a public health emergency; and infection control practices and availability of equipment" (Western Balkans Regular Economic Report, 2020, pp. 4). "The report also states that the Western Balkans region has long-standing structural weaknesses in terms of financing, service delivery, leadership and workforce management, which makes all health systems in the region vulnerable to adverse events" (Western Balkans Regular Economic Report, 2020, pp. 2). Therefore, according to this report, there is a problem in managing health care institutions in crisis situations in Serbia and the countries in the region, although Stamenović & Ćuzović (2020) think in general that "the management of health care institutions in Serbia is at a relatively low level in practice". Also, as shown in the paper, the results of crisis management research in other countries around the world have shown that there is certainly room for improvement in this area in health care institutions.

The results of the factor analysis showed that the success of crisis management, in the context of Serbia, is influenced by five factors: care for the mental health of employees, communication and training, sufficient equipment and the existence of clear protocols, a sense of security and stability at work place and work on prevention, i.e. preparing and protecting employees during a crisis situation.

Crisis management in the healthcare sector is an insufficiently researched area, with modest sources of literature, so future research should be focused on changing that, given that we live in a time of frequent crisis situations. They come silently, they are difficult to avoid, so the best suggestion for a healthcare institution is to prepare for them in order to manage them, and not let the crisis manage the work of the healthcare institution.

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