# The Reality of Crisis Management in Public Healthcare Institutions in Algeria during the COVID-19 Crisis Public Healthcare: Institutions in the Province of Khenchela as a Model

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**Abstract:**

This study aims to identify the reality of crisis management in healthcare institutions in the province of Khenchela, serving as a model for Algerian healthcare institutions. It involves a directed questionnaire targeting managers, deputy managers, and department heads to assess the extent of availability of the crisis management system in its five stages. It also seeks to determine the major obstacles preventing its implementation in the studied institutions. Ultimately, the results are as follows:

The crisis management system is moderately available across the stages (early warning signals detection, preparation and prevention, damage containment, and learning). However, the recovery stage shows weak availability in the institutions under study. Furthermore, a statistically significant relationship exists among the five stages.

**Keywords:** Crisis, Crisis Management, Crisis Management Stages, Hospitals.

**JEL Classification Codes**: H00, H12

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## 1. INTRODUCTION

In our present era, crises are regarded as the predominant feature due to the rapid developments they experience, and the success of institutions relies on their capacity to keep pace with these advancements and effectively manage the crises that intermittently arise, posing threats to the institution's continuity and existence.

Regardless of their types or sizes, institutions are susceptible to crises that start small, gradually intensify, and become more severe because of the inability to confront them adequately. Furthermore, adopting traditional methods to manage these crises has proven futile and ineffective in contemporary crises. These factors have urged administrators and practitioners in the administrative domain to devise more suitable and efficient ways to handle the disruptions that intermittently disturb the functioning of institutions. Therefore, crisis management has appeared as an administrative approach involving interconnected administrative procedures to prevent and remedy the crises that impact institutions.

The healthcare sector, like other sectors, is vulnerable to crises. It has experienced various crises, such as malaria, SARS, swine flu, cholera, and the novel coronavirus (COVID-19). The rapid and widespread dissemination of the latter caused significant financial and human losses to countries, and its repercussions continue to be felt this day.

The Algerian healthcare institutions, like others worldwide, have been affected by this crisis, suffering substantial losses in both lives (administrative, medical, and paramedical staff) and finances. Hence, a critical need emerged to adopt a crisis management system within Algerian healthcare institutions to mitigate the severity of such crises.

### A. Problem Statement

Healthcare institutions in all forms (university hospital centres, public hospitals, specialized hospitals, and public primary healthcare facilities) are among the institutions most vulnerable to different crises. The research's problem statement aims to identify the reality of implementing a crisis management system in healthcare institutions in the province of Khenchela

as a sample of Algerian healthcare institutions and what impediments stand in the way of applying this system.

To simplify this problem statement, the following questions are raised:

- To what extent is there an organized process for crisis management within healthcare institutions?
- What are the primary impediments preventing an effective crisis management system in these institutions?
- Is there a statistically significant relationship between the stages of crisis management?

To address these questions, the study proposes the following hypotheses:

- A crisis management system ranging from early detection to intervention and recovery in institutions under study to a moderate degree.
- There is a statistically significant correlation between the stages of crisis management.

**B. Study Objectives**

This study aims to achieve the following objectives:

- Identify the availability of a crisis management system in healthcare institutions in Khenchela province.
- Evaluate the effectiveness of all stages of crisis management.
- Determine the key impediments hindering the application of a crisis management system.

## 2. The Theoretical Framework of Crisis Management in Healthcare Institutions

### 2.1 Crisis and Crisis Management

The term "crisis" has gained popularity in recent years, particularly amidst the rapid developments within organizational environments.

#### 2.1.1 Crisis Term

Linguistically, the term "crisis" stems from the ancient Greek word κριςις, which denotes decision-making (Guillaume, 2015, p. 3). According to the American Webster dictionary, it is a turning point towards better or

worse conditions, a critical state, or a challenging time (Al-Abadi, 2015, p. 82).

Researchers introduce different definitions for the term "crisis," among them:

• "A crisis is an unstable and decisive time in which change is necessary, resulting in either desired or undesired transformation." (Sekri, 2021, p. 43).

• "It is an anticipated or unanticipated threat to the goals, values, beliefs, and possessions of individuals, groups, and companies alike." (Diab, 2021, p. 264).

Hence, a crisis is characterized by surprise and speed, followed by a state uncertainty and a threat to the goals and interests of the system and the institution.

**2.1.2 Crisis Features**

From the preceding definitions, we deduce that several attributes characterize a crisis. A crisis leads to a significant and violent surprise, instigating fear and terror within the organization. Moreover, it is marked by a high degree of complexity and intricacy in its elements and causes, with a profound interconnection among stakeholders' interests. It also has a short duration and a limited time span. (Abou Fara, 2009, p. 27). Furthermore, it is a human-made event, possessing both negative and positive aspects, occurring anywhere and at any time. It necessitates rapid decision-making within the organization under uncertainty and information scarcity (Alani, 2021, p. 200).

**2.1.3 Crisis Management Definition**

Crisis management is a system aimed at addressing crises through preparatory processes, planning, and necessary preparations to predict and avoid crisis indicators before they occur. It seeks to limit the resulting damages during their occurrence, escalation, and exacerbation, using methods that assist the organization in continuing its normal activities (Yasbou, 2021, p. 601).

From this definition, we conclude that crisis management serves as a

preventive tool to avert crises and as a corrective tool to confront and mitigate their effects when they occur.

**2.1.4 Crisis Management Stages**

The crisis system consists of five stages as follows:

**A) Early Warning Signals Detection stage:** Before a crisis occurs, there is often an extended period during which a set of symptoms or signals predicts its probability or a series of early warning signals. Hence, one of the critical functions of crisis management is to detect, track, and analyze these early warning signs.

**B) Preparation and Prevention Stage:** The main goal of crisis management in this stage is to prevent or reduce the severity of crises. Different scenarios for expected crisis events are developed, and roles are assigned in a manner that achieves the primary goal of crisis management: effectively dealing with the crisis with efficiency (Litim & Boutghan, 2019, pp. 127-128).

**C) Damage Containment stage:** This stage mainly relies on the aforementioned stage. It involves acknowledging the crisis, containing its effects, and addressing them. This stage holds considerable significance as its primary aim is to minimize losses and narrow down the impacts caused by the crisis to the greatest extent possible (Madi & Ben Bertal, 2020, p. 58).

**D) Recovery Stage:** This stage includes the preparation and execution of pre-studied and planned programs and solutions, covering short or long-term periods. If these solutions are not tested and studied beforehand, it may worsen the crisis and make it challenging to select alternatives at that time.

**E) Learning Stage:** This final crisis management stage entails continuous learning and reassessment to improve and enhance what has been achieved in previous periods. Continuous learning is essential; it serves as an influential tool that enhances the memories of the painful experiences caused by the crisis when it occurred. To learn, individuals must be prepared to accept losses after they happen and learn from those

mistakes to prevent their repetition (Al-Hanzab & Abu Qaoud, 2020, p. 264).

## 2.2 Hospitals Theoretical Framework

### 2.2.1 Hospitals Definition

Hospitals are institutions that provide treatment and receive patients for recovery or those in need of medical rehabilitation. They include clinics, dispensaries, and departments dedicated to outpatient care (Hewitt, 2004, p. 112).

It is an essential part of medical social organizations whose function is to provide comprehensive health care to the population, whether therapeutic or preventive. Its outpatient services extend to families in their home environment. Besides, it serves as a training center for health workers and conducts social and vital research (Kadi & Mediouni, 2014, p. 160).

### 2.2.2 Types of Crises in Hospitals

Many crises arise in hospitals, which can be classified into (Houria & Fatim, 2020, pp. 59-60):

• **Physical Crises**: These are risks that may arise due to the unsuitability of the environment, laboratories, or administrative buildings concerning factors such as lighting, ventilation, noise, and temperature resulting from the failure to apply occupational health and safety procedures during the establishment and equipping of healthcare facilities.

• **Engineering Crises**: These are further classified into:

- **Electrical Wiring and Equipment Crises**: Involving risks related to electrical wiring and the operation of machinery, equipment, and tools in operating rooms, intensive care units, radiology departments, computer labs, electrical rooms, substation panels, and lighting poles.
- **Constructional Crises**: Risks that hospital users may face due to the failure to apply safety and occupational health procedures during the hospital's design and construction process, like the absence of exits, corridors, escape staircases, and safety equipment.

- **Mechanical Crises:** Patients and staff are exposed to risks from machinery and equipment in hospitals and scientific laboratories because of the absence of safety and occupational health procedures.

- **Chemical Crises:** Under this category, fall risks associated with chemical substances such as liquids, gases, fumes, and dust are faced by patients and laboratory workers during scientific experiments and the transportation, handling, and storage of these substances.
- **Health Crises**: These include illnesses that patients in hospitals may contract due to the presence of germs or microbes emitted by the surrounding environment due to the lack of suitable and properly maintained health facilities, including water coolers, restrooms, cafeterias, or waste accumulation in the medical environment.
- **Fire Crises**: Fires pose threats to the lives of patients and healthcare facility users, endangering lives and causing property damage due to the absence of safety standards during the construction of medical facilities or the lack of fire alarm systems, firefighting equipment, and training hospital teams on fire response procedures.
- **Personal (Negative) Crises:** These involve harm or damage suffered by patients and medical facility users due to neglecting to apply occupational health and safety procedures or a lack of awareness owing to the absence of awareness programs.

## 3. Applied Aspect

### 3.1 Study Population and Sample

The research population includes all directors, deputy directors, and department heads working in the public hospital establishment at Ali Boushaba, the specialized public institution at Salhi Belkacem, and the public institution for neighbourhood health in kais and its annexe in Rmila. They were selected because they are at the forefront of crisis management and demonstrate higher awareness than others.

### 3.2. Reliability and Validity of the Questionnaire

To calculate the reliability coefficient, the Cronbach's alpha coefficient was used.

As for calculating the questionnaire's intrinsic validity, the square root of the reliability coefficient and Table 01 illustrate this.

**Table 1.** Reliability and Validity Coefficients of the Questionnaire.

**Source**: Prepared by the researchers based on SPSS outputs.

| Axis | Items N° | Cronbach's Alpha coefficient | Intrinsic validity |
|---|---|---|---|
| Early warning signals detection | 06 | 0.87 | 0.93 |
| Preparation and prevention | 08 | 0.84 | 0.92 |
| Damage containment | 05 | 0.81 | 0.90 |
| Recovery | 04 | 0.84 | 0.92 |
| Learning | 03 | 0.86 | 0.93 |
| Axis of Crisis Management Impediments | 06 | 0.82 | 0.91 |

From the table above, we notice that the reliability coefficients for the study's dimensions range between 0.81 and 0.87, which are high values surpassing 0.70. Furthermore, the validity values ranged between 0.90 and 0.93, indicating high levels of both reliability and validity for the questionnaire.

### 3.3 Study Sample Features

The following table illustrates the features of the study sample:

**Table 2.** Study Sample.

| | Variable | Frequency | Percentage frequency |
|---|---|---|---|
| Gender | Male | 30 | 44.78 |
| | Female | 37 | 55.22 |
| | Total | 67 | 100 |
| Age | Under 30 years | 11 | 16.41 |
| | From 30 to less than 40 | 28 | 41.79 |
| | From 40 to less than 50 | 12 | 17.92 |

| | | | |
|---|---|---|---|
| | From 50 or more | 16 | 23.88 |
| | Total | 67 | 100 |
| Occupation | Manager | 3 | 4.47 |
| | Branch Manager | 10 | 14.93 |
| | Department Head | 54 | 80.60 |
| | Total | 67 | 100 |
| Years of Experience | Less than 05 | 8 | 11.95 |
| | From 05 to less than 10 | 26 | 38.80 |
| | From 10 to less than 15 | 15 | 22.38 |
| | From 15 and above | 18 | 26.87 |
| | Total | 67 | 100 |

**Source:** Prepared by the researchers based on SPSS outputs.

The table above indicates that the female percentage was the highest, reaching 55.22%, while the largest share belonged to the age group (30-40 years) at 41.79%. Additionally, the table highlights that the position of the department head ranked first at 80.60%. Ultimately, the table also shows that the highest percentage for years of experience was in the (5-10 years) category at 38.80%.

### 3.4 Presentation and Analysis of the Study Survey Results

### 3.4.1 Presentation and Analysis of Results for the Early Warning and Signal Detection Phase

| Item | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Total | Mean | Rank |
|---|---|---|---|---|---|---|---|---|---|
| 01 | Frequency | 09 | 28 | 06 | 09 | 13 | 2.83 | 1.39 | 01 |
| | Percentage | 13.80 | 43.10 | 9.20 | 13.80 | 20 | | | |
| 02 | Frequency | 08 | 28 | 08 | 18 | 03 | 2.69 | 1.14 | 03 |
| | ercentage | 12.30 | 43.10 | 12.30 | 27.70 | 4.60 | | | |
| 03 | Frequency | 09 | 28 | 14 | 11 | 03 | 2.55 | 1.08 | 05 |
| | Percentage | 13.80 | 43.10 | 21.50 | 16.90 | 4.60 | | | |
| 04 | Frequency | 09 | 23 | 12 | 15 | 06 | 2.78 | 1.22 | 02 |
| | Percentage | 13.80 | 35.40 | 18.50 | 23.10 | 9.20 | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 05 | Frequency | 14 | 17 | 18 | 13 | 03 | 2.60 | 1.17 | 04 |
| | Percentage | 21.50 | 26.20 | 27.70 | 20 | 4.60 | | | |
| 06 | Frequency | 13 | 26 | 14 | 09 | 03 | 2.43 | 1.10 | 06 |
| | Percentage | 20 | 40 | 21.50 | 13.80 | 4.60 | | | |
| Axis of Early Warning and Signal Detection Phase | | | | | | | 2.65 | 0.75 | |

**Table 3.** Presentation and analysis of results for the Early Warning and Signal Detection.

**Source**: Prepared by the researchers based on SPSS outputs.

Table 3 indicates a moderate level of interest in the Early Warning and Signal Detection phase, with a mean value of 2.65 and a standard deviation of 0.75. This is attributed to the absence of a dedicated department for analyzing and categorizing the obtained signals and understanding them for effective crisis prevention.

### 3.4.2 Presentation and Analysis of Results for the Preparation and Prevention Phase:

**Table 4.** Presentation and analysis of results for the Preparation and Prevention Phase.

| Item | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Total | Mean | Rank |
|---|---|---|---|---|---|---|---|---|---|
| 07 | Frequency | 12 | 30 | 09 | 05 | 09 | 2.52 | 1.28 | 03 |
| | Percentage | 18.50 | 46.20 | 13.80 | 7.70 | 13.80 | | | |
| 08 | Frequency | 11 | 29 | 10 | 12 | 03 | 2.49 | 1.12 | 04 |
| | Percentage | 16.90 | 44.60 | 15.40 | 18.50 | 4.60 | | | |
| 09 | Frequency | 13 | 27 | 12 | 08 | 05 | 2.46 | 1.17 | 05 |
| | Percentage | 20 | 41.50 | 18.50 | 12.30 | 7.70 | | | |
| 10 | Frequency | 13 | 27 | 10 | 12 | 03 | 2.46 | 1.15 | 06 |
| | Percentage | 20 | 41.50 | 15.40 | 18.50 | 4.60 | | | |
| 11 | Frequency | 12 | 15 | 22 | 13 | 03 | 2.69 | 1.13 | 01 |
| | Percentage | 18.50 | 23.10 | 33.80 | 20 | 4.50 | | | |
| 12 | Frequency | 14 | 23 | 08 | 16 | 04 | 2.58 | 1.25 | 02 |
| | Percentage | 21.50 | 35.40 | 12.30 | 24.60 | 6.20 | | | |
| 13 | Frequency | 14 | 27 | 12 | 09 | 03 | 2.38 | 1.11 | 07 |
| | Percentage | 21.50 | 41.50 | 18.50 | 13.80 | 4.60 | | | |
| 14 | Frequency | 09 | 38 | 07 | 06 | 05 | 2.38 | 1.09 | 08 |
| | Percentage | 13.80 | 58.50 | 10.80 | 9.20 | 7.70 | | | |
| **The Axis of Preparation and Prevention Phase** | | | | | | | 2.50 | 0.71 | |

**Source**: Prepared by the researchers based on SPSS outputs.

Table 4 indicates that the Preparation and Prevention phase is available to a moderate degree. The mean value was 2.50 with a standard deviation of 0.71. This indicates a moderate ability for planning and crisis management but is deemed insufficient for effectively dealing with crises. The result is consistent and coherent with the previous phase.

### 3.4.3 Presentation and Analysis of Results for the Damage Containment Phase

**Table 5.** Shows the presentation and analysis of results for the Damage Containment Phase.

| item | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Total | Mean | Rank |
|---|---|---|---|---|---|---|---|---|---|
| 15 | Frequency | 07 | 33 | 13 | 07 | 05 | 2.54 | 1.08 | 03 |
| | Percentage | 10.80 | 50.80 | 20 | 10.80 | 7.70 | | | |
| 16 | Frequency | 07 | 35 | 06 | 07 | 10 | 2.66 | 1.27 | 02 |
| | Percentage | 10.80 | 53.80 | 9.20 | 10.80 | 15.40 | | | |
| 17 | Frequency | 10 | 21 | 14 | 17 | 03 | 2.72 | 1.15 | 01 |
| | Percentage | 15.40 | 32.30 | 21.50 | 26.20 | 4.60 | | | |
| 18 | Frequency | 14 | 28 | 11 | 10 | 02 | 2.35 | 1.08 | 04 |
| | Percentage | 21.50 | 43.10 | 16.90 | 15.40 | 3.10 | | | |
| 19 | Frequency | 15 | 28 | 12 | 06 | 04 | 2.32 | 1.12 | 05 |
| | Percentage | 23.10 | 43.10 | 18.50 | 9.20 | 6.20 | | | |
| **The Axis of Damage Containment Phase** | | | | | | | 2.52 | 0.82 | |

**Source:** Prepared by the researchers based on SPSS outputs.

Table 5 indicates that the Damage Containment phase is available to a moderate degree, with a mean value of 2.52 and a standard deviation of 0.82. The item "Controlling the crisis and limiting its consequences in a short time" ranked first with a mean of 2.72 and a standard deviation of 1.15. On the other hand, the item "Providing material and human resources quickly to contain the crisis" ranked last with a mean of 2.32 and a standard deviation of 1.12. Perhaps the reason behind this is the focus on addressing the effects of crises while neglecting their causes.

### 3.4.4 Presentation and Analysis of Results for the Recovery Phase

**Table 6.** Shows the presentation and analysis of results for the Recovery Phase.

| Item | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Total | Mean | Rank |
|---|---|---|---|---|---|---|---|---|---|
| 20 | Frequency | 15 | 30 | 05 | 10 | 05 | 2.38 | 1.22 | 02 |
| | Percentage | 23.10 | 46.20 | 7.70 | 15.40 | 7.70 | | | |
| 21 | Frequency | 11 | 36 | 12 | 05 | 01 | 2.22 | 0.87 | 03 |
| | Percentage | 16.90 | 55.40 | 18.50 | 7.70 | 1.50 | | | |
| 22 | Frequency | 15 | 32 | 09 | 08 | 01 | 2.20 | 0.99 | 04 |
| | Percentage | 23.10 | 49.20 | 13.80 | 12.30 | 1.50 | | | |
| 23 | Frequency | 11 | 32 | 06 | 13 | 03 | 2.46 | 1.13 | 01 |
| | Percentage | 16.90 | 49.20 | 9.20 | 20 | 4.60 | | | |
| **The Axis Recovery Phase** | | | | | | | 2.32 | 0.77 | |

**Source:** Prepared by the researchers based on SPSS outputs.

Table 6 indicates that the Recovery phase is available to a weak degree, with a mean value of 2.32 and a standard deviation of 0.77. Item No. (23) "Implementing the necessary plans to complete duties in the department after the crisis" ranked first with a mean of 2.46 and a standard deviation of 1.13. On the other hand, Item No. (22) "Management works to take all measures to mitigate the effects of the crisis and curb its continuation" ranked last with a mean of 2.20 and a standard deviation of 0.99.

### 3.4.5 Presentation and Analysis of Results for the Learning Phase

**Table 7.** Shows the presentation and analysis of results for the Learning Phase.

| **Item** | | **Strongly disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly agree** | **Total** | **Mean** | **Rank** |
|---|---|---|---|---|---|---|---|---|---|
| 24 | Frequency | 18 | 27 | 08 | 06 | 06 | 2.31 | 1.24 | 03 |
| | Percentage | 27.70 | 41.50 | 12.30 | 9.20 | 9.20 | | | |
| 25 | Frequency | 15 | 30 | 08 | 07 | 05 | 2.34 | 1.18 | 02 |
| | Percentage | 23.10 | 46.20 | 12.30 | 10.80 | 7.70 | | | |
| 26 | Frequency | 11 | 33 | 09 | 09 | 03 | 2.38 | 1.07 | 01 |
| | Percentage | 16.90 | 50.80 | 13.80 | 13.80 | 4.60 | | | |
| Learning Stage Axis | | | | | | | 2.34 | 0.94 | |

**Source:** Prepared by the researchers based on SPSS outputs.

Table 7 indicates that the Learning Phase has a mean of 2.34 and a standard deviation of 0.94. In this phase, the hospitals benefit from the experiences of other institutions in dealing with similar crises. Additionally, these hospitals work on improving their plans and programs for crisis management more effectively.

**3.5 Testing the hypotheses' validity**

- **Verifying the First Hypothesis:** The crisis management system starts from the early warning signals detection, then processing, reaching the recovery of activity and learning within the studied institutions to a moderate degree.

**Table 8.** Indicates the Availability Level of Crisis Management Phases in the Studied Institutions.

| Descriptive statisties / Stage | Mean | Standard deviation | Level |
|---|---|---|---|
| Early warning signals detection | 2.65 | 0.75 | Moderate |
| Preparation and prevention | 2.50 | 0.71 | Moderate |
| Damage containment | 2.52 | 0.82 | Moderate |
| Recovery | 2.32 | 0.77 | Weak |
| Learning | 2.34 | 0.94 | Moderate |

**Source:** Prepared by the researchers based on SPSS outputs.

Table8 indicates that the mean value for the early warning signal detection stage is 2.65, with a standard deviation of 0.75. Meanwhile, the mean value for the preparation and prevention stage is 2.50, with a standard deviation of 0.71. As for the damage containment stage the mean is 2.52, with a standard deviation of 0.82. The activity recovery stage's mean is 2.32, with a standard deviation 0.77. Lastly, the learning stage has a mean of 2.34 with a standard deviation of 0.94.

Regarding the mean values for the following stages: early warning signal detection, preparation and prevention, damage containment, and learning, which are 2.65, 2.50, 2.52, and 2.34, respectively, we observe that they fall within the range [2.34, 3.66]. This indicates that these stages are moderately available within the studied institutions.

However, the mean value of 2.32 for the activity recovery stage belongs to the range [01, 2.33], suggesting that this stage is weakly available within the studied institutions. Hence, we conclude that the first hypothesis stating: "The crisis management system is available, starting from the early detection of signals, then processing, reaching the recovery of activity and learning within the studied institutions to a moderate degree", is partially validated.

- **Verifying the second hypothesis:** There is a statistically significant relationship between the crisis management stages in the studied institutions.

The Pearson correlation coefficient was adopted to identify the nature of the relationship between the crisis management stages in the studied institutions. The following table illustrates this:

**Table 9.** Nature of the Relationship between Crisis Management Stages in the Studied Institutions.

| **Stage** | **/** | **Early Warning and Signal Detection** | **Preparation and Prevention** | **Damage Containment** | **Recovery** | **Learning** |
|---|---|---|---|---|---|---|
| Early Warning and Signal Detection | Calculated Pearson value | | 0.67 | 0.66 | 0.66 | 0.57 |
| | Pearson Probability sig | | *0.000 | *0.000 | *0.000 | *0.000 |
| Preparation and Prevention | Calculated Pearson value | | | 0.79 | 0.70 | 0.77 |
| | Pearson Probability sig | | | *0.000 | *0.000 | *0.000 |
| Damage Containment | Calculated Pearson value | | | | 0.69 | 0.78 |
| | Pearson Probability sig | | | | *0.000 | *0.000 |
| Recovery | Calculated Pearson value | | | | | 0.57 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Pearson Probability sig | | | | | *0.000 |
| Learning | Calculated Pearson value | | | | | |
| | Pearson Probability sig | | | | | |

**Source:** Prepared by the researchers based on SPSS outputs.

Through Table 9, we note that the probability of Pearson's correlation test between the early warning signal detection stage and the subsequent stages: preparation and prevention, damage containment, activity recovery, and learning, is estimated at 0.000 for each, which is less than the error rate of 0.05. This demonstrates a statistically significant relationship between the early warning signal detection stage and the subsequent stages: preparation and prevention, damage containment, activity recovery, and learning.

Furthermore, the nature of this relationship is negative, and the positive sign of the computed Pearson values confirms this.

We also observe that the probability of Pearson's correlation test between the preparation and prevention stage and the subsequent stages: damage containment, activity recovery, and learning is 0.000 for each, less than the error rate of 0.05. This indicates a statistically significant relationship between the preparation and prevention stage and the subsequent stages: damage containment, activity recovery, and learning. Similarly, the nature of this relationship is negative, and the positive sign of the computed Pearson values confirms this.

Furthermore, the probability of Pearson's correlation test between the damage containment stage and the activity recovery and learning stages is 0.000 for each, which is less than the error rate of 0.05. This indicates a statistically significant relationship between recovery and learning stages of damage containment activity. Again, the nature of this relationship is negative, and the positive sign of the calculated Pearson values confirms this.

As for the relationship between the activity recovery and learning stages, the probability of Pearson's correlation is 0.000, which is less than the error rate of 0.05. This indicates a statistically significant relationship between the activity recovery and learning stages. Similarly, the nature of this relationship is negative, and the positive sign of the calculated Pearson values confirms this. Thus, this confirms the second hypothesis, stating that a statistically significant relationship exists between the crisis management stages in the studied institutions.

### 3.6. Presentation and Analysis of the Results of the Crisis Management Impediments Axis:

**Table 10.** Display and Analysis of the Results of the Crisis Management Impediments Axis.

| Item | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Total | Mean | St.dv | Item direction |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 | Frequency | 36 | 21 | 06 | 01 | 01 | 65 | 1.62 | 0.84 | Strongly disagree |
| | Percentage | 55.4 | 32.3 | 9.2 | 1.5 | 1.5 | 100 | | | |
| 02 | Frequency | 26 | 30 | 01 | 07 | 01 | 65 | 1.88 | 0.99 | Disagree |
| | Percentage | 40 | 46.2 | 1.5 | 10.8 | 1.5 | 100 | | | |
| 03 | Frequency | 32 | 15 | 11 | 05 | 02 | 65 | 1.92 | 1.12 | Disagree |
| | Percentage | 49.2 | 23.1 | 16.9 | 7.7 | 3.1 | 100 | | | |
| 04 | Frequency | 23 | 21 | 14 | 04 | 03 | 65 | 2.12 | 1.11 | Disagree |
| | Percentage | 35.4 | 32.3 | 21.5 | 6.2 | 4.6 | 100 | | | |
| 05 | Frequency | 28 | 20 | 03 | 13 | 01 | 65 | 2.06 | 1.20 | Disagree |
| | Percentage | 43.1 | 30.8 | 4.6 | 20 | 1.5 | 100 | | | |
| 06 | Frequency | 28 | 20 | 09 | 05 | 03 | 65 | 02 | 1.15 | Disagree |
| | Percentage | 43.1 | 30.8 | 13.8 | 7.7 | 4.6 | 100 | | | |
| Axis of Crisis Management Impediments | | | | | | | | 1.93 | 0.74 | Disagree |

**Source:** Prepared by the researchers based on SPSS outputs.

Table 10 indicates that the overall mean of the variable related to crisis management impediments was 1.93, with a standard deviation of 0.74. Item 04 (weak delegation of authority during crises) ranked first with a mean of 2.12 and a standard deviation of 1.11. In contrast, Item 01 (employees' lack of understanding of crisis signals) ranked last with a mean of 1.62 and a standard deviation of 0.84.

## 4. Conclusion

Through this study, we attempted to evaluate the reality of crisis management in healthcare institutions in the Khenchela province as a model for Algerian healthcare institutions. We have reached the following results:

- The early warning signal detection stage is moderately available.
- The preparation stage is moderately available.
- The damage containment stage is moderately available.
- The activity recovery stage is weakly available.
- The learning stage is moderately available.
- A statistically significant relationship exists between the crisis management stages, meaning that any factor affecting a specific stage will inevitably influence the other stages.
- Certain impediments hinder the implementation of crisis management in the study's institutions.
- Weak delegation of authority is the biggest obstacle faced by the study sample in crisis management.

## 5. Recommendations:

- Establishing a dedicated hospital department responsible for managing crises in all their stages.
- Provide specialized training in crisis management for senior management personnel.
- Establishing a department within the Directorate of Health and Population that serves as a centre for all crisis management departments in healthcare institutions within the province, facilitating coordination and knowledge sharing among them.
- Reorganizing the organizational structure to be more flexible and decentralized in decision-making.
- Learning from the experiences of leading institutions in crisis management.
- Emphasizing learning and drawing lessons from previous or similar crises in other institutions.
- Establishing an information bank on the Directorate of Health and

Population's website containing solutions and experiences in crisis management.

• Emphasizing the significance of crisis prevention through early warning signal analysis and work on avoiding or mitigating crises if they occur.

• Allocating a budget from healthcare institutions' budgets specifically for crisis management.

**6. Bibliography List :**

Abou Fara, Y. (2009). Crisis Management - An Integrated Approach. Amman , Jordan: Ithraa for Publishing and Distribution.

Al-Abadi, Z. A. (2015). Effective Information System in Crisis Management. Amman, Jordan: Dar Al-Raya for Publishing and Distribution.

Alani, U. A. (2021, June). Economic and Social Crisis Management Strategies by PROPHET mUHAMMAD (PBUH) in Medina. Alsalam Journal of Islamic Economy(02), pp. 195-217.

Al-Hanzab, M. b., & Abu Qaoud, G. (2020). The Impact of Strategic Agility on Crisis Preparedness in Qatar Airways. Al-Zarqa Journal of Research and Humanistic Studies, 20(2), pp. 259-274.

Diab, M. M. (2021, December). Information and its role in crisis and disaster management: The COVID-19 crisis as a model. Awrak Bahthia, 01(01), pp. 262-281.

Guillaume, M.-R. (2015, Avril). Systéme d'Information de Médiation pour le pilotage réactif et anticipatif de la réponse à une situation de crise: application aux perturbations sur les réseaux routiers. Thése en vue de l'obtention du doctorat. Toulouse, Université de Toulouse, France.

Hewitt, D. (2004, September). What is a hospital. Journal of Mental Health Law, 1(11), pp. 111-128.

Houria, B., & Fatim, M. (2020). Crisis Management in Mohamed Boudiaf Hospital during the COVID-19 Pandemic - A Field Study of a Sample of Administrators, Physicians, and Nurses. Journal of Algerian Institutional Performance, 09(02), pp. 57-74.

Kadi, A., & Mediouni, D. (2014, July). he Importance of Performance Evaluation in Healthcare Organizations: A Case Study of the Private Hospital "Al-Bourtuqal" in El Chlef City. Journal of Strategy and Development(07), pp. 155-181.

Litim, N., & Boutghan, L. (2019, June 30). Leadership and its relationship to the effectiveness of crisis management. Journal of Research and Humanistic Studies, 18, pp. 121-150.

Madi, A., & Ben Bertal, A. (2020). How to benefit from knowledge management in addressing crises - The case of the COVID-19 crisis. Mina Journal of Economic Studies, pp. 48-67.

Sekri, H. (2021, June). Leadership in times of crisis management: leader skills in crisis leadership. The jornal of teacher Researcher of Legal and political Studies, 06(01), pp. 35-52.

Yasbou, E.-D. (2021). Leadership Styles according to the Administrative Network Theory for Managers of Public Healthcare Institutions in the Medea Province and their Contribution to Activating Crisis Management Stages - A Field Study. Journal of Financial Economics, Banking, and Business Management., 10(02), pp. 595-614.