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Assessment of Disaster Preparedness Plans at Palestinian Governmental Hospitals in the West Bank- Mixed Method Approach

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Thesis Approval

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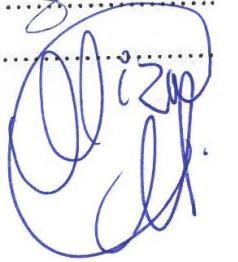

Declaration

I declare that the thesis has been composed by me and that the work has not been submitted for any other degree or professional qualification. I confirm that the work submitted is my own, except where work which has formed part of jointly-authored publications has been included.

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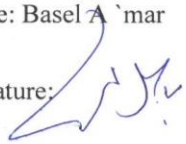
Signature: 

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Dedication

I specially dedicate this thesis to my wife she has been great motivate for me, in all these previous years, I also dedicate it to my mother and father who they raised me to be the person I am now, may Allah give them peace and happiness in their life and give heaven in the hereafter, amen

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Abstract

Assessment of disaster preparedness plans at Palestinian governmental hospitals in the west bank-Mixed Method Approach

Background: Disasters pose a real threat to the individual's lives in the event of their occurrence, especially as they may occur anywhere and at any time without prior warning, and the causes of disasters may be natural or man-made.

Aims: To assess the governmental hospitals disaster preparedness plan in Palestine.

Methods: The study used a mixed method approach of quantitative and qualitative descriptive approach through a performing simple randomization to recruit three government hospitals in the West Bank. The study sample was 320 doctors, nurses, administrators, and other as laboratory and radiology technicians. The researcher used a stratified random sample, 298 questionnaires were retrieved with a response rate of 93%. The Qualitative part were including Four interviews with key persons at the Palestinian ministry of health.

Results: The results of this study showed that there is a significant impact of safety and security, availability of emergency management plan, readiness and training, emergency management disaster preparedness committee, and communication, warning and notification on disaster preparedness plan among West Bank governmental hospitals. Also, there is a plan to confront emergency cases that is modified annually and is based on the governorate's emergency plan, the qualitative part was concluded that there is no comprehensive national plan to address emergency cases in Palestine.

Conclusion: There are plans for disasters preparedness in government hospitals in the West Bank, where continuous training of staff is conducted, but there is no comprehensive national plan for disaster response.

Keywords: Disaster Preparedness Plan, Governmental Hospitals, West Bank

Table of contents

List of Tables

List of Figures

List of Appendixes

Chapter (1)
Introduction

1.1 Introduction

A disaster is a natural or man-made occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community (WHO, 2002). Disasters pose a real threat to the individual's lives in the event of their occurrence, especially as they may occur anywhere and at any time without prior warning (Nia & Kulatunga, 2017).

When a disaster strikes, great damage occurs to community and infrastructure in addition to injuries and loss of life. Hospitals are among the community centers that face great challenges during or after disasters, whose prompt and efficient services can play a significant role in decreasing disaster mortality rate. Consequently, Effective disaster management necessitates having adequate disaster preparedness (Torani et al., 2019).

The World Health Organization (2015) defines emergency and disaster management in hospitals as "the preparedness of a hospital to respond to emergencies and disasters." Where the emergency and disaster management process in the hospital consists of: coordination, planning, response, recovery and communication process during and after the disaster, where the disaster management process must take into account the process of financing, human resources, training, logistics and conducting drills (Mojtahedi et al., 2021).

During the first hours after a disaster, the need for health care increases, as 85% to 95% of disaster survivors require health care. Therefore, the entire health sector must be well prepared and wisely managed to receive large numbers of survivors and classify their cases according to their severity in order to provide health care in a timely manner to reduce deaths (Bazyar et al., 2020).

This study will assess the disaster preparedness plan of the Palestinian governmental hospitals in the West Bank. The study will also explore the knowledge, attitude, and practices of these hospital's workers about disaster preparedness plan and management.

1.2 Problem Statement

Palestine, like other countries in the world, is vulnerable to natural hazards including earthquakes, floods, droughts, landslides as well as man-made hazards, mainly, as Israeli violations in terms of repeated attacks on Palestinian citizens and their property, military attacks, or the use of military oppressive forces.

The west bank public health system lacks sufficient infrastructure to serve the enormous population in need of medical care. Years of restrictions on imports have left the Palestinian hospital system with critical shortages of supplies like medical equipment, prescription drugs, over-the-counter medications, and protective gear. Ongoing conflict has also left many hospitals in disrepair, and restrictions on goods make it difficult to procure supplies for rebuilding. In addition to Israeli's control of the Palestinian land, sea, and air borders, which impedes the movement of individuals and groups in case of disasters.

A disaster is frequently viewed as a situation in which the number of patients presenting to the medical facility within a given time period exceed the ability of the hospital to provide care without external assistance. (Krajewski, Sztajnkrycer, & Báez. 2004). Despite the prevailing circumstances of the current Palestinian public health system, this study assesses the disaster preparedness plan of the Palestinian governmental hospitals in the West Bank.

1.3 Study Significance and Scope

Disasters happen at any time and anywhere without warning, so the state must be prepared to confront this disaster and reduce human and material losses. Countries develop a

disaster preparedness plan, and among the most important sectors is the health sector, so, hospitals must develop a disaster preparedness plan, train workers, and do drills to raise their capabilities in dealing with disasters. Thence, this study came to assess the disaster preparedness plan of hospitals in the West Bank.

This is the first mixed method approach study in the west bank of Palestine to investigate and assesses the current situation for disaster preparedness plan in governmental hospitals. Therefore, this study provides literature framework as reference for future studies. Moreover, the results of this study intend to support hospitals to evaluate and develop their own disaster management plan.

1.4 Study Objectives

The main goal of this mixed method approach study was to assess the disaster preparedness plan of the Palestinian governmental hospitals in the west bank.

The sub- objectives are as the follow:

- To identify the degree of disaster preparedness plan among the Palestinian government hospitals in the West Bank with regard to safety and security.
- To identify the level of disaster preparedness plan among the Palestinian government hospitals in the West Bank in relation to the availability of an emergency management plan.
- To identify the extent of disaster preparedness plan among the Palestinian government hospitals in the West Bank in regard to training for disasters.
- To determine the extent of disaster preparedness plan of Palestinian government hospitals in the West Bank in relation to availability of an Emergency Management and Disaster Preparedness Committee.

- To determine the extent of disaster preparedness plan among the Palestinian government hospitals in the West Bank in regard to communications, warning, and reporting.
- To identify the relationship of demographic data of respondents to the extent of hospital preparedness for disasters.
- Identifying the extent of preparedness of government hospitals in the West Bank for disasters by conducting interviews with the key persons in the hospital.

1.5 Research Questions

This mixed method approach study sought to the following questions:

- What is the degree of disaster preparedness plan among West Bank governmental hospitals in regard to safety and security?
- What is the level of disaster preparedness plan among West Bank governmental hospitals in regard to availability of emergency management plan?
- What is the extent of disaster preparedness plan among West Bank governmental hospitals in regard to readiness and training?
- What is the extent of disaster preparedness plan among West Bank governmental hospitals in regard to emergency management disaster preparedness committee?
- What is the extent of disaster preparedness plan among West Bank governmental hospitals in regard to communication, warning, and notification?
- What is the relationship of demographic data of respondents to the extent of hospital preparedness for disasters?

1.6 Research Hypothesis

This mixed method approach study sought to answer the following questions:

H01: There is no significant impact of safety and security on disaster preparedness plan among the Palestinian governmental hospitals in the west bank.

H02: There is no significant impact of availability of emergency management plan on disaster preparedness plan among the Palestinian governmental hospitals in the west bank.

H03: There is no significant impact of readiness and training on disaster preparedness plan among the Palestinian governmental hospitals in the west bank.

H04: There is no significant impact of emergency management disaster preparedness committee on disaster preparedness plan among the Palestinian governmental hospitals in the west bank.

H05: There is no significant impact of communication, warning, and notification on disaster preparedness plan among the Palestinian governmental hospitals in the west bank.

H06: There is no significant effect on the extent to which hospitals are prepared for disasters due to the variables of gender, age, years of experience, job title, and level of education.

1.7 Conceptual and Operational Definitions

1.7.1 Disaster

"a serious disruption of the functioning of society, causing widespread human, material or environmental losses that exceeds the local capacity to respond, and calls for external assistance" (CDC, 2014, p. 7).

In this study the researcher the disaster as an emergency situation that occurs at the level of Palestine and may lead to material or human losses and may require external assistance.

1.7.2 Preparedness:

"The development of plans designed to save lives and to minimize damage when a disaster occurs" (CDC, 2014, p. 29).

In this study the researcher defines the preparedness as the stage of readiness of West Bank hospitals to deal with emergencies and disasters before they occur.

1.7.3 Emergency Management Plan:

"The coordination and management of resources and responsibilities pertaining to the mitigation of, preparedness for, response to, and recovery from an emergency" (WHO, 2017, p. 1).

In this study the researcher defines the emergency management plan as the process of managing human and material resources in advance with the aim of preparing, responding, and recovering in cases of disasters and emergencies in government hospitals in the West Bank.

1.7.4 Warning and Notification on Disaster Preparedness:

"Complex processes aimed at reducing the impact of natural hazards by providing timely and relevant information in a systematic way" (United Nations Development Program, 2018, p. 5).

In this study the researcher defines the Warning and notification on disaster preparedness as an early warning system for emergencies and disasters in government hospitals in the West Bank, so that everyone can be at the highest levels of preparedness to deal with emergency cases.

1.7.5 Communication:

“the process of transmitting information and common understanding from one person to another” (Lunenburg, 2010, p. 1).

In this study the researcher defines the communication as the process of transferring data and information to the concerned parties in public hospitals in the West Bank when disasters occur.

1.7.6 Emergency Management:

"the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters" (Feldmann-Jensen et al., 2016, p. 46).

In this study the researcher defines the emergency management as the administrative operations carried out by government hospitals in the West Bank with the aim of making hospitals ready in case of disasters.

Chapter (2)

Literature Review

2.1 Chapter Introduction

Most of the available previous studies mentioned hospitals' preparedness for crises and disasters in general or mentioned some dimensions, while other studies discussed different dimensions of disaster plan like: (having a communication plan, advance warning protocol, employees training and conducting drills to all healthcare providers in all hospital sections (Shammah, 2018); (Ncube & Chimenya, 2016).

Literature review showed few studies that were done on disaster preparedness in Palestinian territories (Al-wadud, 2018). None of the previous research studies discussed the west bank governmental hospital emergency medical preparedness and response and how well prepared these hospitals in case of disaster In this chapter, literature was classified according to themes of the study.

2.2 Theoretical Framework

The study the framework (Figure 1) consists of (Safety and security, Readiness and Training, Communication on, Warning and Notification, Emergency Management Committee, Emergency Management plan) to assess the disaster preparedness plan of West Bank government hospitals.

Figure 1. 1: Study Dimensions

2.2.1 Disaster Preparedness

The severity, frequency, and impact of disasters on human life and property are constantly increasing, recently, disaster reduction models predict an increase in damage caused in urban areas. The global strategy to reduce damage caused by natural disasters is documented in the Sendai Framework for Disaster Risk Reduction; this strategy is the process of identifying and understanding disaster risks, based on the availability and accessibility of information to the general public exposed to the risks of natural hazards (Abunyewah et al., 2020).

Countries must be prepared to face disaster situations, so countries spend large sums at this stage in order to be highly prepared when exposed to disasters, as this stage shows weaknesses in societies and works to address them, and here appears the great role of the health

sector because the occurrence of disasters leads to Injuring large numbers of people who need health care, and therefore countries in the preparedness stage should give the health sector great importance for their vital role in the event of disasters (Verheul & Dückers, 2019).

Disaster management includes four phases: mitigation, preparedness, response and recovery. The mitigation phase focuses on reducing the effects caused by the disaster; Preparedness is preparing for the actual occurrence of a disaster; Response is dealing with a disaster as it occurs in order to preserve lives and property; As for the recovery phase, it focuses on returning life to normal before the disaster (Alruwaili et al., 2019). Therefore, the stage of hospital preparedness for disasters must include human and material resources, appropriate policies, plans and protocols, equipment and supplies, a plan to communicate with all parties inside and outside the hospital, training and mock exercises (WHO, 2014).

2.2.2 Safety and Security

Hospitals are filled in normal times with patients, staff and visitors, but when a disaster occurs, the number may increase quickly and dramatically, so the hospital must provide security and safety for all patients, visitors and staff inside it, and it must ensure the continuity of staff work to provide medical care, as hospitals play a vital role when disasters occur in reducing deaths and injuries (Nia & Kulatunga, 2017).

The importance of hospital safety was recognized at the Second World Conference on Disaster Reduction in Kobe, Japan in 2005, with 168 countries agreeing to the Hyogo Framework for Action, agreeing to: "…promote the goal of 'hospitals safe from disasters' by ensuring that all new hospitals are built to a level of safety that will allow them to function in disaster situations, and implement mitigation measures to reinforce existing health facilities, particularly those providing primary health care" (WHO, 2017).

Countries must give new hospitals a priority in terms of infrastructure for protection and prevention of future dangers, as they must ensure the safety of buildings, equipment and vital hospital systems, and in the operational phase of the hospital, they must ensure the security and well-being of health workers and patients and the ability to continue to work and provide health services in the phase of response to disasters and emergency situations. Hospitals must also improve the environmental sustainability of health infrastructure, which includes additional measures to maintain safe energy and water supplies and reduce harmful waste (WHO, 2015).

2.2.3 Emergency Management Plan

In the phase of disaster preparedness, hospitals must adopt plans, checklists, and tools to assess potential risks. One of these tools is the hospital safety index, which measures the hospital's operational capacity in disasters and emergencies, where the Hospital Safety Index aims to help decision makers know which hospitals need immediate intervention to enhance their safety and operation, the Hospital Safety Index was introduced in 2018 and is now widely used in many countries (Mojtahedi et al., 2021).

A major step of preparedness for disasters and emergency situations in hospitals is the formulation of viable plans, within the preservation of material and human resources, and requires training of workers on them, disaster response plans differ from one place to another according to the potential risks that may be exposed, the available resources and the ability to respond, in addition to other variables (Directorate of Health Services, 2018).

A disaster plan is defined as "an agreed set of arrangements used to prepare for, respond to, and recover from emergencies", it includes a description of the responsibilities of all stakeholders, management structures and strategies, and the management of resources and

information with the aim of protecting life, the environment and property (Ncube & Chimenya, 2016, P4).

Therefore, to design an emergency management plan, a planning team must be formed, a comprehensive assessment of all potential risks, assessment of the hospital's available capabilities, whether physical or human, after that the team develops the plan and trains all employees on it, conducts mock exercises to assess the effectiveness of the plan and make appropriate improvements and modifications (Canadian Centre for Occupational Health and Safety, 2020).

2.2.4 Readiness and Training

Readiness is defined as "the ability to undertake a certain activity and as an index it reflects the scale of actions undertaken by individuals in order to continue their education and career development, to complement and enrich professional practice" (Bartosiewicz et al., 2019, P1).

Wherefore the lack of hospitals preparedness for emergencies worsens the situation and may lead to an increase in deaths, for example, when the Corona pandemic spreads, and due to the lack of some hospitals readiness in a number of countries, this led to the collapse of the health sector and its inability to deal with the large number of cases, in addition to a number of challenges that indicated the lack of hospitals readiness, such as: weak infrastructure, lack of health care providers from doctors and nurses, lack of available resources such as personal protective equipment, medicines and ventilators, and poor training of medical personnel on emergency plans (Sharma et al., 2020).

As that the stage of hospital readiness to face disasters and emergencies includes the process of appropriate training for all hospital staff on emergency plans and procedures to be followed when disaster strikes, and the role of each of them in the set plan, the training

process also includes conducting exercises and scenarios to ensure the effectiveness of the plan and identifying gaps in it for the purpose of development and improvement (Goniewicz & Goniewicz, 2020).

2.2.5 Emergency Management Disaster Preparedness Committee

The disaster and emergency committee in the hospital is an integrated team of all disciplines concerned with conducting a continuous risk assessment, testing the effectiveness of the developed plan, and making appropriate adjustments, if necessary, the hospital administration is keen that the members of this committee are trained to carry out the tasks entrusted to them and receive the necessary training continuously (Mojtahedi et al., 2021).

So the duties of the disaster management committee in the hospital are multiple and include providing advice to hospital management regarding emergency management, communicating with relevant authorities such as the Ministry of Health and the Crisis Management Center at the state level, cooperating with other hospitals to respond to disasters, approving plans and policies for disaster and emergency management in the hospital, conducting the necessary training for all hospital staff, and making the necessary adjustments to plans according to the periodic risk assessment (Emergency Medical Services Division, 2016).

2.2.6 Communication, Warning and Notification

Communication is of great importance in the management of disasters and emergency situations, as effective communication provides the information and data necessary for decision-making in a timely manner, it also helps in coordinating tasks and cooperation between the concerned parties. Hospitals should prepare a plan for communication in case of disasters, because the normal communication systems may be disrupted due to the disaster, so they must know the methods of communication in advance (El Khaled & Mcheick 2019).

Wherefore communications should work effectively during and after a disaster to coordinate efforts to respond to the disaster and reduce morbidity and mortality, communication must be at an early stage of the disaster and should be at the state level so that information is gathered at the crisis and disaster center or in a location determined by the state so that decision makers can take the right decisions at the right time, the state may need to communicate with neighboring countries to request relief and assistance, the public also needs to be kept informed of all measures taken by the state in the face of the disaster, and to publish the instructions that the public must follow to maintain their safety (Medford-Davis & Kapur, 2014).

While the early warning system in disasters and emergency situations is a key element, as the World Health Organization announced the early warning system as a first step in the disaster and crisis response program, because early warning of disasters enables hospitals to prepare well and provide the human and material resources necessary to receive the injuries caused by the disaster. Poor coordination and lack of early warning leads to confusion and delay in providing the necessary health services, which leads to a rise in the number of deaths (Qassemi et al., 2016).

2.3 Previous Studies

2.3.1 Studies Focused on The Knowledge of The Initial Behavior to Respond to Disasters

Ncube & Chimenya (2016) identified the preparedness of Onandjokwe Lutheran Hospital in northern Namibia for emergencies and disasters. The study used a quantitative and qualitative approach by distributing a questionnaire to a stratified sample of 120 respondents with a response rate of 75%, and intentionally interviews with five members of the emergency preparedness committee in the hospital and the command-and-control unit, the results showed that the respondents' knowledge of the initial behavior and the ability to

respond in emergencies and disasters, also showed the positive effort exerted by the responders, as it was found that the hospital has an emergency response plan, but it lacks training, review and alignment of the hospital infrastructure.

2.3.2 Studies That Focused on Disaster Health Management Models

Alraga (2017) identified the capacity of the health disaster management system in the Kingdom of Saudi Arabia. The study used the disaster health management model designed by the World Health Organization. The results showed that despite the disasters that occurred, the Kingdom of Saudi Arabia does not have a multi-sectoral management to facilitate the effective management of health in disasters, where the traditional approach is followed in managing disasters and emergencies in the health sector.

Lamine et al. (2018) described the preparedness of the University of Sousse - Tunisia hospitals for emergencies and disasters. The study used the simple descriptive approach, as the study adopted the "hospital safety index" designed by the World Health Organization in 2008 as a data collection tool. The study concluded that the safety of staff and patients during and after emergencies and disasters is at risk due to the poor level of disaster and emergency management. Likewise, Arab et al. (2019) developed and verified a disaster risk management assessment model in hospitals using the mixed hierarchical and explanatory approach to develop and verify a hospital disaster risk management assessment model, where a prototype was presented through a review of previous studies, and interviews were conducted with 18 experts in Disaster risk management in hospitals, then rounds were conducted with 22 experts to verify the proposed model. The study found a proposed model for assessing and verifying disaster risk management in hospitals, as it included criteria and measurable elements in order to identify the hospital's disaster preparedness, which would enable decision makers to take corrective measures to enhance hospitals' response to disasters.

2.3.3 Studies Assessed the Level of Nurse's Knowledge in The Emergency Department

Alzahrani & Yiannis (2017) conducted a cross-sectional survey in all four public hospitals in Makkah Al-Mukarramah, Saudi Arabia assessing the level of nurse's knowledge in emergency departments and their awareness of their role in disaster response in relation to the Hajj mass gathering in Mecca. Questionnaire was distributed to a purposeful sample of 106 registered nurses who work in emergency departments. The results showed that nurses' awareness of their clinical role in disaster response is high, but the study sample reported limited knowledge and awareness of disaster preparedness and emergency plans, including the basic elements of the hospital's disaster management strategy, as more than half of the study sample did not read the plan accurately.

2.3.4 Studies Focused on The Numbers of Health Care Providers in Response to Disasters

Koka et al. (2018) conducted a descriptive cross-sectional study in Tanzania to assess hospital readiness in disaster situations and the ability to respond, the study results showed that all hospitals have insufficient numbers of health care providers to provide an effective response to disasters.

An integrative literature review was done by Alruwaili et al. (2019) identified the level of preparedness of hospitals in the Middle East for disasters. The study analyzed previous studies between 2005 to 2015, where 19 previous studies were included, the results showed that 12 studies mentioned natural and man-made disasters, 6 of them mentioned accidents Mass casualties, while one reported the earthquake, 13 studies showed that the level of hospital preparedness for disasters is very poor, and 6 studies showed a good level of preparedness, studies showed that one of the reasons for the poor preparedness of hospitals for disasters is the lack of emergency plans, and the insufficient resources available.

2.3.5 Studies Were Done to Evaluate the Effectiveness of an Active Disaster Plans

a survey was conducted in the main trauma center in Canada, Australia, New Zealand and England by Gabbea et al. (2020) for the centers 'readiness to receive mass casualties due to accidents. Responses were received from 69 centers, accounting for eighty-four of the total number of centers. The results showed the following: the existence of a crisis and disaster management committee at a rate of ninety-one percent, the existence of a comprehensive contingency plan for all internal and external risks in the centers by eighty percent, training was conducted on procedures for dealing with mass casualty incidents in the past two years at a rate of seventy-nine percent, the existence of the necessary reserve resources for emergencies by fifty-five percent, the existence of a database of human resources trained to deal with emergencies by fifty eight percent, the existence of a training plan to deal with cases Emergency, especially mass casualty accidents, by seventy-four percent, and the existence of a program to rehabilitate workers after dealing with major emergencies by sixty-two percent, the results also showed that most centers have a backup communication system and safety and security plans.

As well Sharma& Sharma (2020) identified measures of India's hospitals' readiness and resilience in emergency situations, including the Corona pandemic, the study used the descriptive approach through a cross-sectional study among (80)health officials in district hospitals and community health centers in Rajasthan through the distribution of an electronic questionnaire, 58 of them answered with a response rate of 72.5%.The results showed that the flexibility and preparedness of health directors and health centers in Rajasthan is limited, as it appeared that training in disaster response reached 37.9% of workers, isolation rooms are not equipped to deal with critical patients despite the fact that the stock of medicines is good, and the study also showed that the level of disaster preparedness It ranges from low to medium and varies from one hospital to another.

2.3.6 Studies Were Done on Response to Disasters for Assessing Response to Disasters and Emergencies

Ceferino et al. (2020) aimed to present a methodology for assessing response to disasters and emergencies, where the proposed methodology can design effective plans for patient transportation and allocate ambulances and mobile operating rooms, this methodology is applied in Lima, Peru, which was subjected to a disaster after an earthquake of magnitude 8.0. The results showed that the geographical distribution after the earthquake does not correspond to the capacities of hospitals, as it leaves large areas uncovered. The study also shows that good planning enables the hospital system to address the mismatch between capacity and demand, and this leads to reducing waiting time for seriously injured patients.

2.3.7 Studies Were Done on Of Health Workers and Their Respond Readiness to Mass Casualty Disasters

Then, Goniewicz & Goniewicz (2020) identified the efficiency of health workers and their respond readiness to mass casualty disasters in hospitals in Poland. The study used the quantitative approach by distributing a random questionnaire to 134 health care providers. The results of the pilot study showed that through distributing a correct questionnaire, it is possible to assess the hospitals respond readiness to disasters, especially mass casualties. It is also possible to know the efficiency of workers in the response process, as the evaluation process is important in identifying weaknesses and working to improve them.

2.3.8 Some Studies Focused on The Administrative Part of Disaster Management

Geniosa & Aini (2020) identified the degree of preparedness of Yogyakarta City Hospital for disasters and emergencies, the study used the qualitative and quantitative approach by conducting interviews with a purposeful sample of hospital administration within the organizational structure of

disaster management, distributing a questionnaire and recording hospital safety index points, the study concluded that the hospital safety index amounted to 62%.

In Saudi Arabia, Alruwaili et al. (2021) identified the readiness of hospitals in the Eastern Province of the Kingdom of Saudi Arabia to respond to disasters. The study used the descriptive approach through a cross-sectional study of all hospitals in the Eastern Province of the Kingdom of Saudi Arabia, by distributing a questionnaire to appropriate samples. The results showed that all hospitals have a disaster response plan, 70% of hospitals have an educational program on disaster response, a drill was conducted to assess hospitals' disaster preparedness in 98% of hospitals, but 9.5% of hospitals have a disaster recovery program such as support and consulting services. The study recommended the need to improve hospitals' disaster response, including staff training, improving the communication plan during disasters, and improving the disaster recovery plan.

In addition to, Alsalem & Alghanim (2021) assessed the level of preparedness of Saudi hospitals for disasters. The study used the quantitative approach by distributing a questionnaire to 9 hospitals in three Saudi cities (Riyadh, Jeddah and Dammam). The study found that the level of preparedness of Saudi hospitals for disasters reached 69.8%, where the field of administrative capacity reached 83.6%, and the field of human resource efficiency capacity reached 63%. The results also showed that Riyadh hospitals were the most prepared, it also showed that there were statistically significant differences in disaster preparedness between the Ministry of Health and other government and university hospitals, where university hospitals were the most prepared.

2.3.9 Studies That Discuss Safety in Primary Health Care Facilities

the Furthermore, Yari et al. (2021) assessed the structural, non-structural and functional

aspects of the primary health care facilities safety in disasters response in the Kurdistan region, Iran. The study used a quantitative approach through a cross-sectional survey to assess four sections of functional, structural, non-structural, and complete safety of 805 health care facilities in Kurdistan Province is the Safety Assessment Checklist for Primary Health Care Centers. The results showed that the levels of functional safety 23.8, structural and non-structural 20.2, and overall safety 42.3 out of 100. The rapid response team scored the highest, the finance team scored the lowest, and in the structural and non-structural departments there was similarity between the scores of the different elements. Thus, the degree of safety in primary health care facilities in general is not satisfactory, and therefore the study recommended the need to enhance preparedness and continuity of health service provision during disasters.

2.3.10 Flexibility of Hospitals Is Another Dimension of Disaster Planning That Was Discussed in Previous Studies

Mojtahedi et al. (2021) identified the flexibility of hospitals in West Java and Yogyakarta, Indonesia in managing emergency and disaster situations. The study used the qualitative approach by collecting data from West Java and Yogyakarta, as these two provinces have regular disaster scenarios. The results showed that the disaster decision-making matrix includes: emergency management, disaster recovery planning, patient care, disaster communication plan, financing, support plan, Human resources, decontamination, evacuation, and logistics, the study proposed an indicator of emergency and disaster management in the hospital using the order of preference technique by analogy with the ideal solution (TOPSIS) to contribute to the decision-making process.

Additionally, Rios et al. (2021) assessed the ability of the health system in Puerto Rico to provide patient care during Hurricane Maria. The study used the qualitative approach by conducting 13 interviews with emergency medicine and family medicine physicians and

hospital officials at the Community Hospital of the University of Puerto Rico. The results showed that there were weaknesses in the health system in Puerto Rico that were revealed during Hurricane Maria, as there was a lack of awareness about the capacity of backup generators, poor coordination of patient care, and interruptions in the provision of health care for patients with chronic diseases, in addition to the Corona epidemic, which led to the collapse of the health system in many countries, especially in Puerto Rico, if it was hit by another hurricane. Therefore, the study recommended the necessity of developing a flexible framework to help the health sector in the face of natural disasters.

2.3.11 In Palestine There Are Few Studies That Discussed Disaster Planning.

A study was done assessing the natural disasters and complex humanitarian emergencies in the occupied Palestinian territories (Hawajri, 2016). In 2010, Aldabbeek at the department of engineering at An – Najah university conducted research "Assessment of disaster risk reduction in the occupied Palestinian territory ". This study focused on the natural hazards such as earthquake, floods, desertification, and droughts. A similar study was conducted assessing the Health System Crisis and Disaster Preparedness among Governmental Hospitals in Gaza Strip (Jadallah, 2020).

Another valuable study was conducted in Gaza 2018 to assess the readiness of the health system for crises and disasters in non-government hospitals in the Gaza Strip. The results of the study showed an average level of preparedness for crises and disasters among government hospitals in the Gaza Strip with an average score of 64.47% (Al-Wadud, 2018).

2.4 Summary of Literature Review

Globally, literature is rich with studies and research on disaster planning and management discussing different dimensions, components, and steps of disaster plans. Locally, there were few studies that discussed the disaster preparedness plan of the Palestinian governmental hospitals in Palestine.

Chapter (3)

Methodology

3.1 Study Design

The study used a mixed approach of quantitative and qualitative descriptive approach through a performing simple randomization to recruit three government hospitals in the West Bank to identify the extent of preparedness of these hospitals for emergency and disaster situations.

3.2 Study Population

The study population consisted of all healthcare providers in three West Bank governmental hospitals, according to the statistics of the Ministry of Health 2020 (Appendix E). Where the number of employees in these hospitals (1839).

3.3 Study Setting:

Three governmental hospitals in the West Bank were included in the study based on simple randomization to represent north, south, and Middle West Bank, these are: Alia governmental Hospital (Hebron), Palestine Medical Complex (Ramallah), and Rafidia Surgical Hospital (Nablus).

3.4 Study Sample:

The researcher used a stratified random sample according to the category of health care providers (doctors, nurses, administrators and technicians from laboratory, radiology, pharmacists and others) from 3 hospitals in the West Bank that were selected randomly, and the number of the sample was calculated according to Krejcie and Morgan (1970) to determine the sample size (Appendix D). In addition to interviews with a group of key persons and decision makers at the ministry of Health. The study relied on the statistics of the

Palestinian Ministry of Health 2020, which shows the number of manpower working in hospitals, distributed according to their job types. The following table shows the number of the study sample distributed by job and the number of each of them in the selected hospitals.

Table No 3. 1 Study sample number according to the job in each hospital

Hospital Name	No. of Doctors	No. of Nurses	No. of Administrators	No. of employees in other jobs	Total
Alia Hospital, Palestinian-Hebron	15	47	6	30	98
Palestine Medical Complex	24	60	25	23	132
Rafidia Surgical Hospital	14	38	15	23	90
Total	**53**	**145**	**46**	**76**	**320**

3.4.1 The Study Sample Was Calculated from Each Hospital According to The Following Equation:

(The number of workers in hospitals was approved according to the statistics of the Ministry of Health 2020, Appendix E).

Number of samples from each hospital = Study sample number* (Number of hospital staff/ Study population)

Alia Hospital, Palestinian-Hebron= 320 * (566/ 1839) = 98

Palestine Medical Complex= 320 * (761/ 1839) = 132

Rafidia Surgical Hospital= 320 * (512/ 1839) = 90

3.4.2 Then the Number of The Study Sample from Each Category (Doctors, Nursing, Administrators, And Others) Was Calculated According to The Following Equation:

Number of samples from each category = Number of hospital sample * (Number of category employees/ Total number of hospital employees)

Alia Hospital, Palestinian-Hebron:

- Doctors= 98 * (87/ 566) = 15
- Nurses= 98 * (274/ 566) = 47
- Administration= 98 * (30/ 566) = 6
- Others= 98 * (175/ 566) = 30

Palestine Medical Complex

- Doctors= 132 * (141/ 761) = 24
- Nurses= 132 * (343/ 761) = 60
- Administration= 132 * (142/ 761) = 25
- Others= 132 * (135/ 761) = 23

Rafidia Surgical Hospital

- Doctors= 90 * (81/ 512) = 14
- Nurses= 90 * (216/ 512) = 38
- Administration= 90 * (86/ 512) = 15
- Others= 90 * (129/ 512) = 23

The total calculated minimum sample size three hundred ten participants were included in the study

3.4.3 Inclusion Criteria:

Three hospitals from the West Bank were randomly selected to conduct the study, these hospitals are: Alia Hospital, Palestinian-Hebron, Palestine Medical Complex, and Rafidia Surgical Hospital. Also, the study sample was also selected by stratified random sampling method from health care providers (doctors, nurses, administrators, and others).

The study chose government hospitals in the West Bank because, according to the Health Law (2004), governmental hospitals are the first responders when disaster strikes

3.5 Study Tool

The researcher developed a questionnaire based on the American College of Emergency physicians (ACEP), and Chimenya, (2011) study, which covers all study variables, to be distributed to the study sample. The questionnaire consisted of:

Part one: demographic information for respondents including age, gender, level of education, years of experience, and job title.

Part two: the study dimensions (Safety and Security consisted of five questions, Emergency Management Plan consisted of nine questions, Readiness and Training consisted of six questions, Emergency Management Disaster Preparedness Committee consisted of six questions, Communication, Warning and Notification consisted of six questions).

All questions answers were 1 = No, 2 = do not know, 3 = Yes. Also, a set of questions was developed for the interview with the decision makers and the interview was recorded with each person.

3.5.1 Study Tool Validity and Reliability:

The researcher tested the apparent honesty with the supervisor and co advisor to be able to know the questions related to each other and to ensure the consistency of the study sample response. Also, it presented to a number of experienced and professional researchers to judge the validity of the tool as a way to initiate data collection.

The researcher used the Cronbach alpha coefficient method to test the internal consistency of the questions to ensure the validity of the questionnaire and its ability to

answer the study questions and test hypotheses.

3.5.2 Pilot Study:

The pilot sample was 10% of the total sample size which was distributed to 32 employees of a government hospital in the West Bank. Where the results showed that the Cronbach's alpha coefficient value was (0.948), which is a high and acceptable value and indicates the validity and reliability of the study tool (the questionnaire) and is able to achieve the objectives of the study.

3.5.3 Study Tool Reliability

The Reliability of the study tool means that the questionnaire is able to achieve the same result if it was redistributed to the same study sample several times under the same conditions, and this was done by calculating Cronbach's alpha coefficient within the statistical analysis program (SPSS).

From the table below, we note that the result of Cronbach's Alpha coefficient (0.938), which is considered high, and this indicates that the study tool (the questionnaire) is reliable and able to achieve the same results if it was redistributed to the same study sample several times under the same conditions.

Table No 3. 2 Cronbach's Alpha coefficient

Reliability Statistics	
Cronbach's Alpha	No. of Items
0.938	32

3.5.4 Study Tool Validity

The validity of the study tool is validated by the Pearson correlation coefficient test within the Statistical Analysis Program (SPSS), which aims to determine the degree to which the questionnaire achieves the study objectives and the extent to which each field of study is

related to the overall result of the questionnaire data.

From the table below, the Pearson test for correlation (table: 3) was conducted, and it was found that all correlation factors are a positive value and higher than (0.05), so there is a strong and positive correlation between all the study variables. The strongest correlation is between the Emergency Management Disaster Preparedness Committee and Communication, Warning and Notification (0.664), and the least correlation between the Readiness and Training and Safety and Security (0.330).

Table No 3. 3 Pearson correlation coefficient

Correlations						
		Safety and Security	Emergency Management Plan	Readiness and Training	Emergency Management Disaster Preparedness Committee	Communication, Warning and Notification
Safety and Security	Pearson Correlation	1	.414**	.330**	.383**	.434**
Emergency Management Plan	Pearson Correlation	.414**	1	.594**	.640**	.574**
Readiness and Training	Pearson Correlation	.330**	.594**	1	.633**	.616**
Emergency Management Disaster Preparedness Committee	Pearson Correlation	.383**	.640**	.633**	1	.664**
Communication, Warning and Notification	Pearson Correlation	.434**	.574**	.616**	.664**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

3.6 Study Procedure

The researcher designed the study tool (the questionnaire) with the help of previous studies, and the questionnaire was judged by experts and researchers in the study field, also, a pilot sample was conducted to ensure the questionnaire reliability. The study sample was calculated based on the number of employees in the three government hospitals in the West

Bank, each according to their job. Where the researcher started by distributing the study questionnaire in July to Rafidia Surgical Hospital, then Palestine Medical Complex, and finally to Alia Hospital. The data collection process lasted for two months. In addition to, the researcher visited the hospitals in the morning, due to the presence of the administrative staff at this time, and to ensure that the Ministry of Health received a letter facilitating the researcher's task to conduct the study. As well, the researcher distributed the study questionnaire to the hospital administrators, then the doctors and nurses present in the departments, and the technicians working in the laboratory, radiology, physical therapy and others. Likewise, the researcher was clarifying the purpose of the questionnaire to the department official and the study sample, as the researcher was in the hospital from 9 am to 5 pm, in order to cover the workers on the second shift. Furthermore, the researcher put part of the questionnaires with the department official in order to fill it out from the remaining medical staff, and the researcher's phone number was placed on the questionnaire in order to communicate with him to inquire and request assistance in filling out the questionnaire. And the researcher was communicating with department officials to ensure that the questionnaire was filled out and to return later to collect it. Then, the data was entered into the statistical analysis program (SPSS) and the appropriate statistical analysis was conducted to test the study hypotheses. As well, the results were drawn based on the responses of the study sample. The number of returned questionnaires was 298 out of 320, meaning that the response rate was 93%, and the response rate of doctors was 100%, nursing 93%, administrators 93.5%, and other groups 88%.

3.7 Ethical Consideration

The researcher obtained the approval of the College of Graduate Studies at the university to conduct the study and obtain a student facilitation letter, in order to facilitate the

researcher's task in distributing the questionnaire to the study sample.

The researcher also mentioned in the questionnaire introduction the study purpose and that it is for the purposes of scientific research. The participation in the study was voluntary; acceptance of the participants to join the study implied their consent. The information and data were treated confidentially without the respondents mentioning name or participants. The study has no any potential for harm.

3.8 Statistical Analysis

After obtaining the required data by distributing the questionnaire to the study sample, the statistical analysis program (SPSS) used to analyze these data and test the hypotheses according to the appropriate tests, which in turn answered the study questions and hypotheses, and these tests are as follows:

- Frequency test: to analyze the respondents' demographic data.

- Descriptive test: to analyze the elements of each study variable with the aim of reaching the degree of respondent's knowledge about the elements of the domain (low, medium, high). It was calculated as follows:

Class length = (maximum alternative - minimum alternative) / number of levels

Class length = 3-1/3

Class length = .06

Thus, the level of respondent's knowledge about the variables of the questionnaire is as follows:

- Low: from 1 to less than 1.6.
- Medium: from 1.6 to less than 2.2.
- High: from 2.2 to 2.8.

Note that the highest value was for the answer yes (3), the answer I don't know (2), the answer is no (1).

- Cronbach alpha coefficient: to determine the degree of questionnaire reliability.

- Pearson correlation coefficient: To assess the correlations between continuous variables.

- ANOVA Test: The study used this test to test the study hypotheses because the entire hypothesis contains two variables, one independent and the other dependent.

Chapter (4)

Research Results

4.1 Introduction

This chapter presents the statistical analysis of the data collected through the questionnaire, in order to test the study's hypotheses and answer its questions. This chapter analyzes and interprets the collected data. The researcher used the statistical analysis program (SPSS) version 24. This chapter also provides a qualitative analysis of the data obtained from interviews conducted with four key persons.

4.2 Descriptive Analysis of Demographic Data

From the table below, it appears that 164 of the study sample are males (55%) and 134 females (45%).Most of the study sample ages who are between 20 to 30 years old are 148 respondents with a percentage of (49.7%).A total of 145 respondents had less than five years of experience, at a rate of (48.7%).The number of responding physicians was 53 doctors (17.8%), 135 nurses (45.3%), 43 administrators (14.4%), and the number of respondents from other categories, such as laboratory and radiology technicians, amounted to 67 respondents (22.5%).The number of respondents from diploma holders reached 44 (14.8%), the number of bachelor's degree holders was the most, with 204, with a rate of (68.5%), while the number of master's holders reached 42 respondents (14.1%), and finally the number of doctoral holders reached 8 with a percentage of (2.7%).(Table 4).

Table No. 4. 1 Descriptive analysis of demographic data

Items		Frequency	Percent
Gender	Male	164	55.0
	Female	134	45.0
Age	below 20 years	6	2.0
	20-30 years	148	49.7

	31-40 years	86	28.9
	41-50 years	49	16.4
	51-60 years	8	2.7
	more than 60	1	.3
Experience years	0-5 years	145	48.7
	6-10 years	64	21.5
	11-15 years	40	13.4
	16-20 years	21	7.0
	more than 20 years	28	9.4
Job title	Doctor	53	17.8
	Nurse	135	45.3
	Administrator	43	14.4
	Other	67	22.5
Level of education	Diploma Degree	44	14.8
	Bachelor	204	68.5
	Master	42	14.1
	PhD	8	2.7

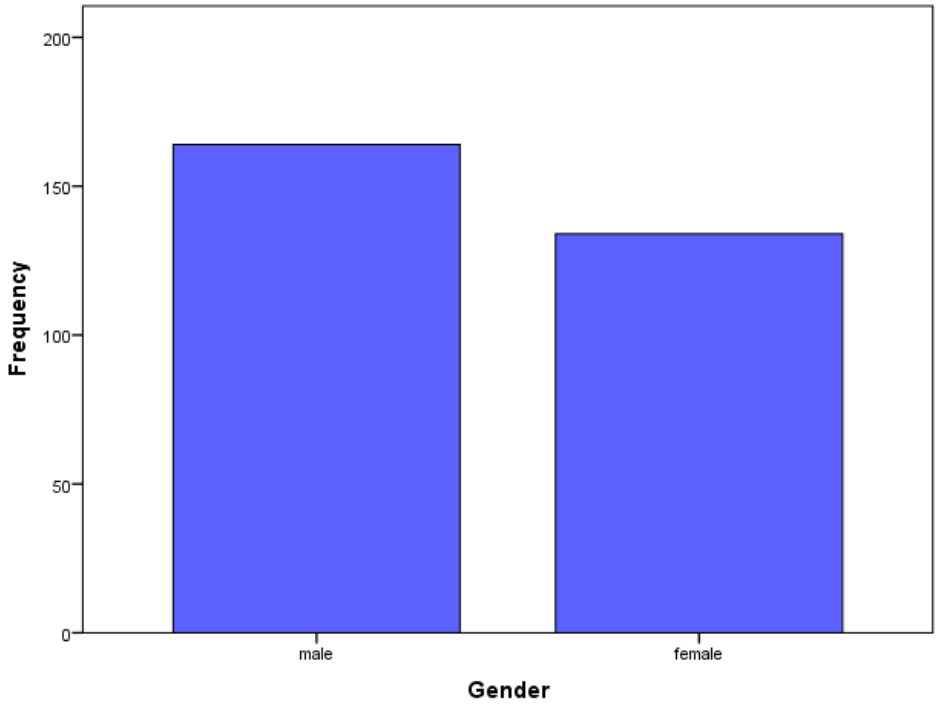

Figure 4. 1: the gender of the study sample

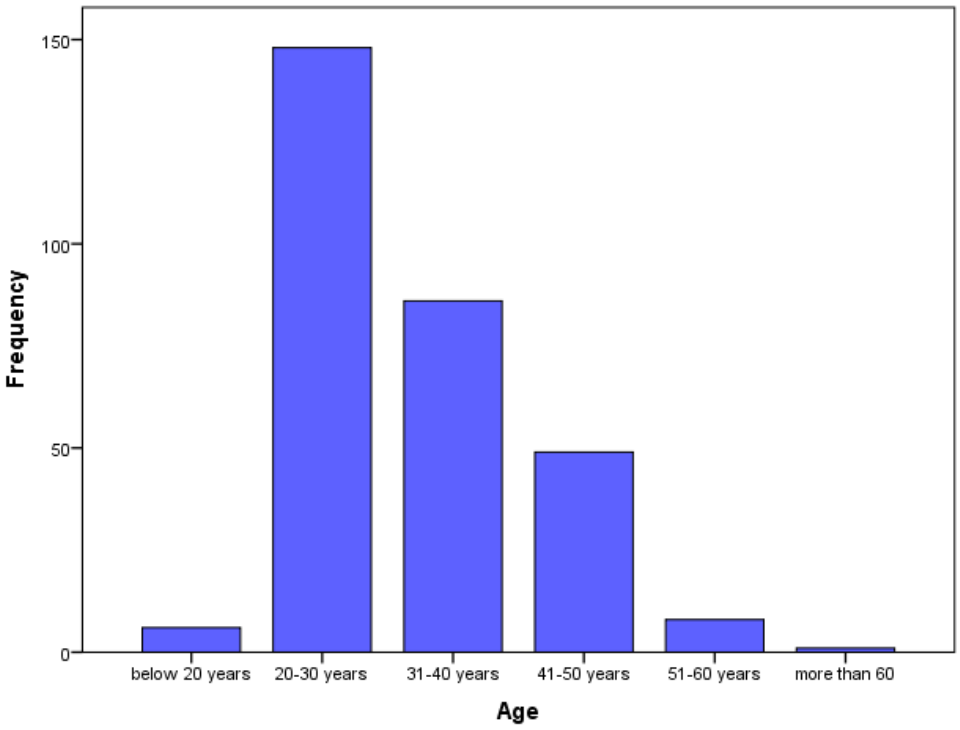

Figure 4. 2: the age of the study sample

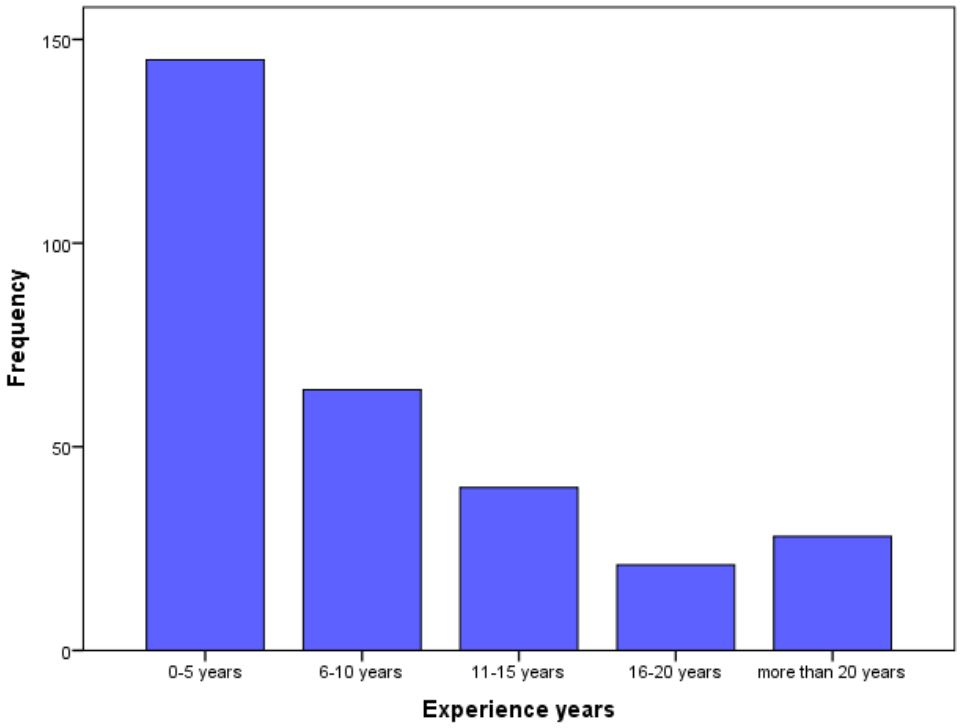

Figure 4. 3: the years of experience of the study sample

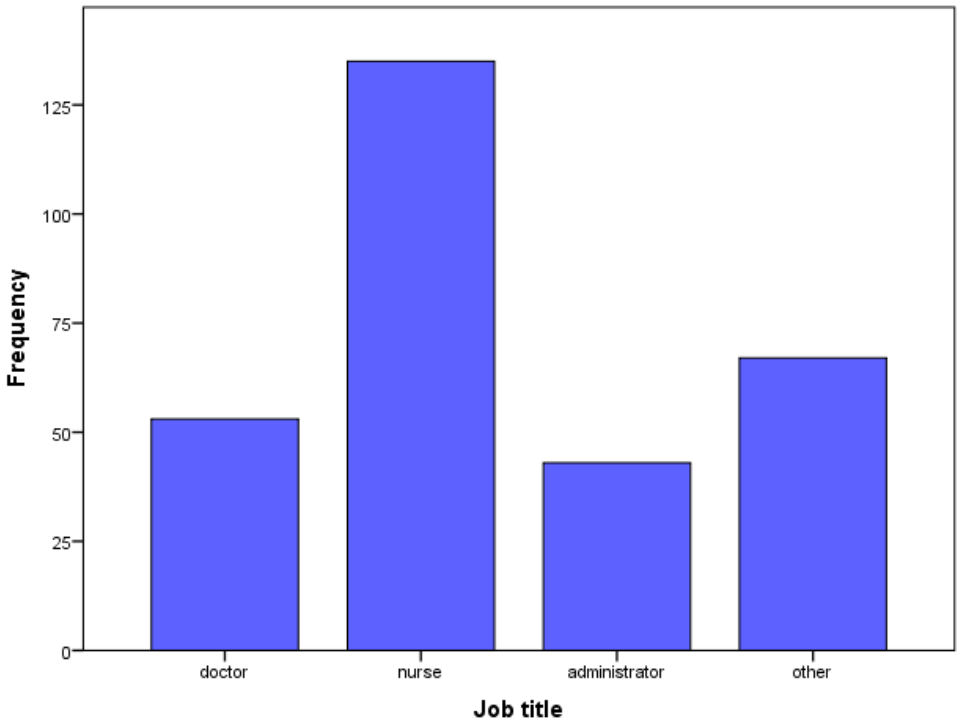

Figure 4. 4: the job title of the study sample

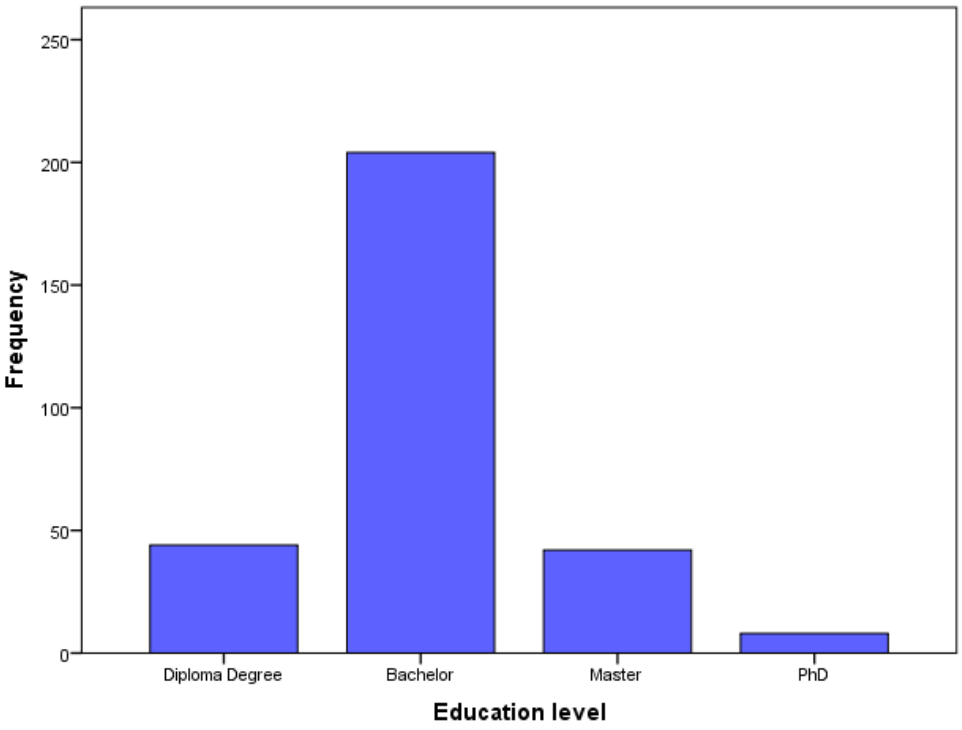

Figure 4. 5 :the level of education of the study sample

4.3 Descriptive Analysis of Study Variables

4.3.1 Descriptive Analysis of Assessment Safety and Security at Palestinian Governmental Hospitals in The West Bank

From the table below, we note that the arithmetic average of all safety and security items is high, as the highest arithmetic average for the first paragraph reached (2.34) "Are there details of personal protective equipment and precautions to be taken in the event of a possible infectious disease or when victims need decontamination?", and the lowest arithmetic average for the fifth paragraph (2.14) "All entrances and exits are controlled, monitored with cameras …., and can be locked", and the total arithmetic average reached (2.26), which indicates a high degree of safety and security for disaster preparedness plan in West Bank hospitals.

Table No. 4. 2: Descriptive analysis of safety and security

Rank	Items	Mean	Std. Deviation	Degree
1	1. Are there details of personal protective equipment and precautions to be taken in the event of a possible infectious disease or when victims need decontamination?	2.34	.835	High
3	2. Security personnel on duty 24 hours/ 7 days per week in Emergency Department.	2.31	.824	High
2	3. Facility can post additional security personnel in Emergency Department.	2.33	.733	High
4	4. Facility has a Memorandum of understanding with local law enforcement to provide additional security.	2.19	.683	Medium
5	5. All entrances and exits are controlled, monitored with cameras …., and can be locked.	2.14	.827	Medium
-	**Total**	**2.26**	**0.780**	**High**

4.3.2 Descriptive Analysis of Assessment Emergency Management Plan at Palestinian Governmental Hospitals in The West Bank

From the table below, we note that the arithmetic average of the emergency

management plan elements is between medium and low, as the highest arithmetic average for the second paragraph was (2.06) “Are you aware of the role of hospitals during disasters/emergencies”, the lowest arithmetic average for the third paragraph (1.51) “Have you participated in developing or reviewing the hospital disaster plan?”, and the total arithmetic average reached (1.93), which indicates a medium degree of emergency management plan for disaster preparedness plan in West Bank hospitals.

Table No. 4. 3 Descriptive analysis of emergency management plan

Rank	Items	Mean	Std. Deviation	Degree
4	1. Does your hospital have a disaster plan?	2.01	.770	Medium
1	2. Are you aware of the role of hospitals during disasters/emergencies	2.06	.808	Medium
9	3. Have you participated in developing or reviewing the hospital disaster plan?	1.51	.780	Low
3	4. Are there specifications under which the plan can be activated?	2.03	.693	Medium
6	5. Does the plan cover both internal and external disasters?	1.94	.662	Medium
7	6. Is the plan based on an “all hazards” approach?	1.93	.637	Medium
8	7. Does the plan detail how pedestrians and vehicular traffic will be controlled?	1.88	.671	Medium
5	8. Does the plan show how healthcare workers from outside the hospital will be identified and registered so as to facilitate safe and qualified patient care?	1.97	.703	Medium
2	9. Does the plan indicate who is responsible of training and educating staff?	2.05	.709	Medium
-	**Total**	**1.93**	**0.715**	**Medium**

4.3.3 Descriptive Analysis of Assessment Readiness and Training at Palestinian Governmental Hospitals in The West Bank

From the table below, we note that the arithmetic average of all readiness and training items is medium, as the highest arithmetic average for the first and second paragraphs reached (1.79) “The hospital has an adequate staff to deal with a sudden large influx of patients during

disasters or emergencies" and "The hospital is adequately prepared to manage any type of disaster or emergency in which there is a large influx of patients", and the lowest arithmetic average for the fifth paragraph (1.71) "Does the hospital have disaster drills?", and the total arithmetic average reached (1.76), which indicates a medium degree of readiness and training for disaster preparedness plan in West Bank hospitals.

Table No. 4. 4 Descriptive analysis of readiness and training

Rank	Items	Mean	Std. Deviation	Degree
1	1. The hospital has an adequate staff to deal with a sudden large influx of patients during disasters or emergencies.	1.79	.879	Medium
1	2. The hospital is adequately prepared to manage any type of disaster or emergency in which there is a large influx of patients.	1.79	.788	Medium
3	3. Have the hospital offered training or publicity regarding to the content emergency plan	1.76	.815	Medium
4	4. Does the hospital evaluate the effectiveness of training periodically?	1.73	.788	Medium
5	5. Does the hospital have disaster drills?	1.71	.764	Medium
2	6. Does the hospital conduct workshop to facilitate staff awareness?	1.78	.768	Medium
-	**Total**	**1.76**	**0.80**	**Medium**

4.3.4 Descriptive Analysis of Assessment Emergency Management Disaster Preparedness Committee at Palestinian Governmental Hospitals in The West Bank

From the table below, we note that the arithmetic average of the emergency management disaster preparedness committee elements is medium, as the highest arithmetic average for the second paragraph was (2.01) "A hospital emergency management/disaster preparedness committee exists and provides leadership to staff", the lowest arithmetic average for the third paragraph (1.71) "Open meetings are held regularly", and the total arithmetic average reached (1.88), which indicates a medium degree of emergency management disaster preparedness committee for disaster preparedness plan in West Bank hospitals.

Table No. 4. 5 Descriptive analysis of emergency management disaster preparedness committee

Rank	Items	Mean	Std. Deviation	Degree
2	1. Is there a disaster planning Committee?	1.99	.694	Medium
1	2. A hospital emergency management/disaster preparedness committee exists and provides leadership to staff.	2.01	.703	Medium
6	3. Open meetings are held regularly.	1.71	.703	Medium
5	4. Committee meeting minutes/action plan are available for review.	1.80	.742	Medium
4	5. Committee forwards critiques of all drills to appropriate services in a timely manner.	1.83	.711	Medium
3	6. Committee communicates with and/or cooperates with other hospitals in the community.	1.94	.720	Medium
-	**Total**	**1.88**	**0.712**	**Medium**

4.3.5 Descriptive Analysis of Assessment Communication, Warning and Notification at Palestinian Governmental Hospitals in The West Bank

From the table below, we note that the arithmetic average of the communication, warning and notification elements is between medium and high, as the highest arithmetic average for the second paragraph was (2.21) "Does this hospital have a system for communication with other health facilities, government offices or media?", the lowest arithmetic average for the fifth and sixth paragraphs (1.83) "Are there standardized messages for alerting hospital staff with descriptions of each stage?" and "Are there any provisions for alternative communication systems in the event that the normal systems (for example telephone, cell phones) are overloaded and are unserviceable during disasters?", and the total arithmetic average reached (2.00), which indicates a medium degree of communication, warning and notification for disaster preparedness plan in West Bank hospitals.

Table No. 4. 6 Descriptive analysis of communication, warning and notification

Rank	Items	Mean	Std. Deviation	Degree
3	1. Has this hospital set up system for crisis communication and cooperation within hospital department?	2.06	.783	Medium
1	2. Does this hospital have a system for communication with other health facilities, government offices or media?	2.21	.768	High
2	3. Does the hospital have other emergency departments or organizations' contact way?	2.17	.778	Medium
4	4. Has this hospital developed early warning system for pubic emergencies?	1.90	.715	Medium
5	5. Are there standardized messages for alerting hospital staff with descriptions of each stage?	1.83	.747	Medium
5	6. Are there any provisions for alternative communication systems in the event that the normal systems (for example telephone, cell phones) are overloaded and are unserviceable during disasters?	1.83	.732	Medium
-	**Total**	**2.00**	**0.754**	**Medium**

4.4 First Hypothesis

Ho1: There is no significant impact of safety and security on disaster preparedness plan among West Bank governmental hospitals.

To test this hypothesis, an ANOVA Test was conducted within the Statistical Analysis Program (SPSS) to contain the hypothesis on two variables, which are (safety and security & disaster preparedness).

From the table below, the result of the above test shows that the sigma value is (0.00) which is less than (0.05), so we reject the null hypothesis and accept the alternative hypothesis, meaning there is a significant impact of safety and security on disaster preparedness plan among West Bank governmental hospitals.

Table No. 4. 7 ANOVA Test for first hypothesis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12034.010	1	12034.010	179.279	.000[b]
	Residual	19868.804	296	67.124		
	Total	31902.814	297			
a. Dependent Variable: Disaster preparedness plan						
b. Predictors: (Constant), Safety and security						

4.5 Second Hypothesis

Ho2: There is no significant impact of availability of emergency management plan on disaster preparedness among West Bank governmental hospitals.

To test this hypothesis, an ANOVA Test was conducted within the Statistical Analysis Program (SPSS) to contain the hypothesis on two variables, which are (emergency management plan & disaster preparedness).

The result of the below test shows that the sigma value is (0.00) which is less than (0.05), so we reject the null hypothesis and accept the alternative hypothesis, meaning there is a significant impact of availability of emergency management plan on disaster preparedness plan among West Bank governmental hospitals.

Table No. 4. 8 ANOVA Test for second hypothesis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24561.924	1	24561.924	990.388	.000[b]
	Residual	7340.890	296	24.800		
	Total	31902.814	297			
a. Dependent Variable: Disaster preparedness plan						
b. Predictors: (Constant), Emergency management plan						

4.6 Third Hypothesis

Ho3: There is no significant impact of readiness and training on disaster preparedness plan among West Bank governmental hospitals.

To test this hypothesis, an ANOVA Test was conducted within the Statistical Analysis Program (SPSS) to contain the hypothesis on two variables, which are (readiness and training & disaster preparedness).

The result of the below test shows that the sigma value is (0.00) which is less than (0.05), so we reject the null hypothesis and accept the alternative hypothesis, meaning there is significant impact of readiness and training on disaster preparedness plan among West Bank governmental hospitals.

Table No. 4. 9 ANOVA Test for third hypothesis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21162.519	1	21162.519	583.234	.000[b]
	Residual	10740.295	296	36.285		
	Total	31902.814	297			
a. Dependent Variable: Disaster preparedness plan						
b. Predictors: (Constant), Readiness and training						

4.7 Fourth Hypothesis

Ho4: There is no significant impact of emergency management disaster preparedness committee on disaster preparedness plan among West Bank governmental hospitals.

To test this hypothesis, an ANOVA Test was conducted within the Statistical Analysis Program (SPSS) to contain the hypothesis on two variables, which are (emergency management disaster preparedness committee & disaster preparedness).

The result of the below test shows that the sigma value is (0.00) which is less than (0.05), so we reject the null hypothesis and accept the alternative hypothesis, meaning there is a significant impact of emergency management disaster preparedness committee on disaster preparedness plan among West Bank governmental hospitals.

Table No. 4. 10ANOVA Test for fourth hypothesis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22408.924	1	22408.924	698.664	.000[b]
	Residual	9493.889	296	32.074		
	Total	31902.814	297			
a. Dependent Variable: Disaster preparedness plan						
b. Predictors: (Constant), Emergency management disaster preparedness committee						

4.8 Fifth Hypothesis

Ho5: There is no significant impact of communication, warning and notification on disaster preparedness plan among West Bank governmental hospitals.

To test this hypothesis, an ANOVA Test was conducted within the Statistical Analysis Program (SPSS) to contain the hypothesis on two variables, which are (communication, warning and notification & disaster preparedness).

The result of the below test shows that the sigma value is (0.00) which is less than (0.05), so we reject the null hypothesis and accept the alternative hypothesis, meaning there is a significant impact of communication, warning and notification on disaster preparedness plan among West Bank governmental hospitals.

Table No. 4. 11 ANOVA Test for fifth hypothesis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17748.217	1	17748.217	371.150	.000[b]
	Residual	14154.597	296	47.820		
	Total	31902.814	297			
a. Dependent Variable: Disaster preparedness plan						
b. Predictors: (Constant), Communication, warning and notification						

4.9 Sixth Hypothesis

H06: There is no significant effect on the extent to which hospitals are prepared for disasters due to the variables of gender, age, years of experience, job title, and level of education.

From Table No. 15 below, the following appears:

- The value of the significance level for the gender variable appears 0.931, which is a value greater than 0.05, which means that there are no statistically significant differences in the level of hospital preparedness for disasters due to the gender variable.
- The value of the significance level for the age variable appears 0.133, which is a value greater than 0.05, which means that there are no statistically significant differences in the level of hospital preparedness for disasters due to the age variable.
- The value of the significance level for the variable years of experience appears 0.202, which is a value greater than 0.05, which means that there are no statistically significant differences in the level of hospital preparedness for disasters due to the variable years of experience.
- The value of the significance level for the variable of education level appears 0.177, which is a value greater than 0.05, which means that there are no statistically significant differences for the level of hospital preparedness for disasters due to the variable of education level.

- The value of the significance level for the job title variable is 0.000, which is a value less than 0.05, which means that there are statistically significant differences in the level of hospital preparedness for disasters due to the job title variable, and in favor of the administrators, as shown in Table No. 16 below, as the highest arithmetic mean belongs to the administrators and reached (52.2034).

Table No. 4. 12 ANOVA analysis of demographic variables

Variables	Total Squares	Freedom Degrees	Squares Averages	F Value	Level of Statistical Significance
Gender	.806	1	.806	.007	.931
Age	905.933	5	181.187	1.707	.133
Experience years	640.068	4	160.017	1.500	.202
Job title	2247.287	3	749.096	7.426	.000
Level of education	529.589	3	176.530	1.654	.177

Table No. 4. 13 Arithmetic Mean and standard deviation of the study sample job title

Domains	Classification	No.	Arithmetic Mean	Standard Deviation
Job title	doctor	53	43.4409	10.51765
	nurse	135	45.9684	10.63525
	administrator	43	52.2034	10.91367
	other	67	44.0864	7.53191

4. 10 Qualitative Analyses

The researcher conducted four interviews with key persons in the Palestinian ministry of health in order to identify the hospitals' preparedness for disasters.

The researcher recorded the interviews, listened to them later, documented and coded them, and conducted thematic analysis was applied.

The interview included three main questions:

1. Is there an emergency plan set by the Ministry of Health for the government hospitals?

2. Could you please explain in detail the disaster plan used by the Ministry of Health and how its protocols are updated?
3. Is there any imaginary training has been conducted? If so, how efficient was the training? Did the consequences of the training enable change the plan and training process?

The table below includes the data provided in each interview

Table No. 4. 14 Interview data

Key persons interviews	**First question**	**Second question**	**Third question**
	Is there an emergency plan set by the Ministry of Health for the government hospitals?	Could you please explain in detail the disaster plan used by the Ministry of Health and how its protocols are updated?	Is there any imaginary training has been conducted? If so, how efficient was the training? Did the consequences of the training enable change the plan and training process?
First interview	Yes, there is an emergency plan that is updated annually or once every two years, depending on the circumstances	The plan was updated two years ago and is used in all its details by all hospitals. The nature of staff training to deal with disaster cases are varied according to different assumptions. For instance, it was assumed that there is an epidemic in one hospital, while the existence of fire was assumed in another hospital.	In the previous times before the spread of Coronavirus, we used to attend training from time to another. There was training in Jenin Hospital in the northern region and other training in Alia Governmental Hospital in the south area. The scenario of one training simulates the explosion of a car in a crowded street. The disaster plan showed how to connect with police, civil defense, and media, and communicating with volunteers and medical staff. This scenario lasted for approximately 8 hours. The other imaginary training was conducted in Jenin Hospital in the north of the West Bank. It simulates a case of a fire occurred inside a closed department, where the patients were successfully evacuated and the fire ended. This training was a successful one, but during these periods of the global spread of Coronavirus, there are restrictions to conduct such trainings. However, there are special updates process to deal with

			coronavirus patients, such as preparing the appropriate structure and equipment, the medical staff, oxygen devices, and other medical preparations. There are always monthly meetings, but because of Corona virus circumstances, these meeting are held online using Zoom application.
Second and third interviews	There is an emergency plan that by the end of a year, each manager gives his/her report regarding this plan every year. Every hospital is obliged to send an emergency plan and the key persons who oversee it. The hospital emergency plan lies under the emergency plan of the governorate. In every governorate, there is a Health Emergency Committee that has an emergency plan for primary care. (However, there is no comprehensive national emergency plan for all people.) We are working through the Emergency Operation Center (EOC) to prepare a comprehensive national emergency plan that will be centralized and the base for our processes.	The planning process for the disaster response is divided into three levels: 1. The first national level: The Higher National Committee led by His Excellency the Minister of Health. This committee works to develop strategies and policies at the national level. 2. The Governorate Emergency Committee: It is composed of all health institutions working at the Governorate level, whether they are public, private, or (local or international) non-government organizations. 3. The institution's Emergency Committee: Whether the institution is a government, red crescent or private one, every institution is required to prepare an Emergency Plan. This plan contains the issues of patients' reception and triaging them, keeping their properties, assigning the key person who is responsible for contacting and communicating with people and police, determining how to close	There are special exercises for checking ups the emergency plans. There have been drills conducted at the level of the AL Khalil governorate during 2017 and 2018 maneuver a traffic accident or explosion resulting in a number of injuries. These drills were made with the participation of civil defense, private and private hospitals, primary care, police and ambulance, and the all the system had been examined. In the city of Jenin, the occurring of a fire and the evacuating of the patients were examined in the children's department and the results were excellent. Another maneuver occurred in Jenin Stadium in 2015, where dozens of injuries were found and evacuated to hospitals. In 2019, an agreement was made to conduct drills, but when the entire world has been affected by coronavirus, we couldn't examine the emergency plan since we are in the response phase. Therefore, an agreement was held with the World Health Organization (WHO) and using the Medical Counter Measures (MCMs) to make exercises starting with tabletop exercises. This is the form of existing plans, as they contain all institutions, whether private, governmental, or civil defense and they must meet constantly.

		the streets, planning to resuscitate the badly affected patients in hospitals.	
Fourth interview	There is an emergency plan that is updated annually and it is part of the strategic plan.	There is an emergency plan for every governorate and it includes the police, ambulance, civil defense, and local councils	The medical staff are trained how to deal with infectious diseases such as the Coronavirus during this pandemic period.

The table below shows the most important points mentioned in the interviews.

Table No. 4. 15 Interview's themes

Interviews responses	**Themes Extracts**		
	First interview	**Second and third interviews**	**Fourth interview**
Q1: Is there an emergency plan set by the Ministry of Health for the government hospitals?	**There is an emergency plan, updated annually.**	**There is an emergency plan; every hospital sends an emergency plan, under the governorate emergency plan, no comprehensive national emergency plan.**	**There is an emergency plan, updated annually.**
Q2: Could you please explain in detail the disaster plan used by the Ministry of Health and how its protocols are updated.	**Updated two years ago.**	**Higher National Committee, develop strategies and policies at the national level, Governorate Emergency Committee, composed of all health institutions, institution's Emergency Committee, contains of (patients' reception, keeping their properties, key person, communication, police, planning, resuscitating).**	**Emergency plan for every governorate includes (police, ambulance, civil defence, and local councils).**

Q3: Is there any imaginary training has been conducted? If so, how efficient was the training? Did the consequences of the training enable change the plan and training process?	**Attend training from time to another, simulates the explosion of a car, connect with (police, civil defence, media, communicating with volunteers and medical staff), simulates a fire case, patients evacuated successfully, preparing the appropriate (structure, equipment, medical staff, oxygen devices, and other medical preparations), monthly meetings using Zoom application because of Corona virus circumstances.**	**Special exercises manoeuvre a traffic accident or explosion, participation of (civil defence, public and private hospitals, primary care, police and ambulance services), fire and patients evacuating, Medical Counter Measures, table top exercises.**	**Medical staff is trained, infectious diseases such as the Coronavirus.**

The table below shows the keywords mentioned in the interviews.

Table No. 4. 16 Extracted themes

Interviews responses	**Themes Extracts**		
	First interview	**Second and third interviews**	**Fourth interview**
Q1: Is there an emergency plan set by the Ministry of Health for the government hospitals?	**Updated annually**	**Hospital emergency plan, governorate emergency plan, no comprehensive national emergency plan.**	**Updated annually.**
Q2: Could you please explain in detail the disaster plan used by the Ministry of Health and how its protocols are updated.	**Updated two years ago.**	**Higher National Committee, Governorate Emergency Committee, institution's Emergency Committee.**	**Governorate emergency plan.**
Q3: Is there any imaginary training has been conducted? If so, how efficient was the training? Did the consequences of the training enable change	**Simulates car explosion, simulates a fire case, patients evacuated, monthly**	**Special exercises, traffic accident or explosion, fire and patients evacuating, table top exercises.**	**Infectious diseases such as the Coronavirus.**

the plan and training process?	**meetings via Zoom application.**		

The table below shows the final summary of the interviews according to the keywords extracted.

Table No. 4. 17 Final themes

First theme	Second theme
There is an emergency plan updated annually. Emergency committee meets monthly via Zoom application. However, there is no comprehensive national emergency plan.	The staffs are trained where drills were conducted, supposed car explosion, a fire case, patient's evacuation, and table top exercises.

4.10.1 Interviews Conclusion:

First interview mentioned that there is an emergency plan updated annually, the staff is trained where an exercise is conducted, supposed car explosion, a fire case, and patients evacuated, the emergency committee meets monthly via Zoom application. Second and third interviews mentioned that there is a hospital and governorate emergency plans, but no comprehensive national emergency plan there are Higher National Committee, governorate emergency committee, and institution's emergency committee to prepare an emergency plan, special exercises were conducted to train the staff, by assuming traffic accidents or explosions, fire and patient evacuations, and table exercises. Finally, fourth interview mentioned that there is an emergency plan updated annually under the governorate emergency plan, an exercise was conducted on infectious diseases such as the Coronavirus to train the staff.

Chapter (5)

Discussion & Conclusion

5.1 Introduction

This study aims to assessment disaster preparedness plans in Palestinian hospitals in the West Bank, where the study examined security and safety procedures in hospitals, emergency management plan, hospital preparedness committee for emergency management, with regard to readiness and training for hospital staff in the disaster preparedness stage, finally, this study examined communication, warning and notification related to hospital preparedness for disasters.

This chapter includes a discussion of the disaster preparedness plan in West Bank hospitals. This chapter discusses the results of testing the study's hypotheses and comparing them with the previous studies results. The chapter concludes with a discussion of the study limitations and future research areas.

5.2 Results Discussion

This study part illustrates the discussion of the current study results and its comparison with the previous studies mentioned in the second chapter, where the results of each hypothesis will be discussed separately.

The result of this study showed that there is a significant impact of safety and security on disaster preparedness plan among West Bank governmental hospitals, it is agreement with a study of Lamine et al. (2018) concluded that the safety of staff and patients at University of Sousse - Tunisia hospitals during and after emergencies and disasters is at risk due to the poor level of disaster and emergency management. In addition to, Geniosa and Aini (2020)

concluded that the hospital safety index in Yogyakarta City Hospital amounted to 62.5%. In addition to, Alsalem & Alghanim (2021)found that the level of preparedness of Saudi hospitals for disasters reached 69.8%, where the field of administrative capacity reached 83.6%, and the field of human resource efficiency capacity reached 63%,the results also showed that Riyadh hospitals were the most prepared, it also showed that there were statistically significant differences in disaster preparedness between the Ministry of Health and other government and university hospitals, where university hospitals were the most prepared.

Furthermore, the result of this study showed that there is a significant impact of availability of emergency management plan on disaster preparedness plan among West Bank governmental hospitals, it agreed with Ncube & Chimenya (2016) result, where they showed that Onandjokwe Lutheran hospital has an emergency response plan. Also, Arab et al. (2019) proposed a model for assessing and verifying disaster risk management in hospitals, as it included criteria and measurable elements in order to determine the hospital's disaster preparedness, which would enable decision makers to take corrective measures to enhance hospitals' disaster response. Further, Alruwaili et al. (2019) showed that one of the reasons for the poor preparedness of hospitals for disasters is the lack of emergency plans, and the insufficient resources available. Also, Gabbea et al. (2020) showed that the existence of a comprehensive contingency plan for all internal and external risks in the centers by eighty percent in the main trauma center in Canada, Australia, New Zealand and England. Additionally, Ceferino et al. (2020) showed that good planning enables the hospital system in Lima, Peru to address the mismatch between capacity and demand, and this leads to reducing waiting time for seriously injured patients. And Alruwaili et al. (2021) sowed that all hospitals in the Eastern Province of the Kingdom of Saudi Arabia have a disaster response plan, 70%

of hospitals have an educational program on disaster response, a drill was conducted to assess hospitals' disaster preparedness in 98% of hospitals, but 9.5% of hospitals have a disaster recovery program such as support and consulting services.

Also, the result of this study showed that there is a significant impact of readiness and training on disaster preparedness plan among West Bank governmental hospitals, it disagreed with Ncube & Chimenya (2016) result, where they showed that there is a lack of training at Onandjokwe Lutheran Hospital in northern Namibia to deal with emergencies and disasters. And Sharma & Sharma (2020) showed that the flexibility and preparedness of health directors and health centers in Rajasthan is limited, as it appeared that training in disaster response reached 37.9% of workers, isolation rooms are not equipped to deal with critical patients despite the fact that the stock of medicines is good, and the study also showed that the level of disaster preparedness it ranges from low to medium and varies from one hospital to another.

But it somewhat agreed with the results of the study Alzahrani & Yiannis (2017) which showed that nurses' awareness of their clinical role in disaster response is high in four public hospitals in Makkah Al-Mukarramah, Saudi Arabia, but the study sample reported limited knowledge and awareness of disaster preparedness and emergency plans, including the basic elements of the hospital's disaster management strategy, as more than half of the study sample did not read the plan accurately. But the results of Koka et al. (2018) showed that all hospitals in Tanzania have insufficient numbers of health care providers to provide an effective response to disasters. Ninety-two percent of hospitals reported experiencing a disaster in the last five years; the main causes of the disasters appeared as follows: large car accidents by eighty-seven, floods by twenty-six, and finally the outbreak of infectious diseases by twenty-two. In addition to, Gabbea et al. (2020) showed that the training was conducted on procedures for dealing with mass casualty incidents in the past two years at a rate of seventy-

nine percent in the main trauma center in Canada, Australia, New Zealand and England.

Likewise the result of this study showed that there is a significant impact of emergency management disaster preparedness committee on disaster preparedness plan among West Bank governmental hospitals, it disagreed with Alraga (2017) result, where it showed that the Kingdom of Saudi Arabia does not have a multi-sectoral management to facilitate the effective management of health in disasters, where the traditional approach is followed in managing disasters and emergencies in the health sector. However, this study agreed with Koka et al. (2018) showed that fifteen hospitals in Tanzania have a crisis and disaster management committee, but only five hospitals have a crisis and disaster management plan, and three hospitals have a backup communications system. Also, Gabbea et al. (2020) showed that the existence of a crisis and disaster management committee at a rate of ninety-one percent in the main trauma center in Canada, Australia, New Zealand and England.

Moreover, the result of this study showed that there is a significant impact of communication, warning and notification on disaster preparedness among West Bank governmental hospitals, it is agreement with the study of , Gabbea et al. (2020) showed that the existence of the necessary reserve resources for emergencies by fifty-five percent, the existence of a database of human resources trained to deal with emergencies by fifty eight percent, the existence of a training plan to deal with cases Emergency, especially mass casualty accidents, by seventy-four percent, and the existence of a program to rehabilitate workers after dealing with major emergencies by sixty-two percent, the results also showed that most centers have a backup communication system and safety and security plans in the main trauma center in Canada, Australia, New Zealand and England. Also, Mojtahedi et al. (2021) showed that the disaster decision-making matrix includes: emergency management, disaster recovery planning, patient care, disaster communication plan, financing, support plan,

Human resources, decontamination, evacuation, and logistics.

5.2.1 Discussing the Qualitative Analysis

The qualitative analysis of the study concluded that there is a plan to confront emergency cases that is modified annually and is based on the governorate's emergency plan, but there is no comprehensive national plan to address emergency cases in Palestine, and there is an emergency committee at the hospital and governorate level and it meets constantly, and at the present time it meets monthly Via the Zoom app due to the Corona pandemic. Staff is trained assuming emergency situations such as traffic accident, fire, explosion, infectious diseases, and table exercises.

The result of the qualitative analysis of this study agreed with Ncube & Chimenya (2016) result, where they showed that Onandjokwe Lutheran hospital has an emergency response plan. Also, Gabbea et al. (2020) showed that the existence of a comprehensive contingency plan for all internal and external risks in the centers by eighty percent in the main trauma center in Canada, Australia, New Zealand and England. Additionally, Ceferino et al. (2020) showed that good planning enables the hospital system in Lima, Peru to address the mismatch between capacity and demand, and this leads to reducing waiting time for seriously injured patients. And Alruwaili et al. (2021) sowed that all hospitals in the Eastern Province of the Kingdom of Saudi Arabia have a disaster response plan. But, Alruwaili et al. (2019) showed that one of the reasons for the poor hospitals preparedness for disasters is the lack of emergency plans.

Additionally, this study results agreed with Gabbea et al. (2020) showed that the training was conducted on procedures for dealing with mass casualty incidents in the past two years at a rate of seventy-nine percent in the main trauma center in Canada, Australia, New

Zealand and England. Also, Geniosa & Aini (2020) concluded that the cognitive questionnaire was 77%in Yogyakarta City Hospital, this means that the degree of staff knowledge of disasters plan was excellent. The result of this study disagreed with Ncube & Chimenya (2016) result, where they showed that there is a lack of training at Onandjokwe Lutheran Hospital in northern Namibia to deal with emergencies and disasters. And Sharma & Sharma (2020) showed that the flexibility and preparedness of health directors and health centers in Rajasthan is limited, as it appeared that training in disaster response reached 37.9% of workers.

5.3 Conclusion

The study found the following: The study found that the degree of practice of safety and security measures by West Bank hospitals is high, the emergency management plan was a medium degree, the readiness and training of workers was at a medium degree, the disaster preparedness and emergency management committee was also at a medium degree, and finally the degree of commitment of West Bank hospitals to communication procedures, warning and notification in preparedness for disasters was medium. And there is a significant impact of safety and security on disaster preparedness plan among West Bank governmental hospitals. Also, there is a significant impact of availability of emergency management plan on disaster preparedness plan among West Bank governmental hospitals. In addition to, there is a significant impact of readiness and training on disaster preparedness plan among West Bank governmental hospitals. Furthermore, there is a significant impact of emergency management disaster preparedness committee on disaster preparedness plan among West Bank governmental hospitals. Likewise, there is a significant impact of communication, warning and notification on disaster preparedness plan among West Bank governmental hospitals. And the qualitative analysis of the study concluded that there is a plan to confront emergency

cases that is modified annually and is based on the governorate's emergency plan, but there is no comprehensive national plan to address emergency cases in Palestine, and there is an emergency committee at the hospital and governorate level and it meets constantly, and at the present time it meets monthly Via the Zoom app due to the Corona pandemic. Staff are trained assuming emergency situations such as traffic accident, fire, explosion, infectious diseases, and table exercises.

5.4 Strengths and Limitations

There were a number of study strengths, which are as follows:

- The study used a mixed method approach (quantitative and qualitative) to achieve the study objectives.
- This study is the first study in the West Bank that deals with the issue of hospital preparedness for disasters.
- The sample of this study included all health care providers (doctors, nurses, administrators, and others).

There were a number of study limitations, which are as follows:

- The study was conducted in three Palestinian government hospitals, so the results of this study cannot be generalized because it did not include the all-government hospitals and private health sector.
- The researcher faced difficulties in collecting data because the study sample consists of several categories, and the use of a stratified random sample requires collecting a specific number of each category from each hospital.
- Determining the date and location of the interviews with the key persons was difficult due to their business and their different geographical locations.

5.5 Recommendation

The study recommended the following:

- It is necessary for West Bank hospitals to take all necessary measures in the phase of disasters preparedness, in order for hospitals to be highly prepared in the phase of response and recovery in the event of a disaster, because the disaster or emergency situations may come at any time and without warning.
- Hospitals must train all employees and conduct mock drills in order to be prepared to face disasters if they occur and to know the role of each one of them at this stage.
- Cooperation and communication with all relevant parties in the country, in addition to prior cooperation and joint planning among all hospitals.

5.5.1 Recommendation for Future Research

- Including of private hospitals in addition to government hospitals.
- Including all hospital workers in the study sample.
- Multi center studies more than three hospitals.

5.6 Implication

The results of this study will have an impact on the preparedness of hospitals in the West Bank to face disasters through the recommendations reached by the researcher, and will also be a reference for researchers in the future.

The existence of a disaster preparedness plan for West Bank hospitals is important and can be modified according to developments, but this plan must be based on a comprehensive national plan to address disasters at the state level. Also, hospitals should design an effective disaster response communication plan, and an advance alert system to enable hospitals to

prepare to deal with the injured.

The human force is the basis of hospitals, so the training process must be continuous and assuming emergency cases in order to identify opportunities for improvement and work on developing the plan and training.

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Appendix

Appendix A: Questionnaire in English Language

Informed Consent

Assessment of Disaster Preparedness Plans at Palestinian Governmental Hospitals in the West Bank-Mixed Method Approach

Dear Participant:

I am a master student at the faculty of high studies at Arab American University-Ramallah, kindly invites you to participate in this research study. The study is carried out as part of fulfilling the requirements for master degree in Emergency Nursing. The purpose of this study is (**Assessment Of Disaster Preparedness Plans At Palestinian Governmental Hospitals In The West Bank-Mixed Method Approach**) your participation is voluntary; your cooperation is highly appreciated. You have the right to withdraw at any time during data collection process without limitation. Filling the questionnaire will not take more than 20 minutes from your time, and assuring that your answers will be kept anonymous and confidential and will be used for the research purposes only.

Thanks.

If you have any further inquiry about the questionnaire, please call Mr. Basel A`mar at (0597603778)

Advisor: Dr. Mohammed Jallad

CO-Advisor: Dr. Emad Abu Khader

Part One: Demographic Data

Please tick next to the appropriate answer

1. Gender: Male _____ Female _____
2. Age: <20____ 20-30____ 31-40____ 41-50____ 51-60____ >60_____
3. How many years of experience do you have? ___
4. Job title: doctor____ nurses____hospital administration____ others____
5. Education: Diploma Degree ____Bachelor _____Masters _____ PhD ____

For each of the statements below, please mark your level of agreement:

No	Don't know	Yes
1	2	3

Part Two: Safety and Security

Questions	No 1	Don't know 2	Yes 3
1. Are there details of personal protective equipment and precautions to be taken in the event of a possible infectious disease or when victims need decontamination?			
2. Security personnel on duty 24 hours/ 7 days per week in Emergency Department.			
3. Facility can post additional security personnel in Emergency Department.			
4. Facility has a Memorandum of understanding with local law enforcement to provide additional security.			
5. All entrances and exits are controlled, monitored with cameras …., and can be locked.			

Part Three: Emergency Management Plan

Questions	No 1	Don't know 2	Yes 3
1. Does your hospital have a disaster plan?			
2. Are you aware of the role of hospitals during disasters/emergencies?			
3. Have you participated in developing or reviewing the hospital disaster plan?			
4. Are there specifications under which the plan can be activated?			
5. Does the plan cover both internal and external disasters?			
6. Is the plan based on an "all hazards" approach?			
7. Does the plan detail how pedestrians and vehicular traffic will be controlled?			
8. Does the plan show how healthcare workers from outside the hospital will be identified and registered so as to facilitate safe and qualified patient care?			
9. Does the plan indicate who is responsible of training and educating staff?			

Part Four: Readiness and Training

Questions	No 1	Don't know 2	Yes 3
1. The hospital has an adequate staff to deal with a sudden large influx of patients during disasters or emergencies.			
2. The hospital is adequately prepared to manage any type of disaster or emergency in which there is a large influx of patients.			
3. Have the hospital offered training or publicity regarding to the content emergency plan			
4. Does the hospital evaluate the effectiveness of training periodically?			
5. Does the hospital have disaster drills?			
6. Does the hospital conduct workshop to facilitate staff awareness?			

Part Five: Emergency Management Disaster Preparedness Committee

Questions	No 1	Don't know 2	Yes 3
1. Is there a disaster planning Committee?			
2. A hospital emergency management/disaster preparedness committee exists and provides leadership to staff.			
3. Open meetings are held regularly.			
4. Committee meeting minutes/action plan are available for review.			
5. Committee forwards critiques of all drills to appropriate services in a timely manner.			
6. Committee communicates with and/or cooperates with other hospitals in the community.			

Part Six: Communication, Warning and Notification

Questions	No 1	Don't know 2	Yes 3
1. Has this hospital set up system for crisis communication and cooperation within hospital department?			
2. Does this hospital have a system for communication with other health facilities, government offices or media?			
3. Does the hospital have other emergency departments or organizations' contact way?			
4. Has this hospital developed early warning system for pubic emergencies?			
5. Are there standardized messages for alerting hospital staff with descriptions of each stage?			
6. Are there any provisions for alternative communication systems in the event that the normal systems (for example telephone, cell phones) are overloaded and are unserviceable during disasters?			

Thank You

Appendix B: Questionnaire in Arabic Language

تقييم خطط التأهب للكوارث في المستشفيات الحكومية الفلسطينية في الضفة الغربية - طريقة المنهج المختلط

عزيزي المشارك:

أنا طالب ماجستير في كلية الدراسات العليا في الجامعة العربية الأمريكية - رام الله ، أدعوكم للمشاركة في هذه الدراسة البحثية. يتم إجراء الدراسة كجزء من تلبية متطلبات درجة الماجستير في تمريض الطوارئ. الغرض من هذه الدراسة هو (تقييم خطط التأهب للكوارث في المستشفيات الحكومية الفلسطينية في الضفة الغربية- طريقة المنهج المختلط) مشاركتك طوعية ؛ نقدر تعاونك كثيرا. لديك الحق في الانسحاب في أي وقت أثناء عملية جمع البيانات دون قيود. لن يستغرق ملئ الاستبيان أكثر من 20 دقيقة من وقتك ، وتأكد من أن إجاباتك ستبقى مجهولة وسرية وستستخدم لأغراض البحث فقط.
شكرا.

إذا كان لديك أي استفسار آخر حول الاستبيان ، يرجى الاتصال بالسيد باسل وفيق اعمر على الرقم (0597603778).

المشرف : د. محمد الجلاد

مساعد المشرف : د. عماد ابو خضر

الجزء الأول: البيانات الديموغرافية

يرجى وضع علامة بجوار الإجابة المناسبة

1) الجنس: ذكر _____ أنثى_____

2) العمر: <20 ____ 30-20 ____ 40-31 ____ 50-41 ____ 60-51

____> 60_____

3) كم عدد سنوات الخبرة لديك؟_____

4) المسمى الوظيفي: طبيب __ ممرض\ة __ إدارة المستشفى __اخرى _

5) التعليم: دبلوم ____ بكالوريوس _____ ماجستير _____ دكتوراه____

لكل من العبارات الواردة أدناه ، يرجى تحديد مستوى موافقتك:

لا	**لا أعرف**	نعم
1	2	3

الجزء الثاني: السلامة والأمن

الأسئلة	لا (1)	لا أعرف (2)	نعم (3)
1) هل هناك تفاصيل عن معدات الحماية الشخصية والاحتياطات التي يتعين اتخاذها في حالة احتمال الإصابة بمرض معد أو عندما يحتاج الضحايا إلى إزالة التلوث؟			
2) أفراد الأمن في الخدمة 24 ساعة / 7 أيام في الأسبوع في قسم الطوارئ.			
3) يمكن للمؤسسة نشر أفراد أمن إضافيين في قسم الطوارئ.			
4) المؤسسه لديها مذكرة تفاهم مع أجهزة إنفاذ القانون المحلية لتوفير مزيد من الأمن			
5) يتم التحكم في جميع المداخل والمخارج ومراقبتها بكاميرات ويمكن قفلها			

الجزء الثالث: خطة إدارة الطوارئ

الأسئلة	لا (1)	لا أعرف (2)	نعم (3)
1) هل لدى مستشفاك خطة للكوارث؟			
2) هل أنت على علم بدور المستشفيات خلال الكوارث / حالات الطوارئ؟			
3) هل شاركت في تطوير أو مراجعة خطة الكوارث للمستشفى؟			
4) هل هناك مواصفات يمكن تفعيل الخطة بموجبها؟			
5) هل تغطي الخطة الكوارث الداخلية والخارجية على حد سواء؟			
6) هل تستند الخطة إلى نهج "جميع المخاطر"؟			
7) هل توضح الخطة بالتفصيل كيف سيتم التحكم في حركة المشاة والمركبات؟			
8) هل توضح الخطة كيف سيتم تحديد العاملين في مجال الرعاية الصحية من خارج المستشفى وتسجيلهم لتسهيل رعاية المرضى الآمنة والمؤهلة؟			
9) هل توضح الخطة من المسؤول عن تدريب الموظفين وتثقيفهم؟			

الجزء الرابع: الجاهزية والتدريب (الجاهزية والتدريب)

الأسئلة	لا (1)	لا أعرف (2)	نعم (3)
1) المستشفى لديها عدد كاف من الموظفين للتعامل مع التدفق الكبير المفاجئ للمرضى خلال الكوارث أو حالات الطوارئ.			
2) أن يكون المستشفى مهيأ بشكل كاف لإدارة أي نوع من الكوارث أو الطوارئ التي يوجد فيها تدفق كبير للمرضى.			
3) هل قدم المستشفى التدريب أو الدعاية فيما يتعلق بمحتوى خطة الطوارئ .			
4) هل يق‘يم المستشفى فعالية التدريب بشكل دوري؟			
5) هل المستشفى لديه تدريبات الكوارث؟			
6) هل يقوم المستشفى بإجراء ورشة عمل لتسهيل توعية الموظفين؟			

الجزء الخامس: لجنة التأهب لإدارة الطوارئ للكوارث

الأسئلة	لا (1)	لا أعرف (2)	نعم (3)
1) هل هناك لجنة للتخطيط للكوارث؟			
2) توجد لجنة لإدارة الطوارئ/التأهب للكوارث في المستشفيات، وهي توفر القيادة للموظفين.			
3) تعقد الجلسات المفتوحة بانتظام			
4) تتوفر محاضر اجتماعات/خطة عمل اللجنة للاستعراض.			
5) تقدم اللجنة انتقادات بنائه لجميع التدريبات للخدمات المناسبة في الوقت المناسب.			
6) تتواصل اللجنة مع المستشفيات الأخرى في المجتمع و/أو تتعاون معها.			

الجزء السادس: التواصل والتحذير والإخطار .

الأسئلة	لا (1)	لا أعرف (2)	نعم (3)
1) هل أقام هذا المستشفى نظاما للاتصالات في الأزمات والتعاون داخل اقسام المستشفى؟			
2) هل يوجد في هذا المستشفى نظام للتواصل مع المرافق الصحية الأخرى أو المكاتب الحكومية أو وسائل الإعلام؟			
3) هل يوجد في المستشفى أقسام طوارئ أو طريقة اتصال مع منظمات أخرى؟			
4) هل طور هذا المستشفى نظام إنذار مبكر لحالات العانة الطارئة؟			
5) هل هناك رسائل موحدة لتنبيه موظفي المستشفى مع وصف كل مرحلة؟			
6) هل توجد أي أحكام لأنظمة الاتصال البديلة في حالة زيادة تحميل الأنظمة العادية (مثل الهاتف والهواتف المحمولة) وعدم صلاحيتها للخدمة أثناء الكوارث؟			

شكرا لك/لكي

Appendix C: Krejcie and Morgan (1970) Table

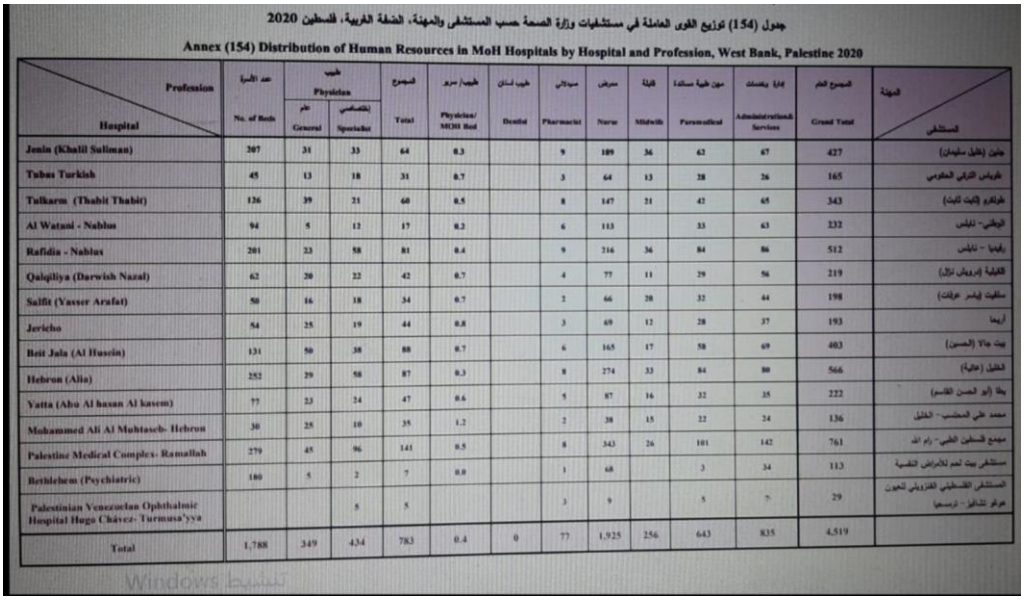
Table for Determining Sample Size for a Given Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.

Source: Krejcie & Morgan, 1970

Appendix D: Annex (154) Distribution of Human Resources in MOH Hospitals by Hospital and Profession, West Bank, Palestine 2020



جدول (154) توزيع القوى العاملة في مستشفيات وزارة الصحة حسب المستشفى والمهنة، الضفة الغربية، فلسطين 2020

Annex (154) Distribution of Human Resources in MoH Hospitals by Hospital and Profession, West Bank, Palestine 2020

Profession / Hospital	عدد الأسرة	طبيب Physician		المجموع	طبيب/ سرير	طبيب أسنان	صيدلاني	ممرض	قابلة	من فئة مساندة	إداري وخدمات	المجموع العام	المهنة / المستشفى
	No. of Beds	عام General	(اختصاصي) Specialist	Total	Physician/ MOH Bed	Dentist	Pharmacist	Nurse	Midwife	Paramedical	Administration& Services	Grand Total	
Jenin (Khalil Suliman)	207	31	33	64	0.3		9	189	36	62	67	427	جنين (خليل سليمان)
Tubas Turkish	45	13	18	31	0.7		3	64	13	28	26	165	طوباس التركي العثماني
Tulkarm (Thabit Thabit)	136	39	21	60	0.5		8	147	21	42	65	343	طولكرم (ثابت ثابت)
Al Watani - Nablus	94	5	12	17	0.2		6	113		33	63	232	الوطني- نابلس
Rafidia - Nablus	201	23	58	81	0.4		9	216	36	84	86	512	رفيديا - نابلس
Qalqiliya (Darwish Nazal)	62	20	22	42	0.7		4	77	11	29	56	219	القلقيلية (درويش نزال)
Salfit (Yasser Arafat)	50	16	18	34	0.7		2	66	20	32	44	198	سلفيت (ياسر عرفات)
Jericho	54	25	19	44	0.8		3	69	12	28	37	193	أريحا
Beit Jala (Al Hussein)	131	50	38	88	0.7		6	165	17	58	69	403	بيت جالا (الحسين)
Hebron (Alia)	252	29	58	87	0.3		8	274	33	84	80	566	الخليل (عالية)
Yatta (Abu Al hasan Al kasem)	77	23	24	47	0.6		5	87	16	32	35	222	يطا (أبو الحسن القاسم)
Mohammed Ali Al Muhtaseb- Hebron	30	25	10	35	1.2		2	38	15	22	24	136	محمد علي المحتسب - الخليل
Palestine Medical Complex- Ramallah	279	45	96	141	0.5		8	343	26	101	142	761	مجمع فلسطين الطبي- رام الله
Bethlehem (Psychiatric)	180	5	2	7	0.0		1	68		3	34	113	مستشفى بيت لحم للأمراض النفسية
Palestinian Venezuelan Ophthalmic Hospital Hugo Chávez- Turmusa'yya			5	5			3	9		5	7	29	المستشفى الفلسطيني الفنزويلي للعيون هوغو تشافيز - ترمسعيا
Total	1,788	349	434	783	0.4	0	77	1,925	256	643	835	4,519	

Appendix E: Approval correspondences

State of Palestine
Ministry of Health
General Directorate of Education in
Health and Scientific Research

دولة فلسطين
وزارة الصحة
الإدارة العامة للتعليم الصحي
والبحث العلمي

Ref.: .....
Date:.....

الرقم: ٢٠٢١/٧٧٧/١٦٤
التاريخ: ١٥/٤/٢٠٢١

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

الأخ مدير مجمع فلسطين الطبي المحترم،،،

تحية واحترام،،،

الموضـــوع: تسهيل مهمة بحث

يرجى التكرم بتسهيل مهمة الطالب: **باسل وفيق اعمر، ماجستير تمريض الطوارئ-**

الجامعة العربية الامريكية، لعمل بحث بعنوان:

" A study of disaster preparedness of governmental hospitals in the West Bank "

حيث سيقوم الطالب بجمع معلومات من خلال تعبئة استبانة من الاطباء والممرضين والاداريين (بعد أخذ موافقتهم)، مع العلم أن مشرف الدراسة: د. محمد الجلاد.

وذلك في: **المستشفيات الحكومية**

- **مجمع فلسطين الطبي**

على ان يتم الالتزام بجميع تعليمات واجراءات الوقاية والسلامة الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية.
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر.
الباحث يستطيع تقديم طلب بعد انتهاء بحثه للمنافسة على جائزة فلسطين للبحث العلمي.
بامكان الباحث تقديم طلب للمشاركة ببحثه في المؤتمر الفلسطيني الدولي للبحث العلمي.

مع الاحترام،،،

د. عبد الله القواسمي
مدير التعليم الصحي والبحث العلمي

نسخة: عميد كلية التمريض المحترم/ الجامعة العربية الامريكية

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ص.ب. 14
تلفاكس: 09-2333901

الملخص

تقييم خطط التأهب للكوارث في المستشفيات الحكومية الفلسطينية في الضفة الغربية– طريقة المنهج المختلط

المقدمة: تشكل الكوارث تهديدًا حقيقيًا لحياة الفرد في حالة حدوثها، خاصة أنها قد تحدث في أي مكان وفي أي وقت دون سابق إنذار، وقد تكون أسباب الكوارث طبيعية أو من صنع الإنسان.

الهدف من الدراسة: تهدف الدراسة الى تقييم استعداد المستشفيات الحكومية للكوارث في فلسطين.

المنهجية: استخدمت الدراسة المنهج المختلط الذي شمل كلا من المنهج الوصفي الكمي والنوعي من خلال التوزيع العشوائي البسيط لتوظيف ثلاثة مستشفيات حكومية في الضفة الغربية. كانت عينة الدراسة 320 طبيباً وممرضاً وإداريًا وغيرهم من فنيي المختبرات والأشعة. استخدم الباحث عينة عشوائية طبقية تم استرجاع 298 استبانة بنسبة استجابة 93٪. كما تضمن الجزء النوعي اربع مقابلات مع شخصيات رئيسية في وزارة الصحه الفلسطينية.

النتائج: أظهرت نتائج هذه الدراسة أن هناك تأثيرا كبيرا للسلامة والأمن، توافر خطة إدارة الطوارئ، الاستعداد والتدريب، لجنة التأهب لإدارة الطوارئ للكوارث، والتواصل والإنذار والإبلاغ على التأهب للكوارث بين المستشفيات الحكومية في الضفة الغربية. كما أن هناك خطة لمواجهة الحالات الطارئة يتم تعديلها سنويًا وتستند إلى خطة طوارئ المحافظة،وخلص الجزء النوعي الى عدو وجود خطة وطنية شاملة لمواجهة الحالات الطارئة في فلسطين.

الخلاصة: هناك خطط للتأهب للكوارث في المستشفيات الحكومية في الضفة الغربية، ويتم إجراء تدريب مستمر للموظفين، ولكن لا توجد خطة وطنية شاملة للاستجابة للكوارث.

الكلمات المفتاحية: خطة التأهب للكوارث، المستشفيات الحكومية، الضفة الغربية.