An-Najah National University Faculty of Graduate Studies

Needs Assessment of Public health Emergency Operations Center for Disasters Preparedness and Response in Nablus Governorate, Palestine

By

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This Thesis is Submitted in partial Fulfillment of the Requirements for The Degree of Master in Disaster Risk Management, Faculty of Graduate Studies, An-Najah National University, Nablus, Palestine.

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iii Dedication

To those whom I carry his name my dear father and mother.

To my dear family, all love and gratitude thank you from the bottom of my heart.

To those whom encourage me to complete my educational studies they are best friends.

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Thanks are extended to my family, parents and special thanks to my wife for their continuous encouragement to achieve my goals.

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

Needs Assessment of Public health Emergency Operations Center for Disasters Preparedness and Response in Nablus Governorate, Palestine

أقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث علمي أو بحثى لدى أية مؤسسة تعليمية أو بحثية أخرى

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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xii List of Abbreviations

UNISDR	United Nation Office for Disaster Risk Reduction
DRM	Disaster Risk Management
PHEOC	Public Health Emergency Operations Center
IHR	International Health Regulations
EOC	Emergency Operations Center
WHO	World Health Organization
GIS	Geographical Informational System
PHE	Public Health Emergency
РНСС	Public Health Central Command
ICS	Incident Command System
IMS	Incident Management System
CDC	Centers for Diseases Control and Prevention
UN	United Nations
IPHER	Improving Public Health Emergency Response
MOH	Ministry of Health
NGOs	Non-Governmental Organizations
PRCS	Palestine Red Crescent Society
ERP	Emergency Response Preparedness
OPT	Occupied Palestinian Territories
IRB	Institutional Review Board
HIS	Health Informational System
Geo SDI	Geographic Spatial Data Infrastructure

xiii Needs Assessment of Public health Emergency Operations Center for Disasters Preparedness and Response in Nablus Governorate,

Palestine

By Fadi Nassar Supervisor Dr. Hamzeh Al Zabadi Abstract

Background

Public Health Emergency Operations Center (PHEOC) is necessary for emergencies and disaster response. Emergency operations center used in a variety of emergencies, including natural disasters, food borne disease outbreaks, radio-nuclear events, bio-terrorism, chemical incidents, mass gathering, blackouts, humanitarian emergencies, and disease pandemics. During emergencies, gathering information, decision-making and directing necessary actions require open coordination among all public health institutions applied emergency public health services in case of major incidents. The design process define functional needs, which may vary from place to place but commonly include – Coordination, Policymaking, Operations management, information management, Logistics management and Planning. In Palestine, there is a lack of harmonization between different sectors in this regard. We aimed to assess the preparedness and response to disasters, and the challenges to establish PHEOC. We also aimed to evaluate public health emergency operations and management plan in Nablus district institutions.

Materials and methods

A cross sectional quantitative study design was conducted..Twelve institutes were included, 3 of them refused to participate. The participated institutes were: 1) Director General of Public Health at Palestinian MOH; 2) General Administration of Ambulance and Emergency of the Palestinian MOH; 3) Palestinian Civil Defense; 4) Palestinian Health Action Committees; 5) Palestinian Medical Relief; 5) Palestinian Red Crescent Society; 7) Palestinian Red Cross Society; 8) Nablus Municipality; 9) Palestinian Military Medical Services; 10) Center for Disaster Risk Reduction and Urban Planning at An-Najah National University; 11) Palestinian Union of Health Care Committees; and 12) Nablus Metropolitan.

The researcher also involved the private sector hospitals at Nablus City for collecting the quantitative data to conduct this study, which were: An-Najh National University Hospital, AL-Arbi Specialized Hospital, Nablus Specialized Hospital, AL-Ittihad Women Union Hospital and Arab Evangelical Hospital.

The study was conducted at Nablus governorate. A permission to conduct the study in all previous institutions was obtained. Explanatory letters for all participants were attached to each questionnaire which explains the aim, importance, confidentiality and anonymity of the information with optional participation (voluntary). Written and signed informed consent was obtained from each institution. Chi Square Test was used for analysis.

Results

Approximately forty six participants agreed and participated in the survey instrument with response rate (88.5%) from three organizations (governmental, non-governmental, and private sectors). The main findings were that preparedness and response to disasters, and the challenges to establishing PHEOC and the evaluations of public health emergency operations and management plan, among the Nablus district institutions, were found in moderate levels.

Around two third of this study participants agreed that the organization engages in planning activity prior to developing its Emergency Operations Plan. Also, they reported that the organization has an Emergency Operations Plan, about 29 (63%) agree that the organization prepares for how it will manage resources and assets during emergencies, around two third (82.6%) of the current research participants agreed that the organization prepares for how it will communicate during emergencies, nearly half of the present study participants agreed that the organization should be prepares for how it will manage security and safety during an emergency, during disasters above half 28 (60.9%) of the participants agreed with the statement of organization may grant disaster privileges to volunteer licensed independent practitioners, while only 15 (32.6%) of them agree with the organization may grant disaster privileges to volunteer practitioners who are not licensed independent practitioners, more half of participants agreed that the challenges facing emergency preparedness

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referred to lack in experience, training and exercise support, approximately, 33 (71.7%) agree that these challenges referred to Tools and resources to develop disaster response operations while only 4 (8.7%) disagree this challenge more than one third of them agreed that there were more challenges referred. About half of participant 24 (52.2%) was agree with challenge referred to Lack of coordination at national level intra-organizations that work in disasters response while 8 (17.4%) were disagree with this challenge.

Approximately, half of the participants 23 (50.0%) reported yes that organization evaluates the effectiveness of its emergency management operations activities, resources and logistics supplies, coordination, communications, security and safety measures, Roles and Responsibilities for all staff members. Also, more than half of the participants 27 (58.7%) reported yes that the organization evaluates the effectiveness of its Emergency Management Plan if the goals have been met and if need for change or not according to feedback from filed operations.

Conclusion

Most of the organizations engaged in planning activities prior to developing its emergency operation plan and has an emergency operations plan and prepares for how it will manage resources and assets during emergencies, how it will communicate during emergencies, how it will manage security and safety during an emergency. Challenges facing emergency preparedness, referred to lack in their experience, training and exercise support, funding, laws and roles and challenges due to lack of coordination at national level and intraorganizations that work in disasters response.

Evaluation of emergency operations and management plan and lesson learned from previous disasters still need regulation and analysis in order to perform the preparedness and response for further disasters or major public health events.

Chapter One

Introduction

1.1 Background

Disasters are highly disruptive events that cause suffering, deprivation, hardship, injury and even death. The global statistics estimates that disasters damages from 2005 to 2014costs 1.4 trillion dollar, killed 0.7 million people, and affected nearly 1.7 billion people. (Deasai et al., 2015).

Global disaster data from 2013, shows that there were 330 reported disasters triggered by geophysical, meteorological and climatologically hazards in that year, affecting 108 countries, resulting in more than 21,600 deaths, affecting 96.5 million people and causing damage and losses to the value of \$118.6 billion. In fact, 2013 was much quieter than many previous years: the average annual death toll from such disasters in the decade 2003–12 was 106,654; the average annual number affected was 216m and average annual losses were \$157bn (Twigg, 2015).

There are many definitions of disasters, the United Nations Office for Disaster Risk Reduction (UNISDR) define the disaster as, "a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts" (MONDIALE). Disaster risk management (DRM) is the application of disaster risk reduction policies and strategies to prevent new disaster risk or reduce existing disaster risk and manage residual risk, and contributing to the strengthening of resilience and reduction of disaster losses. Disaster risk management actions can be distinguished between prospective disaster risk management, corrective disaster risk management and compensatory disaster risk management, also called residual risk management (Skliarov, Kaptan, et al., 2017).

In conjunction with the foregoing, the Public Health Emergency Operations Center (PHEOC) is necessary for emergencies and disaster response. PHEOC is a physical location or virtual space which designated public health emergency management personnel assemble to coordinate operational information and resources for strategic management of public health events and emergencies(Organization, 2015b).

The International Health Regulations (IHR, 2005) request that States Parties develop, strengthen and maintain their capacity to respond promptly and effectively to public health risks and public health emergencies of international concern. To achieve the mandates of IHR and to address emergencies that have health consequences (which may be caused by any or all hazards), many member states are establishing or improving their emergency operations centers (EOCs) to strengthen communications and coordination for effective public health response. Furthermore, Emergency operations center used in a variety of emergencies, including natural

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disasters, foodborne disease outbreaks, radio-nuclear events, bioterrorism, chemical incidents, mass gathering, blackouts, humanitarian emergencies, and disease outbreaks or pandemics.

An emergency operations center (EOC) is a physical location for the coordination of information and resources to support incident management activities. Such a center may be a temporary facility, or may be established in a permanent location.

The concept of PHEOC integrates traditional public health services into an emergency management model. It supports and is a component of existing national disaster management authorities or entities.

The PHEOC, as a public health oriented EOC, must be part of a comprehensive program of public health emergency preparedness, planning and capacity.(Balajee et al., 2017).

1.2 Study justifications (rationality)

An emergency operations center (EOC) is a physical location for the coordination of information and resources to support incident management activities. Such a center may be a temporary facility, or may be established in a permanent location. The concept of PHEOC integrates traditional public health services into an emergency management model. It supports and should be a component of existing national disaster management authorities or entities.

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The PHEOC, as a public health oriented EOC, must be part of a comprehensive program of public health emergency preparedness, planning and capacity building (WHO, 2015). However in Palestine, establishing such PHEOC is an interesting issue specially that our Palestinian communities are frequently facing emergencies due to Israeli occupation and sometimes other natural emergencies.

In the West Bank including East Jerusalem, one quarter of the population (668 000) live in five areas where they are particularly vulnerable to social isolation, residency and planning restrictions, house demolitions and forced displacement, reduced access to Palestinian services, confrontations with Israeli military forces and settlers, and the threat of violence (WHO,2016). Access to health services is restricted by the wall and checkpoints, which prevent patients, health personnel and ambulances from directly accessing major Palestinian referral hospitals. All these necessitate the existence of such a Public Health emergency operation center in Palestine.

1.3 Study hypothesis

Emergency operations center used in a variety of emergencies, including natural disasters, foodborne disease outbreaks, radio-nuclear events, bioterrorism, chemical incidents, mass gathering, blackouts, humanitarian emergencies, and disease outbreaks or pandemics.

They are employed at a variety of jurisdictional levels, and range from field Emergency Operations Center to local, regional, national, or international. Effective communication and coordination within and between EOC and

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response agencies is critical to the successful management of an emergency.

The structure and function of EOC various across countries and organizations, they have different capacities and resources, and use different staff, terminologies, procedures and tools. These variations pose significant challenges to the interoperability that is essential to effective coordination within and between EOC and responding agencies.

The challenges of this research are how can we find and analyze a suitable locations and the distribution of operational sub-centers, further allocation in order to emergencies and type of emergencies, in the presence of Israeli occupation and other obstacles, the structure of EOC, logistics, activation period, administrative dependency, etc....

1.4 Goal of the study

To assess the Public Health Emergency Operations Center in the West Bank of Palestine.

1.5 Study objectives

1.5.1 General objective

To investigate the opportunity for establishing the PHEOC in the West Bank, Palestine in order to coordinate the information and resources to better manage responses to public health events or/or emergencies.

1.5.2 Specific objectives

- 1. To assess the preparedness for establishing public health emergency operations center
- 2. To highlight the challenges for establishing public health emergency operations center
- 3. To evaluate the public health emergency operations and management plan

Chapter Two Literature Review

2.1 Introduction

Previous study focused on the public policy makers have anticipate the unexpected in order to reduce the risk to human life and safety posed by intermittently occurring natural and man-made hazardous events (Hy & Waugh, 1990). It was focused on emergency management as an important function of federal, state, and local governments, so the emergency management process can be defined as the process of developing and implementing policies that are concerned with:

Mitigation: Deciding what to do where a risk to the health, safety, and welfare of society has been determined to exist and implementation a risk reduction program.

Preparedness: developing a respond plan and training first responders to save lives and reduce disaster damage, including the identification of critical resources and the development of necessary agreements among responding agencies.

Response: providing emergency aid and assistance, reducing the probability of secondary damage, and minimizing problems for recovery operations.

Recovery: providing immediate support during the early recovery period necessary to return vital life support systems to minimum operation levels, and continuing to provide support until the community returns to normal.

A PHEOC integrates traditional public health services in to an emergency model. It supports and is a component to existing national disaster management authorities or entities.(Organization, 2015a)

2.2 Concepts of PHEOC

In general declaration of disaster will be undertaken by a designated authority and department of health services shall practice all staff that must be alert and standby in readiness to be recalled for duty until the disaster has been declared over and if disaster prolong more than 8 hours then shift assignment will be set up. At the same time disaster activation drills should be held at least once a year, whereas the department of health services will respond exactly as if it were actual disaster activation with two exceptions: routine essential services and routine clients or visitors will not suspend and turned away.(Reeder & Turner, 2011)

2.2.1 Concepts of Public Health Emergency (PHE) Response Operation:

➢ In response a Public Health Central Command (PHCC) situated at the office of director of Public Emergency Center will be activated.

➤ The command center will in turn activate and deploy a public health emergency response team to the activated site for relevant operational duties.

A PHE response team being deployed for any disaster response operations will perform routine public health functions and measures during disaster response operations (acute management of patients and causalities will be handled by the emergency and medical services).

2.3 Functions of PHEOC

Public health emergency operations center play available interesting role in time of disaster, like, capacity to receive, verify, analyze assess and make investigation of public health events, this physically spaces having the ability to monitor events using various source of data, improve communication between public health and emergency management personnel, facilitate coordination with multiple response partners and provide space for incident command team to gather and work (Arunmozhi Balajee et al:., 2017)

Also the incident command system (ICS) provide an organizational structure at the agency, discipline, or jurisdiction level for effectively coordinating response, emerging concept supporting a unified decision making, coordination, and resource management system through a health specific emergency operations center are addressed and the potential structure, function, roles and responsibilities are described.(Burkle et al., 2007).

In the United State there is good relationship between the national response systems and the subnational (state and local) response systems that affect the operations in the field and the channels of communication and delegations with responsibilities were clear before and during the math, State public health incident managers receive authority from their respective governing and policy bodies, and this authority affects the specific system functions within each state. The organizational differences between centralized and decentralized structures influence coordination between state and local public health jurisdictions and, consequently, how Incident Management System IMS structures are established to manage public health emergency responses.(Nager & Khanna, 2009).

The following are some specific functions of the PHEOC:

1. Clearly define the goals that the state and national public health systems hope to achieve in the field.

2. Establish the frequency, communications channels, location, and format for progress reports and updates.

3. Establish who has decision authority for and custody of collected data. Determine whether the response will use national or state information technology systems and files.

4. Review the supplies, equipment, work space, information technology, and transportation assets needed and identify who (national or state) will meet those needs.

5. Define a process for developing and approving public information messages.

6. Determine how the field epidemiology position fits into the state or local response operations. These positions can be embedded within a state team or can operate independently. If embedded, understand the role, team member roles, reporting systems, and the chain of command.

7. Identify environmental and safety conditions that might affect the responder and the response (i.e., weather, clothing, and transportation).

During the field operations

1. Secure a briefing with the state incident manager or, if the IMS was not triggered, with other state leadership.

2. Request an incident briefing, summary of findings, and recommendations for a work plan.

3. Confirm the frequency, communications channels, location, and format for progress reports and updates.

4. Participate in the situational awareness and progress update meetings.

5. Consider state operational suggestions if they do not conflict with national policies or procedures.

6. Review what was accomplished and what remains to be done.

7. Establish frequency and channels for future communication.

2.4 PHEOC Structure and Composition

The PHEOC will comprise of the following integrated, functional group (Nelson et al., 2007).

Control (including communications)

a. Planning

b. Operations

c. Logistics, and

d. Administration / Finance as a support function.

And according to the operational guidelines, states five major functions of PHEOC (Fagel, 2016) :

➤ Management: responsible for overall emergency policy and coordination; public information and media relations; agency liaison; and proper risk management procedures, through the joint efforts of local government agencies and private organizations.

Operations: Responsible for coordinating all jurisdictional operations in support of the emergency response through implementation of the jurisdiction's Action Plan.

Planning: Responsible for collecting, evaluating, and disseminating information; developing the jurisdiction's Action Plan and Situational Status in coordination with other functions; maintaining all EOC documentation.

Logistics: Responsible for providing facilities, services, personnel, equipment and materials.

Finance/Administration: Responsible for financial activities and other administrative aspects.

Figure 1 Organizational structure of PHEOC view the direction of command and the position of everybody integrated with their role according to their responsibilities that must be complied.



Figure (1): Organizational structure of PHEOC

2.5 Preparedness and response for public health emergencies:

The response to any emergency or disaster must be a coordinated community effort and the initiation of response activities during the first 24 hours should be conjunction with existing emergency operations plans, procedures, guidelines, resources, assets, and incident management system. The first 24 hours (the acute phase) of an incident is divided into three response timeframe: Immediate (hours 0- 2), intermediate (2– 6 hours and 6 - 12 hours), and extended (12 – 24 hours). Each timeframe have policies from assessment to operations (CDC, 2011). Moreover, the preparedness, knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters. Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all type of emergencies and achieve orderly transitions from response to sustained recovery (UNISDR Terminology, 2009).

Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, the stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required.

Strengthening preparedness for response at all levels is essential role that disaster preparedness can play in saving lives and livelihoods particularly when integrated into an overall disaster risk reduction approach. (Burkle et al., 2014)

Also the Sendai Framework (UN conference for disaster risk reduction) is highlighting about the preparedness for all emergencies and put strategies, targets and priorities for disaster risk reduction, (Wahlström, 2015) focusing on the four priorities, which are:

1. Understanding disaster risk: Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response.

2. Strengthening disaster risk governance to manage disaster risk: Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership.

3. Investing in disaster risk reduction for resilience: Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social,

health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction: The growth of disaster risk means there is a need to strengthen disaster preparedness for response, take action in anticipation of events, and ensure capacities are in place for effective response and recovery at all levels. The recovery, rehabilitation and reconstruction phase is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures.

2.6 Improving public health emergency response (IPHER)

For improving and strengthening the public health emergency preparedness and response, the Director - General at WHO decision to develop a draft five – years global strategic plan with full consultation from Member States, including through the regional committees. This plan based on the requirements of the International Health Regulation (2005). (Organization, 2018).

Also, public health systems play an integral role in preparing communities to respond to and recover from threats and emergencies. The public health consequences of disasters and emergencies initially affect local jurisdictions. During the initial response, the people and communities that are impacted must rely on local community resources. As a result, all state, local, tribal, and territorial emergency response stakeholders must be prepared to coordinate, cooperate, and collaborate with cross-sector partners and organizations at all governmental levels when emergencies occur, regardless of the type, scale, or severity (Potter, 2019).

While public health agencies are expected to take the lead when infectious disease outbreaks occur, jurisdictional public health agencies also must be prepared to coordinate with a diverse array of partners and stakeholders, including other government agencies to refine public health lead and support roles, responsibilities, and assignments when other technological, human-caused, or natural disasters occur.

The Centers for Disease Control and Prevention (CDC) established the Public Health Preparedness Capabilities: National Standards for State and Local Planning, a set of 15 distinct, yet interrelated, capability standards designed to advance the emergency preparedness and response capacity of state and local public health systems.

Figure 2 shows about the standard capability and the flow of functions depends on the task and resources elements. Each capability standard identifies priority resource elements that are relevant to both routine public health activities and essential public health services.



Figure (2): Capability structure: compositions

2.7 Public health emergency Preparedness and response in Palestinian territories

2.7.1 Health sector overview

The establishing of health plan for the occupied Palestinian territory was made before the 1993 Oslo Accords. However, the first official national health plan was published in 1994 and aimed to regulate the health sector and integrate the activities of the four main health-care providers: the Palestinian Ministry of Health, Palestinian non-governmental organizations, the UN Relief and Works Agency, and a cautiously developing private sector. (Mataria et al., 2009).

The Palestinian Ministry of Health produced the first national pharmaceutical policy and a comprehensive national health information system assessment has been conducted also the ministry of Health has adopted a three-year national health strategy focused on five areas: 1) universal access to a comprehensive health care service; 2) priority preventive care and management of non-communicable diseases; 3) quality; 4) availability of a qualified workforce; and 5) institutional development and governance. (Health profile, 2015)According to heath service delivery data, the total number of primary health care centers increased between 2010 and 2014 from 706 to 767 ,hospital beds per 10000 population increased during the same period from 12.6 to 13.5 ,human resources for health per 10 000 population have also increased: for physicians from 20.0 to 21.5, nurses from 17.3 to 23.0, midwives from 1.4 to 2.1, and dentists from 5.2 to 6.3 and over 80% of the population is covered by at least one type of health insurance scheme.

Correspondingly Palestine Ministry of Health develop a national strategy framework consists of two key documents: The National Development Plan 2014–2016 and the Palestinian National Health Strategy 2014–2016 these are complemented by subsector and program strategies and policies. Then the government has embarked on the formulation of a new National Policy Agenda 2017–2022, which defines "quality health care for all" as National Priority, the strategy aligns with several of the UN Sustainable Development Goals. (Organization, 2017).
2.7.2 Effect of Israeli occupation on health services at Palestine State

The health of Palestinians in the occupied Palestinian territory has been uniquely affected by occupation by Israel, which has been ongoing since 1967. Health concerns relate not only to the direct effects of conflict and military action but also to the impact of the occupation on human security, well-being and the wider determinants of health. Periodic escalations of violence especially affect the Gaza Strip, and geographical fragmentation and restrictive policies further compound public health risks and constrain opportunities for development. In addition to the health consequences of the occupation and frequent bouts of violence, the Palestinian people face the challenge of a rising burden of non-communicable diseases, similar to neighboring countries.(Organization, 2017).

At the same time the study about the impact of the Israel tight restrictions (Towns and villages are encircled by military checkpoints, making passage difficult, unpredictable, and occasionally impossible) in occupied Palestinian territories in access to hospital services and hospital admission, were data collected during a relatively calm period in the West Bank, 394 of the 2228 emergency department contacts reported being delayed at checkpoints or by detours on their way to hospital, and they were more likely to be admitted to hospital than were non-delayed patients. One possible explanation for this is that people who have to pass checkpoints live at a greater distance from the hospital. The need to pass a checkpoint might discourage sick people from seeking medical care for fear of being denied access or held back. When they eventually do seek help, their condition has deteriorated and admission is needed. (Rytter et al., 2006).

Likewise, according to the Ministry of Health in Ramallah, from October 1 to December 21, 2015, 129 Palestinians were killed by Israeli security forces in the West Bank and Gaza, according to data from its own health facilities as well as from the Palestine Red Crescent Society, nongovernmental hospitals and NGO health services providers, a total of 15,078 individuals were injured and treated in hospitals and in the field. Also the Palestine Red Crescent Society (PRCS) reported a high number of incidents affecting their ability to operate emergency services in the West Bank and Gaza: as of 16 December, 146 paramedic personnel were injured, 91 ambulances were damaged and 91 ambulances reported being significantly delayed by security forces from reaching their destinations. (Organization, 2015).

Although the study in 2012 that focused on the Gaza strip during the Israeli assault that assessed the preparedness and response level among hospitals capacities and by correlation with preparedness and response in previous Israeli assault, Different health stakeholders have improved their preparedness because of their experiences. The health facilities mainly hospitals are barely adequate for dealing with the regular situations, although hospitals increased their capacity during emergency situations by discharging patients and suspending regular operations. Not all primary health-care services were operational during the attacks, implying that the delivery of health services, in the event of wider assaults, could be a challenge. The capacity and the performance of human resources in response to most of the emergencies were adequate, making it possible to overcome various logistical deficiencies, inadequate training, and suboptimal organization of work. So the Israeli assault on the Gaza Strip in 2012 showed that the emergency preparedness of the Palestinian health system had improved compared with that during previous assaults. (Ashour et al., 2013).

2.7.3 Emergency response preparedness (ERP) and disaster risk management (DRM) at Palestine State

2.7.3.1 Risks and vulnerabilities

The OPT is vulnerable to manmade and natural disasters. The most recent overall assessment of risks in the oPt identified the following main risks: natural hazards, including earthquakes, floods, droughts and landslides; and manmade hazards, including conflict escalation, severe stress on natural resources, environmental degradation, and rapid and unregulated urbanization. (Lombaerde et al., 2012).

The level of vulnerability, which would amplify the consequences of any disaster or other severe societal disruption, is classified as high to veryhigh. The main factors behind the high vulnerability, which affects almost all aspects of disaster preparedness, mitigation and response, are the many access and movement restrictions related to the occupation, which impact both disaster-resilient development, and the ability of national and international rescue and relief assistance to be provided after a disaster strikes.

There is a need to identify possible ways to mitigate the impact of the current regime of access restrictions in a disaster situation as an important component of the ongoing regional discussions on an assistance protocol for natural disasters, involving the Israeli, Palestinian and Jordanian authorities. Other important factors that increase vulnerability include rapid population growth; a rapid and largely unregulated urbanization; Palestinian political division; infrastructure vulnerabilities such as non-safe buildings; a transportation infrastructure where Palestinian use of certain roads is restricted; and social and economic vulnerability. Based on the latest community assessment of perceptions of hazards and vulnerabilities, and disaster preparedness among the population at the local level, the main hazards identified by communities were related to flood risks and to a weak or deteriorating infrastructure.(Al-Dabbeek, 2008).

2.7.4 Emergency risk and crisis management at MOH

Disaster preparedness within the health system is generally weak, except for mass casualty management resulting from the ongoing occupation. The planning process for mass casualties is strong within each hospital. The experience gained in past incidents is maintained thanks to the stability of medical staff and their acute awareness of the risk of further incidents. A multi-hazard preparedness effort is a priority, expanding its vision beyond the response to political violence. The territories are located within a geographical zone prone to earthquakes, and are vulnerable to flooding and drought. As part of strengthening emergency preparedness, the Ministry of Health should ensure adequate resources and capacity, including buffer stocks and an early warning system. A mechanism for national coordination of the mass casualty plans of individual hospitals should be established. Such coordination will be required for natural disasters as well as widespread conflict. This should include an information system to monitor the flow of casualties, rate of bed occupancy, availability of key staff and the inventory of key supplies. This will facilitate the redistribution of existing resources if conditions permit, and where they do not; it will allow better documentation of the obstacles faced in the delivery of basic emergency services. (Health profile, 2015)

Moreover the study about the nonstructural seismic vulnerability assessment of hospitals and health centers in Palestinian cities, concluded that hospitals and other health institutions do not have the necessary safety requirements that include in and out exit emergency doors, sufficient areas around the hospitals, roads facility, and nonstructural elements, upon that assessment the recommendations were to improve and develop disaster safety index among hospitals which is make a challenge for the Palestinian Ministry of Health, but they must start in order to prepare for any major incident or disaster. (AL-Dabeek, 2012).

2.8 Technological tools in public health emergency preparedness and response

Epidemiologists have traditionally used maps when analyzing associations between location, environment and disease. GIS is particularly well suited for studying these associations because of its spatial analysis and display capabilities.

Recently GIS has been used in the surveillance and monitoring of vectorborne diseases, water borne diseases, in environmental health, modeling exposure to electromagnetic fields, quantifying lead hazards in a neighborhood, predicting child pedestrian injuries, and the analysis of disease policy and planning (Clarke, et al, 1996).

On the other hand, the use of technology, such as the Geographical Informational System (GIS), is very important. It makes the work easy and decrease the time for response to disaster. GIS, is a computer system for "capturing, storing, checking, and displaying data related to positions on the Earth's surface. It allows multiple layers of information to be displayed at once, enabling one to visualize and understand relationships on a map (Khan et al., 2010). There are widespread usages of GIS in multi-sectors like, industry, urban planning, public health, human services, etc.

GIS and other technologies domains enabled public health and emergency situations easy to manage, through environmental and public health surveillance and crisis/disaster informatics. (Boulos et al., 2011).

At the same time GIS and related spatial analysis methods provide a set of tools for describing and understanding the changing spatial organization of health care, for examining its relationship to health outcomes and access, and for exploring how the delivery of health care can be improved, using of GIS in analyzing health care need, access, and utilization; in planning and evaluating service locations; and in spatial decision support for health care delivery. (McLafferty, 2003).

2.8.1 GIS Functional capabilities

GIS definitions usually focus on what tasks a GIS can do rather that what it is. GIS can bring together the elements necessary for problem solving and analysis. (Clarke et al., 1996).

1) Data can be input into the GIS from existing external digital sources; this is particularly the case when no data exist for a project, and the base data must be assembled from other studies, public domain datasets, and images. This usually means that GIS must be able to import the most common data formats both for image-type (raster) and line-type (vector) maps.

2) GIS can capture new map data directly; this means either that the user can scan the map and input it into the GIS or trace over a map's features using a digitizing tablet and enter them into the GIS map database.

3) The GIS can accomplish everything that a regular database system can, such as enter and edit data and update information in the existing database.

Chapter Three Materials and Methods

3.1 Introduction

This chapter discusses the methodology of the study. It includes the methodological approach, research design, selection of the study population, sample size, methods of data collection and analysis. Consideration is also given to the methods of data analysis. Ethical and administrative issues were also described in this chapter including consent for conducting the study and invitation to participants.

3.2 Study design

Cross sectional quantitative study.

3.3 Study population

Purposive expert sampling, as indicated by the name, expert sampling calls for experts in a particular field to be the subjects of the purposive sampling. This sort of sampling is useful when the research is expected to take a long time before it provides conclusive results or where there is currently a lack of observational evidence. (Etikan et al., 2016).

The researcher determined the persons whom responsible in their institutions that the major field is in the public health emergency preparedness and response, so 12 institutions selected, which are:

1) Director General of Public Health at Palestinian MOH, the responsible person at Palestinian MOH for follow up and take decisions in routine essential health services and in case of emergencies, at all Palestinian governorates including West Bank and Gaza Strip.

Cooperation's and communications with other units in the MOH and other health NGOs to introduce health services are the main role.

2) General Administration of Ambulance and Emergency of the Palestinian MOH, that the main role and duties are to follow up and develop public health emergency plan in cooperation with other unites at Palestine MOH and other health organizations that the major field is in public health emergency preparedness and response to disasters, also he communicate with international health organizations in order to motivate the response to public health emergencies, and his unit is responsible for give a license to the private sector ambulance and make follow up.

3) Palestinian Civil Defense, a governmental establishment which is the first responder to the emergencies or any large scale incidents through their main or sub-units that distributed in all Palestinian governorates, they dealing with a lot of Hazards during their routinely exercise and developing of annual emergency plan, their cadres are follow Palestinian Ministry of Interior, they introduce awareness from Hazards in order to increase preparedness of community and they have a clear structural management for incident command.

4) Palestinian Health Action Committees, it's a nongovernmental health organization that apply health services in Palestinian community with cooperation with MOH and other NGOs that the major field in the public health and they have specialized clinics for health awareness and medical treatment and they play a major role in many previous emergencies, also they have rehabilitation center introduce health services for all who need.

5) Palestinian Medical Relief, it's a nongovernmental health organization that apply health services in Palestinian community with cooperation with MOH and other NGOs that the major field in the public health and they have specialized clinics for health awareness and medical treatment and they play a major role in many previous emergencies.

6) Palestinian Red Crescent Society, it's an international organization that the major field in humanitarian services and apply health services, first aid, to all community members through their units that distributed in all Palestinian governorates and provide medical supplies for organizations introduce health services, they have clear management structure and main operations center, and have disaster unit working according to Sphere Criteria Project.

7) Palestinian Red Cross Society, it's an international organization that the major field in humanitarian services including purchase supplies for health establishments like medical equipment in order to mitigate the response for any kind of disasters.

8) Nablus Municipality, it's an establishments responsible for a lot of services in the Nablus city including Fire fighter unit that apply service in fire fighter and have Major registration for all city units including infrastructure, electricity, general services, etc.

9) Palestinian Military Medical Services, a governmental organization apply essential public health services and well prepared for disasters response, they have a clear management structure and found in all Palestinian governorates

10) Center for Disaster Risk Reduction and Urban Planning at An-Najah National University, it's a unique scientific center for research and educational issue for disasters risk reduction in Palestine country and apply awareness from hazards through lectures and workshops and have many seismic stations for early warning and it's the unique center follow An-Najah National university that supply the Disaster Risk Management program in Palestinian country.

11) Palestinian Union of Health Care Committees, it's a nongovernmental health organization that apply health services in Palestinian community with cooperation with MOH and other NGOs that the major field in the public health and they have specialized clinics for health awareness and medical treatment and they play a major role in many previous emergencies.

12) Nablus Metropolitan, the main responsible and actor in all sectors in the Nablus governorate including public health emergencies in cooperation with all public health establishments that's introduce primary, secondary and tertiary health services by communicate with MOH, NGOs and private sector.

After taking an appointment interview done with the some persons that whom in decision making positions in their institute and others whom they share in public health emergency operations whether in preparedness and response stage or in the field of operations and open end questions asked upon previous design.

From 12 institutes were not sharing in the interview due to special reasons for the institution, which are: Palestinian Health Action Committees, Palestinian Military Medical Services, but they participated in quantitative questionnaire, and Palestinian Red Cross Society, where these institutions are not effect in the efficiency of study. So the total study sample was 9 interviewers.

Also the researcher involves the private sector hospitals at Nablus City for collect quantitative data to conduct this study, which are: An-Najh National University Hospital, AL-Arbi Specialized Hospital, Nablus Specialized Hospital, AL-Ittihad Women Union Hospital and Arab Evangelical Hospital.

All these institutions that the researcher targeted in the study have the main role in Disasters preparedness, response and recovery at the Nablus governorate, they cooperate together to apply policies and develop planning for all public health emergency in order to Protection of life and property.

3.4 Study settings

The study was conducted at Nablus governorate.

3.5 Ethical and administrative considerations

The study proposal is approved by the Institutional Review Board (IRB) and the faculty of graduate studies scientific research board at An-Najah National University. A permission to conduct the study in all departments of Palestinian Ministry of Health that cooperate in preparedness and planning for emergency and disaster response (General Administration of Continuous Education that communicate and sent letters for General Administration of Primary Health Care, General Administration of Hospitals, General Directorate of Ambulance and Emergency, General Administration of Nursing, General Administration of Policy and Planning, Administration of ALwatani Governmental Hospital, Administration of Rafidiya Governmental Hospital and all the private sector hospital was also take.

At the same time a permission to conduct study in Nablus Municipality, Palestinian Civil Defense Palestine, Palestinian Military Medical Services and NGOs institutions that provide medical health services mainly the Red Crescent society, Red Cross Society, Palestinian Union of Health Care Committees, Palestinian Medical Relief, and Palestinian Health Action Committees was taken as well. An invitation letter was delivered to those who meet the selection criteria in order to participate in the study. An explanatory letter for all participants was attached to each questionnaire which explains the aim, importance, confidentiality and anonymity of the information with optional participation (voluntary). Written and signed informed consent was obtained from each participant.

3.6 Data collection and analysis

There are several ways of collecting the appropriate data which differ considerably in context of money costs, time and other resources. Conducting interviews with professionals such as scientists, planners, decision makers and officers at NGOs, GOs, and other private health institutions were performed.

3.6.1 Interviews

Interviews helped exploring any contextual factors that were not mentioned in the literature review, these additional new contextual factors had been useful to enriching the survey to get a comprehensive surveying tool (Edwards, et al., 2013).

Face to face interviews was conducted with each of the decision making or responsible deputy at their institute that field in the public health emergency preparedness and response, commonly used interviews in policy research are applicable to many research questions and improving data collection techniques enhanced the accuracy, validity, and reliability of research findings. Ultimately, using these methods usually helped to achieve the goal of carrying out high-quality research with credible findings. (Harrell, et al., 2009).

3.6.2 Designing the structured questionnaires

The quantitative phase started by developing a survey instrument. Because there is a need to unify the meaning of questions to get specific and simple answers, to compare the results, and to conduct statistical analysis, the survey instrument was a closed-ended questionnaire (Creswell, 2014).

The structured questionnaire is the fundamental study tool that concentrated on, and is utilized on a large scale by the researchers to get the certainties about the circumstances and strategies that already are existed.

Also the structural questionnaire aimed to cover the main issues beginning with a covering letter that clarifies the motivation behind the research, the significance and the confidentially of information exhibited. In order to accomplish the research aim, the questionnaire separated into 4 divisions, which designed in English language:

Part one: type of organization, Governmental, NGOs, Private sector

Part two: Preparedness for establishing public health emergency operations center, that contains 10 questions related to the main category.

Part three: Challenges for establishing public health emergency operations center, that contains 25 questions related to the challenges for need assessment to establishment of PHEOC.

Part four: Evaluation of public health emergency operations and management plan that contains two questions for evaluations of public health emergency operations and the second one is for evaluation of the effectiveness of emergency management plan.

The score of reaction to each item were computed according to **Likert scale** in which responders specify their level of agreement to a statement typically **in five points**: (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree

3.6.3 Questionnaire reliability

For achieving reliability of the study, the researcher use Alpha Cronbach formula. The total score was (0.82), and this value was suitable to conduct such study.

3.6.4 Questionnaire validity

To ensure the validity of the questionnaire, specialized persons was consulted their opinions in the questionnaire three of them were holding Ph.D. degree in the field of our study and questionnaire was modified and improved according to their comments and recommendations. The final draft of the questionnaire which include 52 distributed questionnaire given to the population of the study in Nablus Governorate whom are the decision making, General Directorate, Administrator, Deputy or Responsible Officer at their institutions that the main role in public health fields, from three main actors, Governmental institutions, NGOs, Private sector.

And by distributing, gathering and returned back the questionnaire to the researcher it took about six weeks.

(46) Are the total number of the returned questionnaire, (6) of them were excluded due to their responses were neither consistent nor completed and only (46) were analyzed.

3.6.5 Data analysis

The researcher used the Fisher Exact Test as a class of Chi Square Test, due to the large amount of variables, the Fisher Exact Test of Significance to analyze the significance of variable one by one. (Cao, 2015)

³⁷ Chapter four

Results

4.1 quantitative data collection

4.2 Introduction

The quantitative phase started by developing a survey instrument, this chapter presented the type of organizations participated in the study, the preparedness for establishing public health emergency operations center, the challenges for establishing public health emergency operations center, and evaluation of public health emergency operations and management plan, and the researcher used Chi Squared Test class Fisher Exact Test as a tool for data analysis.

4.3 Characteristics of participants

Approximately forty six participants agreed and participated in this study with response rate (88.5%) from three organizations. The three organizations are governmental, nongovernmental, and private sectors. Around 29 (63.0%) participant from governmental sector, while 10 (21.7%) from nongovernmental sector, and only 7 (15.2%) were from private sector as seen in figure 3.



Figure 3: Distribution of participants according to types of organizations (N=46)

4.4 Preparedness for establishing public health emergency operations center

Around two third of the participants 38 (82.6%) reported that they agree with the statement that the organization engages in planning activity prior to developing its Emergency Operations Plan while 3 (6.5%) disagree and 5 (10.9%) were neutral (P-value < 0.05).

Fourty participants (87%) reported their organization has an Emergency Operations Plan, while only 4 (8.7%) disagree with this statement and 2 (4.3%) were neutral (P-value < 0.05).

Also, as part of its Emergency Operations Plan, approximately 38 (82.6%) of the participants agree that the organization prepares for how it will communicate during emergencies (p-value < 0.05), while 3 (6.5%) disagree with this statement and only 5 (10.9%) were neutral.

Additionally, 29 participants (63%) agree that their organization is prepared on how it will manage resources and assets during emergencies, while 3 (6.5%) disagree and 14 (30.4%) were neutral with p-value = 0.0001. Also 29 participants (63%) agree with that their organization is prepared on how it will manage security and safety during an emergency, while only 4 (8.7%) disagree with this statement and 13 (28.3%) were neutral (p-value =0.0002).

Moreover, during disasters, around 28 participants (60.9%) agree with the statement that their organization may grant disaster privileges to volunteer licensed independent practitioners while only 4 (8.7%) of them disagree and 14 (30.4) neutral (p-value< 0.05). On the opposite side, just 15 participate (32.6%) agree that their organization may grant disaster privileges to volunteer practitioners who are not licensed independent practitioners, while 21 (45.7%) were disagree with this statement and 10 (21.7%) were neutral. For more details follow table 1.

No.	Item	Disagree	Neutral	Agree	P-Value	
1-1	The organization engages in planning activity prior to developing its Emergency Operations Plan	3(6.5%)	5 (10.9%)	38(82.6%)	0.000002	
2-2	The organization has an Emergency Operations Plan	4(8.7%)	2 (4.3%)	40(87%)	0.0	
3-3	As part of its Emergency Operations Plan, the organization prepares for how it will communicate during emergencies	3(6.5%)	5 (10.9%)	38(82.6%)	0.000002	
4-4	As part of its Emergency Operations Plan, the organization prepares for how it will manage resources and assets during emergencies	3(6.5%)	14 (30.4%)	29(63%)	0.0001	
5-5	As part of its Emergency Operations Plan, the organization prepares for how it will manage security and safety during an emergency.	4(8.7%)	13 (28.3%)	29(63%)	0.0002	
6	As part of its Emergency Operations Plan, the organization prepares for how it will manage staff during an emergency.	2(4.3%)	6 (13.0%)	38(82.6%)	0.000002	
7	As part of its Emergency Operations Plan, the organization prepares for how it will manage utilities during an emergency.	1(2.2%)	10 (21.7%)	35(76.1%)	0.000009	
6-8	As part of its Emergency Operations Plan, the organization prepares for how it will manage patients during an emergency.	1(2.2%)	7 (15.2%)	38(82.6%)	0.000002	
7-9	During disasters, the organization may grant disaster privileges to volunteer licensed independent practitioners.	4(8.7%)	14 (30.4%)	28(60.9%)	0.00055	
8-10	During disasters, the organization may grant disaster privileges to volunteer practitioners who are not licensed independent practitioners.	21(45.7%)	10 (21.7%)	15(32.6%)	0.238	

 Table 1: Preparedness for establishing public health emergency operations center (N=46)

4.5 Challenges for establishing public health emergency operations center

According to challenges, about 25 (54.3%) of participant agree that they referred to funding to support laboratories while 13 (28.3%) disagree with this challenge and 8 (17.4%) of them were neutral with significance p-value = 0.0279.

More half of them 32 (69.6%) agree that these challenges referred to Experience while just 8 (17.4%) disagree with this challenge and 6 (13%) were neutral with significance p-value = 0.000099.

Also, more half of them 33 (71.7%) agree the challenge referred to technological capabilities while 6 (13%) disagree with this challenge and 7 (15.2%) of them were neutral with significance p-value = 0.00003.

Approximately, 33 (71.7%) agree that these challenges referred to Tools and resources to develop disaster response operations while only 4 (8.7%) disagree this challenge and 9 (19.6%) were neutral with significance pvalue = 0.00001.

About half of participant 24 (52.2%) agree with challenge referred to lack of coordination at national level intra-organizations that work in disasters response while 8 (17.4%) disagree with this challenge and 14 (30.4%) were neutral with significance p-value = 0.0472.

Slightly less than half of them 21(45. 7%) agree that these challenges referred to prefers follow and responsible by metropolitans, while 7

(15.2%) disagree this challenge and 18 (39.1%) of participant sign neutral

(p-value = 0.052). For more details follow table 2.

Table	2:	Challenges	for	establishing	public	health	emergency
operati	ions	center (N=46	ó).				

No.	Item	Disagree	Neutral	Agree	P-Value
1	Expertise	6(13.0%)	5(10.9%)	35(76.1%)	0.000003
2	Equipment	5(10.9%)	8(17.4%)	33(71.7%)	0.000026
3	Laboratories	13(28.3%)	8(17.4%)	25(54.3%)	0.0279
4	Staff capacity	2(4.3%)	12(26.1%)	32(69.6%)	0.0000045
5	Training	4(8.7%)	6(13.0%)	36(78.3%)	0.0000005
6	Planning	8(17.4%)	9(19.6%)	29(63.0%)	0.00233
7	Geographic location	9(19.6%)	6(13.0%)	31(67.4%)	0.00025
8	Funding	2(4.3%)	6(13.0%)	38(82.6%)	0.00000
9	Experience	8(17.4%)	6(13.0%)	32(69.6%)	0.000099
10	Laws and roles	6(13.0%)	15(32.6%)	25(54.3%)	0.010
11	Training on the incident command system	2(4.3%)	15(32.6%)	29(63.0%)	0.000023
12	Technological capabilities	6(13.0%)	7(15.2%)	33(71.7%)	0.000039
13	Exercise support	8(17.4%)	8(17.4%)	30(65.2%)	0.001
14	Planning templates	9(19.6%)	11(23.9%)	26(56.5%)	0.0234
15	Funding for program development	5(10.9%)	8(17.4%)	33(71.7%)	0.000026
16	Funding to purchase equipment	5(10.9%)	4(8.7%)	37(80.4%)	0.0000001
17	Funding to support laboratories	5(10.9%)	4(8.7%)	37(80.4%)	0.0000001
18	Funding to support research development	6(13.0%)	6(13.0%)	34(73.9%)	0.000009
19	Funding to support staff development	1(2.2%)	8(17.4%)	37(80.4%)	0.00000
20	Tools and resources to develop disaster response operations	4(8.7%)	9(19.6%)	33(71.7%)	0.00001

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21	Communication resources inter organization and with other partners	7(15.2%)	9(19.6%)	30(65.2%)	0.00078	
22	Lack of coordination at national level intra- organizations that work in disasters response	8(17.4%)	14(30.4%)	24(52.2%)	0.0472	
23	Lack of coordination at international level with international organization that work in disasters response	4(8.7%)	14(30.4%)	28(60.9%)	0.00055	
24	PrefersfollowandresponsiblebyMetropolitans	7(15.2%)	18(39.1%)	21(45.7%)	0.052	
25	Prefers follow and responsible by ministries	5(10.9%)	15(32.6%)	26(56.5%)	0.0033	

4.6 Evaluation of public health emergency operations and management plan

Approximately, half of the participants 23 (50.0%) reported "yes" that organization evaluates the effectiveness of its emergency management operations activities, resources and logistics supplies, coordination, communications, security and safety measures, roles and responsibilities for all staff members. Also, more than half of the participants 27 (58.7%) reported "yes" that the organization evaluates the effectiveness of its emergency management plan if the goals have been met and if need for change or not according to feedback from filed operations, as seen in (tables 3, 4, figure 5, and figure 6).

 Table 3: Evaluation of public health emergency operations (N=46)

Item	Yes	No	P value
The organization evaluates the	23	23(50.0%)	> 0.05
effectiveness of its emergency	(50.0%)		
management operations activities,			
resources and logistics supplies,			
coordination, communications,			
security and safety measures, Roles			
and Responsibilities for all staff			
members, etc.			

The researcher used Fisher Exact Test and the result was:

The fisher exact test statistics value is [1], the result is not significant at

Table 4: evaluation of effectiveness emergency management plan

Item	Yes	No	P-
			Value
The organization evaluates the	27(58.7%)	19(41.3%)	0.36
effectiveness of its Emergency			
Management Plan if the goals have			
been met and if need for change or			
not according to feedback from filed			
operations			



Figure 4: Distribution of participants according the organization evaluates the effectiveness of its emergency management operations activities (N=46).



Figure 5: Distribution of participants according the organization evaluates the effectiveness of its Emergency Management Plan (N=46)

Chapter Five

Discussion and conclusions

5.1 Main study findings

The aim of the present study was to investigate the opportunity for establishing the PHEOC in the West Bank, Palestine in order to coordinate the information and resources to better manage responses to public health events or/and emergencies.

The number of institutions that targeted 12 institutions and one apologized for the interview and another institution working in the health sector did not respond to the interview, the number of institutions involved in the research is 9.

Based on the interviews and through the previous literature, there is no public health emergency center to prepare for and respond to disasters according to the specifications mentioned in the previous literature, there is no spatial location characterized by administrative structure and sections and technological tools.

However, according to the interviews, the preparedness and response to disasters are often managed in response to those institutions that are mandated to respond according to the type and location of the event, especially in the first 72 hours of the disaster. The structure is clear and occurs annually or based on lessons learned from the response to past disasters.

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There should also be a clear communication and networking mechanism with partner institutions in disaster preparedness and response. The communication and communication mechanism should be continuous at all levels that was confirmed by the study of the relationships that emerged among public, private, and non-profit organizations following the World Trade Center disaster on September 11, 2001, in New York City, which indicates the importance of developing a strong communication system with other organizations before a disaster occurs to establish appropriate communication in which effective interagency coordination will take place at the time of a disaster. (Kapucu, 2006).

The interviews also showed the absence of the so-called event management team, which in turn leads the response process and is equipped with its cadres and abilities in the preparation phase, With the exception of only two institutions, the Palestinian Civil Defense and the Palestinian Red Crescent have a clear structure to show the roles and mechanisms of communication between them and other units in the organization.

A specific classification of events or disasters must be adopted and given a color or numerical gradient and associated with the possibilities in order to respond accordingly.

The harmonizing of the disaster category classification between two of the most important global disaster databases as well as the definition of common standards is an important contribution to the improvement of quality and reliability of the international disaster databases. Classification and definition of disasters is common standards serve the international community, users and developers of databases at national or sub-national levels to have a better understanding of the management of disaster data. It demonstrates the importance to develop the capacity of information exchange, integration and comparability between disaster databases. (Below et al., 2009).

It is also possible that this classification conforms to the mechanisms of requesting support. It was revealed through interviews that there is no specific classification or scale of events or disasters except with one institution, the Palestinian Red Crescent, which depends on the Sphere criteria in the humanitarian response, but at the level of health response, it is adopted. A specific gradient of the PRCS is an emergency grading protocol, which is a protocol that is scaled according to the event of a stable, then alarm, phase III uptime, phase IV state of emergency and level V disaster at the national level.

The dependence of some institutions on different technological tools at the stage of preparedness and response to disasters will weaken the performance of the response process because of the lack of knowledge of some partners in these tools and hence prefer to adopt a particular technological tool such as GIS for example to be adopted in the collection of data and take Decisions, the study of toxic hazards of ammonia release and population vulnerability assessment using geographical information

system, which result the benefits of GIS as a tool to determine the affected population and the areal interpolation. (Anjana et al. , 2018).

Approximately forty six participants agreed and participated in survey instrument in this study with response rate (88.5%) from three organizations, (governmental, nongovernmental, and private sectors), and the main findings were, around two third 38(82.6%) of this study participants agreed that the organization engages in planning activity prior to developing its Emergency Operations Plan. Also 40(87%), they reported that the organization has an Emergency Operations Plan. This was lower than that reported in a recent observational cross-sectional survey study in Saudi Arabia by as they stated that all studied hospital had disaster preparedness available in every department. (Shalhoub et al., 2017) and a review article from Saudi Arabia – based on the authors' experience in the establishment of the Hajj PHEOC - stated that emergency management plans should be prepared prior to a mass gathering and made available to all staff members at the PHEOC. (Elachola et al., 2016).

In the current study, 29(63%) agree that organization prepares for how it will manage resources and assets during emergencies. At the same time establishment of infrastructure – including physical space – and supplies is an important issue for components of emergency management. (Elachola et al., 2016). Also, as part of its Emergency Operations Plan, more than half 38(82.6%) of the current research participants agreed that the organization prepares for how it will communicate during emergencies. An important

role of the PHEOC is to maintain clear and updated information about the incident or the disaster. Effective communication is mandatory to keep the public trust in the messages and in the function of the PHEOC. (Rebmann et al., 2008).

After that, about half of the present study participants 29(63%) agreed with the organization prepares for how it will manage security and safety during an emergency. PHEOCs may be primary or secondary targets for terror attacks or may be involved in collateral damage. Layered levels of security allow operationalization security to match threat levels. (Adams et al., 2010).

Moreover, during disasters also about half 28(60.9%) of the participants agreed with the statement of organization may grant disaster privileges to volunteer licensed independent practitioners while only 15(32.6%) of them agree with the organization may grant disaster privileges to volunteer practitioners who are not licensed independent practitioners. In an article discussing legal suggestions developed by the American College of Chest Physicians (CHEST) Task Force to support planning and response efforts for mass casualty incidents, authors suggested implementation of efficient processes for licensing, credentialing, and certifying in-country practitioners who are not normally authorized to practice in the impacted area to facilitate the emergency response. (Courtney, et al., 2014).

In this research, more half of participants agreed that the challenges facing emergency preparedness referred to lack in experience, training and exercise support. HCPs' perceptions of themselves as being not well prepared for disaster management could be linked to the lack of awareness of emergency management plans, lack of experience in assisting disaster victims and lack of disaster training programs in their practice. These findings were comparable to results of a study conducted in Indonesia among nurses which revealed that participants had a low perception of their preparedness for disaster management. (Putra, et al., 2011).

A previous study highlighted the importance of disaster preparedness training among healthcare providers. (Ogedegbe et al., 2012).

Another study assessing disaster preparedness in an Australian urban trauma center reported that out of 140 respondents, 83 participants (59.3%) were previously trained to handle disaster, 53 (37.9%) had attended drill for disaster simulation whereas, 18 (12.9%) had actually handled a disaster. (Corrigan, et al., 2012).

Therefore, for effective disaster training and educational programs, HCPs' awareness and understanding should be fully explored and described to present a real picture of the current status of their disaster preparedness. (Worrall, 2012).

In this study, about 25(54.3%), 24(52.2%) agreed that there were more challenges referred to Funding and Laws and roles, Lack of coordination at

national level intra-organizations that work in disasters response. A study carried out in Ghana revealed a number of constraints affecting disaster relief operations. The most reported challenges are; lack effective planning, lack of logistics, people's behavior and perception and lack of coordination and corporation. Strategies for efficient disaster relief operations should include appropriate in-country training and education to personnel, proper coordination among stakeholders and improvement in logistical suppliers through increased funding for disaster relief organizations. (Biadoo, 2018).

In the current study, half of participants reported yes that organization evaluates the effectiveness of its emergency management operations activities, resources and logistics supplies, coordination, communications, security and safety measures, Roles and Responsibilities for all staff members. Also, more than half of the participants reported yes that the organization evaluates the effectiveness of its Emergency Management Plan. This finding was similar to a cross-sectional study conducted at Tertiary health care hospital in Saudi Arabia, in which nearly two-thirds indicated the periodic update of the Emergency operational (disaster) plan. (Nofal et al., 2018).

5.2 Conclusions

Most of the organizations engaged in planning activities prior to developing its emergency operation plan and has an emergency operations plan and prepares for how it will manage resources and assets during emergencies, how it will communicate during emergencies, how it will manage security and safety during an emergency.

Challenges facing emergency preparedness, referred to lack in their experience, training and exercise support, funding, laws and roles and challenges due to lack of coordination at national level and intraorganizations that work in disasters response.

Evaluation of emergency operations and management plan and lesson learned from previous disasters still need regulation and analysis in order to perform the preparedness and response for further disasters or major public health events.

5.3 Recommendations

This study has the following recommendations:

- 1. Public health emergency managers and staff must have the will and determination to undertake and prepare a disaster response contingency plan.
- 2. Strengthening communication and coordination between public health emergency institutions and community agencies.
- 3. Establishing or improving mechanism for information collection, issuing of early warning, resource support, managing response, coordination, training and research. The form of training and exercise should be diversified; activities should include case analysis, role plays and testing of skills to assess the essential needs of PHEOC in order to

perform response management planning for all kinds of disasters, natural or man-made, that impact on public health.

- 4. Key points to be considered while planning for EOC management include:
- Identification of lead person (s) with overall responsibility for the emergency operation center (EOC) management.
- Identify key stakeholders.
- Develop standard operation procedures for common EOC functions.
- Develop emergency resource management system.
- 5. The researcher also recommends further studies on public health emergency preparedness, response and management operations. Further studies in recovery phase of disasters that include evaluation of operations response and management plan is also recommended.

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64 Annexes

Annex (1)

An-Najah National University letter to Continuous Education Unit at Palestinian Ministry of Health to facilitate the student's mission

دولة فلسطين

وزارة الصحة نابلس

الإدارة العامة للتعليم الصحي



Ref.: Date:....

State of Palestine

Ministry of Health - Nablus

General Directorate of Education in Health

الأخت مدير عام التمريض المحترمة،،،

تدية واحتراء...

الموضوع: تسهيل مهمة - جامعة النجاح

يرجى تسهيل مهمة الطالب: فادي محمد نصار – ماجستير ادارة الكوارث – كلية الدراسات العليا/ جامعة النجاح، في عمل اطروحة الماجستير بعنوان: "انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين"، من خلال السماح للطالب بجمع معلومات من خلال تعبئة استبانة الدراسة من المدراء المعنيين، وذلك في:

- الادارة العامة للتخطيط والسياسات
 - الادارة العامة للمستشفيات
- مستشفى رفيديا
 مستشفى الوطني
 - مديرية صحة نابلس
 - الادارة العامة للتمريض

علما ان البحث تحت اشراف د. حمزة الزيدي، كما انه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية

المعلومات.

مع الاحترام...

P د. أمل ابو عوض مدير عام التعليم الم

نسخة: عميد كلية الدراسات العليا المحترم/ جامعة النجاح

⁶⁵ Annex (2)

An-Najah National University letter to Palestinian Military Health

Services to facilitate the student's mission

An-Najah National University Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

التاريخ : 2018/12/19م

حضرة السيد مدير عام الخدمات الطبية العسكرية المحترم نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار ، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات ، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

عميد كلية الدراسات العليا



فاكسميل: 97،707 فاكسميل: 2345114 (99)(272) فاكسميل: 972)(972) فاكسميل: 972)(972) فالسطين، نابلس، ص.ب 7،707 هاتف: 115/2345114, 2345115 (972)(972) هاتف داخلي (6) 3200 (6) 3200 (12) 3200 (

66 Annex (3)

An-Najah National University letter to Palestinian Red Crescent

Society to facilitate the student's mission

An-Najah National University Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

0599251199 آرافع العولة التاريخ : 2018/12/2م

حضرة مدير مركز الإسعاف والطوارئ المحترم الهلال الأحمر

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

۱ مع وافر الاحترام ،،،

النطع الوطن ات العليا

فلسطين، نابلس، ص.ب 707، هانف:(2345114، 2345114، 2345115، 19) فاكسميل: 9720) (972) فاكسميل: 9720) (972) فلسطين، نابلس، ص.ب 7607، هانف داخلي (972) Nablus, P. O. Box (7) *Tel. 972 9 2345113, 2345114, 2345115 * Facsimile 972 92342907 *www.najah.edu - email <u>fes@najah.edu</u>

67 Annex (4)

An-Najah National University letter to General Director of Union Palestinian Health Serves Committee / Nablus City district to facilitate the student's mission

حامعة An-Najah النجاح الوطنية National University كلية الدراسات العليا **Faculty of Graduate Studies** التاريخ : 2018/12/2م حضرة السيد مدير عام لجان العمل الصحى المحترم فرع نابلس الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث تحية طيبة وبعد ،،، الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها: (انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين) يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث. شاكرين لكم حسن تعاونكم. مع وافر الاحترام ... عميد كلية الدراسات العليا لمعلم النجاع الوط (and) كلية الدراسات العليا internally public

فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345115 (09)(092)* فاكسميل: 972)(09)(972) 2345113، 2345115، 2345113، 2345115، 2345115 * Facsimile 972 92342907 *www.najah.edu - email <u>fgs@najah.edu</u>

⁶⁸ Annex (5)

An-Najah National University letter to His Excellency Undersecretary of Palestinian Ministry of Health to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النجــاح الوطنية كلية الدراسات العليا

التاريخ : 2018/12/19م

عطوفة وكيل وزارة الصحة الدكتور اسعد الرملاوي المحترم

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار ، رقم تسجيل (11558663) تخصص ماجستير. ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات ، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ...

لتديد موحد مصابلة ٢ ما مجاد ٢ نصال على الرقم : 5388865

عميد كلية الدراسات العليا

النجاع الوطر

فلسطين، نابلس، ص.ب 7،707 هانف:/2345114، 2345114، 2345112، (09)(272)* فاكسميل: 972). (972) مانقل المطلي: (972) مانقل المطلي: (972) Nablus, P. O. Box (7) *Tel. 972 2345113, 2345114, 2345115 * Facsimile 972 92342907 *www.najah.edu - email <u>fgs@najah.edu</u>

⁶⁹ Annex (6)

An-Najah National University letter to General Director of Palestinian Medical Relief / Nablus District to facilitate the student's mission

An-Najah National University



Faculty of Graduate Studies

التاريخ : 2018/12/2م

جامعة

النجاح الوطنية

كلية الدراسات العليا

حضرة السيد مدير عام الإغاثة الطبية المحترم فرع نانس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

عميد كلية الدراسات العلي

Jeal Elai

فلسطين، نابلس، ص.ب 707، 70 هانت.(2345114، 2345114، 2345115، 99)(272)، فاكسميل: 972), (972) مالقف داخلي (6) (972)، 3200 (2345113, 2345114, 2345115 هالفف داخلي (6) 3200 * Facsimile 972 92342907 *www.najah.edu - email <u>fgs@najah.edu</u>

70 Annex (7)

An-Najah National University letter to Director of Palestinian Red Cross/ Nablus District to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

التاريخ : 2018/12/2م

حضرة السيد مدير عام الصليب الاحمر المحترم فرع نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار ، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

النجاح الوطن

71 Annex (8)

An-Najah National University letter to the Mercy Dispensary Association Clinic to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النج--اح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

السادة جمعية مستوصف الرحمة الخيرية المحترمون نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار ، رقم تسجيل 11558663 ، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا ، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها :

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فنسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

ا. د. ناجی قطنانی بامعة النجاح الوطني بد كلية الدراسات العليا

فلسطين، نابلين م. ب 7/707 ماتف: /2345115، 2345114، 2345113 (09)(272)* فاكسميا: /09)2342907) (972)

Annex (9)

An-Najah National University letter to General Director of An-Najah Medical Hospital to facilitate the student's mission

جامعة An-Najah النجاح الوطنية **National University** كلية الدراسات العليا **Faculty of Graduate Studies** التاريخ : 2019/9/17م حضرة السيد مدير مستشفى النجاح الوطنى الجامعي المحترم نابلس الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث تحية طيبة وبعد ،،، الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها: (انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فنسطين) يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث. شاكرين لكم حسن تعاونكم. どうしん ニャシーマ とうう مع وافر الاحترام ،،، . د. ناجی قطنا ييها كلية الدرالمات العليا CMO Fadi 219/219 Abu Jed COU فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345115 (09)(972)* فاكسميل:972(09)(972)

72

73 Annex (10)

An-Najah National University letter to General Director of Nablus Specialized Hospital to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

حضرة السيد مدير مستشفى نابلس التخصصي المحترم نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار ، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

أ. د. ناجي قطناني عميد كلية الدراسات العليا

مع الدافين مديرة التريف الحتريم ارجو تسميل في الطال

فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345115 (09)(972)* فاكسميل:972(09)(972)

Annex (11) An-Najah National University letter to General Director of Primary Health Care at Palestinian Ministry of Health to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النج-اح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

حضرة السيد مدير عام الرعاية الصحية الأولية المحترم وزارة الصحة- نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار ، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاجترام ... الوطنية عميد كلية الدراسات العليا

فلسطين، نابلس، ص.ب 7،707 ھاتف://2345115، 2345113، 2345113 (09)(972)* فاكسميل:972)(979)

Annex (12) An-Najah National University letter to General for Administration for Planning and Health policies at Palestinian Ministry of Health to facilitate the student's mission

An-Najah National University Faculty of Graduate Studies



جامعة النجــاح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

حضرة السيد مدير غام الادارة العامة للتخطيط والسياسات الصحية المحترم نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

 د. ناجی قطنانی عميد كلية الدراسات العليا

Annex (13) An-Najah National University letter to General administration of Nursing and Midwifery at Palestinian Ministry of Health to facilitate the student's mission

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An-Najah National University Faculty of Graduate Studies



جامعة النجــاح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

حضرة السيدة مدير عام الادارة العامة للتمريض والقبالة المحترمة نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

أ. د. ناجي قطناني عميد كثية الدراسات العليا

فلسطين، نابلس، ص. ب 7،707 هاتف:/2345115، 2345114، 2345115، (972)، (972)، فاكسمبا.:7972/09)

Annex (14) An-Najah National University letter to Relief and Works Agency for Palestine Refugee to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النج--اح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

السادة وكالة الغوث وتشغيل اللاجنين الفاسطينين المحترمون نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار ، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارت في فنسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

أ. د. ناجى قطنانى بامعة النجاح الوطنية كلية الدراسات العليا عميد كلية الدراسات العليا

فلسطين، نابلير، ح...ب 7،707 هاتف:/2345115، 2345114، 2345115، 6972)، (972)، فاكسميا.: 972)، (972)، (972)

Annex (15) An-Najah National University letter to Arab Evangelical Hospital to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

التاريخ : 2019/9/17م

حضرة السيد مدير المستشفى الانجيلي العربي المحترم نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار ، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارت في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ...

 د. ناجي قطناني عميد كلية الدراسات العليا

فلسطين نابلس، ص. ب 707،7 هاتف:/2345115، 2345114، 2345115، 2345113، (09)،2342907؛ فاكسميا :972/09/2342907

⁷⁹ Annex (16)

An-Najah National University letter to General Director of Civil defense/ Nablus District to facilitate the student's mission

An-Najah National University

Faculty of Graduate Studies



جامعة النجاح الوطنية كلية الدراسات العليا

التاريخ : 2018/12/2م

حضرة السيد مدير عام الدفاع المدني المحترم نابلس

الموضوع: تسهيل مهمة الطالب/ فادي محمد صدقي نصار، رقم تسجيل (11558663) تخصص ماجستير ادراة مخاطر الكوارث

تحية طيبة وبعد ،،،

الطالب/ فادي محمد نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث في كلية الدراسات العليا، وهو بصدد اعداد الاطروحة الخاصة به والتي عنوانها:

(انشاء مركز عمليات طوارئ للصحة العامة من اجل الاستعداد والاستجابة للكوارث في فلسطين)

يرجى من حضرتكم تسهيل مهمته في اجراء دراسة وجمع بيانات ومعلومات، لاستكمال مشروع البحث.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ...

الدراطات العليا



فاتسميل: 7،707 فاكسميل: 2345114 (20)(272) فاكسميل: 972)(272) فاكسميل: 9720)(272) فاكسميل: 9720)(272) 8 المنظين المالي (2345114 (2345115 المنظف المالي (2345114 (2345115 المنظف المالي (2345) 8 Facsimile 972 92342907 - *www.najah.edu - email <u>fgs@najah.edu</u>

⁸⁰ Annex (17)

An-Najah National University letter from dean of Faculty of Graduate Studies, approved of thesis title and supervisor

An-Najah National University

Faculty of Graduate Studies Dean's Office



جامعة النج الوطنية كلية الدراسات العليا مكتب العميد

التاريخ: 2018/11/8

حضرة الاستاذ الدكتور جلال الدبيك المحترم منسق برنامج ماجستير ادارة مخاطر الكوارب

تحية طيبة وبعد،

الموضوع , الموافقة على عنوان الاطروحة وتحديد المشرف

قرر مجلس كلية الدراسات العليا في جلسته رقم (ملحق 366)، المنعقدة بتاريخ 2018/11/7، الموافقة على مشروع الأطروحة المقدم من الطالب/ة فادي محد صدقي نصار، رقم تسجيل 11558663، تخصص ماجستير ادارة مخاطر الكوارث، عنوان الأطروحة:

(انشاء مركز عمليات طوارىء للصحة العامة من أجل الاستعداد والاستجابة للكوارث في فلسطين) (Establishment of Public Health Emergency Operations Center for Preparedness and Response to Disaster in Palestine)

بإشراف: د. حمزة الريدي

يرجى اعلام المشرف والطالب بضرورة تسجيل الأطروحة خلال اسبوعين من تاريخ اصدار الكتاب. وفي حال عدم تسجيل الطالب/ة للاطروحة في الفترة المحددة له/ا ستقوم كلية الدراسات العليا بإلغاء اعتماد العنوان والمشرف

وتفضلوا بقبول وافر الاحترام ...

نسخة ؛ د. رئيس قسم الدراسات العليا للعلوم الطبيعية المحترم ؛ ق.أ.ع. القبول والتسجيل المحترم ؛ مشرف الطالب ؛ ماف الطالب



ملاحظة؛ على الطالب/ة مراجعة الدائرة المالية (محاسبة الطلبة) قبل دفع رسوم تسجيل الاطروحة للضرورة

فاكسميل: (972)(09)2342907 فاكسميل: 972)(09) 2345113 ، 2345114 ، 2345115 (972)(09)2342907) فاكسميل: (972)(09)2342907 مالغا داخلي (20) 3200 (5) 3200

⁸¹ Annex (18)

Consent Form

An-Najah National University

Faculty of Graduate Studies

2019

Subject: Consent to participation in a scientific study for the Master of Disaster Risk Management program.

Study title: Establishing of Public Health Emergency Operations Center for Disasters Preparedness and Response

Student: Fadi Mohammad Nassar

Academic supervisor: Dr. Hamzeh Al Zabadi

Hello

I am Fadi Mohammad Nassar from Nablus. I am conducting a study research to evaluate the challenges for establishing public health emergency operations center for disasters preparedness and response in West Bank / Palestine as a requirement for the Master's degree in Disaster Risk Management from An-Najah National University.

Respectfully,

Student: Fadi Mohammad Nassar

Mobile: 0599388865

E-mail: fadi.nassarsv@gmail.com

I have read the explanation above, and based upon I agree to participate voluntary in the above mentioned study:

Name:

Signature:

Job Title:

We hope that you will kindly agree to participate in this study where there is no risk due to participation and that all the collected information will remain confidential and for research purposes only. You have also the right to withdraw from the study whenever you want.

⁸³ Annex (19)

Questionnaire Form

Type of organization: please select the type of organization

Governmental / Non-governmental / UN / Private

1- Preparedness phase:

No.	Item	Strongly disagree	disagree	Neutral	Agree	Strongly agree
9-	The organization engages in planning activity prior to developing its Emergency Operations Plan					
10	The organization has an Emergency Operations Plan					
11	As part of its Emergency Operations Plan, the organization prepares for how it will communicate during emergencies					
12	As part of its Emergency Operations Plan, the organization prepares for how it will manage resources and assets during emergencies					
13	As part of its Emergency Operations Plan, the organization prepares for how it will manage security and safety during an emergency.					
14	As part of its Emergency Operations Plan, the organization prepares for how it will manage staff during an emergency.					
15	As part of its Emergency Operations Plan, the organization prepares for how it will manage					

r				
	utilities during an			
	emergency.			
16	As part of its Emergency			
10	As part of its Emergency			
	organization prepares for			
	how it will manage			
	now it will manage			
	emergency			
	Item			
17	During disasters the			
17	organization may grant			
	disaster privileges to			
	volunteer licensed			
	independent			
	practitioners.			
	•			
18	During disasters, the			
	organization may grant			
	disaster privileges to			
	volunteer practitioners			
	who are not licensed			
	independent			
	practitioners.			

2- Challenges for establishing public health emergency operations center:

No.	Item	Strong	disagree	Neutral	Agree	Strongly
		disagree				agree
1-	Expertise					
2-	Equipment					
3-	Laboratories					
4-	Staff capacity					
5-	Training					
6-	Planning					
7-	Geographic					
	location					
8-	Funding					
9-	Experience					
10-	Laws and roles					
11-	Training on the					
	incident					
	command system					
12-	Technological					
	capabilities					
13-	Exercise support					
14-	Planning					
	templates					

15- Funding for program development 16- Funding to purchase equipment 17- Funding to support laboratories 18- Funding to development 19- Funding to support staff development 20- Tools and resources to develop disaster respose operations 21- Communication resources interoganization and with other parteners 22- Lack of
program development 16- Funding to purchase equipment 17- Funding to support laboratories 18- Funding to support research development 19- Funding to support staff development 20- Tools and resources to develop disaster respose operations 21- Communication resources interorganization and with other parteners 22- Lack of
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organization that
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24- Prefers follow and
responsible by
Metropolitans
25- Prefers follow and
ministeries

3- Recovery phase:

Please select Yes or No answer for evaluation of public health emergency operations and management plan.

- 1- The organization evaluates the effectiveness of its emergency management operations activities, resources and logistics supplies, coordination, communications, security and safety measures, Roles and Responsibilities for all staff members, etc. according to checklist criteria. Yes / No
- 2- The organization evaluates the effectiveness of its Emergency Management Plan if the goals have been met and if need for change or not according to feedback from filed operations. Yes/No

Thank you for your assistance If you have further questions, or can provide more information about this question, please do not hesitate to call: Mr. Fadi M Nassar Candidate for Master Disaster Risk Management /An-Najah National University/Nablus/Palestine. Tel: 092599136 Cellular: 0599388865 Work Tel: 092390390 Supervisor Department at Rafidya Surgical Governmental Hospital / Nablus / West Bank / Palestine E-mail:fadi.nassarsv@gmail.com

جامعة النجاح الوطنية

كلية الدراسات العليا

تقييم الاحتياجات لمركز عمليات طوارئ للصحة العامة للاستعداد والاستجابة للكوارث في محافظة نابلس ، فلسطين

إعداد فادي نصار

إشراف د. حمزة الزبدي

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في إدارة مخاطر الكوارث، بكلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين. تقييم الاحتياجات لمركز عمليات طوارئ للصحة العامة للاستعداد والاستجابة للكوارث في محافظة نابلس، فلسطين إعداد فادي نصار لشراف د. حمزة الزبدي الملخص

المقدمة

يعتبر مركز عمليات الطوارئ الصحي ضروري للحالات الطارئة والاستجابة للكوارث حيث يستخدم هذا المركز في العديد من الحالات الطارئة بما فيها الكوارث الطبيعية، وانتشار الإمراض المتعلقة بالطعام، والأحداث النووية الإشعاعية، والأحداث الإرهابية الكيماوية، والأحداث الكيماوية، والاجتماعات الجماعية، والحالات الطارئة الإنسانية، وتفشي الأمراض.

أثناء حالات الطوارئ ، يتطلب جمع المعلومات واتخاذ القرارات وتوجيه الإجراءات الضرورية تنسيقًا وثيقًا بين جميع المؤسسات الفاعلة في الحقل الصحي والتي تقوم بتقديم الخدمات الصحية في حالات الطوارئ. وتحدد عملية تقييم احتياجات مركز عمليات الطوارئ للصحة العامة الاحتياجات الوظيفية، والتي قد تختلف من مكان إلى آخر ولكنها تشمل عادةً – التنسيق وصنع السياسات وإدارة العمليات وإدارة المعلومات وإدارة اللوجستيات والتخطيط.

وفي فلسطين، وهناك نقص في التوافق بين مختلف العوامل في هذا المجال، حيث هدفت هذه الدراسة إلى تقييم الاستعداد والاستجابة للكوارث والتحديات لإنشاء مثل هذا المركز، وهدفت أيضا إلى تقييم عمليات الحالات الطبية الطارئة وخطة إدارتها في مؤسسات منطقة نابلس.

الطريقة والإجراءات

دراسة كمية مقطعية حيث تم تضمين اثني عشر مؤسسة، رفض 3 منهم المشاركة، والمؤسسات المشاركة هي: 1) مدير عام الصحة العامة بوزارة الصحة الفلسطينية. 2) الإدارة العامة للإسعاف والطوارئ بوزارة الصحة الفلسطينية. 3) الدفاع المدني الفلسطيني. 4) لجان العمل الصحي الفلسطينية. 5) الإغاثة الطبية الفلسطينية. 6) جمعية الهلال الأحمر الفلسطيني. 7) جمعية الصليب الأحمر الفلسطيني. 8) بلدية نابلس. 9) الخدمات الطبية العسكرية الفلسطينية. 10) مركز الحد من مخاطر الكوارث والتخطيط العمراني بجامعة النجاح الوطنية. 11) الاتحاد الفلسطيني للجان الرعاية الصحية. و 12) محافظة نابلس.

كما قام الباحث بإشراك مستشفيات القطاع الخاص في مدينة نابلس لجمع البيانات الكمية لإجراء هذه الدراسة وهي: مستشفى النجاح الجامعي الوطني، مستشفى العربي التخصصي، مستشفى نابلس التخصصي، مستشفى الاتحاد النسائي، والمستشفى الإنجيلي العربي.

تم إجراء هذه الدراسة في منطقة نابلس حيث تم الحصول على موافقة لأجراء الدراسة في جميع المؤسسات المذكورة سابقاً وإرفاق رسالة توضيحية لجميع المشاركين مع الاستبانة التي توضح الهدف، والأهمية، والخصوصية للمعلومات الخاصة للمشاركة التطوعية ومن ثم الحصول على موافقة خطية من جميع المؤسسات.

أما بالنسبة للمنهج التحليلي الذي تم استخدامه فهو طريقة التحليل Chi Square Test of Independent class Fisher Exact Test

النتائج

وافق حوالي 46 مشارك في الدراسة بنسبة استجابة بلغت 88.5% من ثلاث قطاعات (الحكومية وغير الحكومية والقطاع الخاص) حيث كشفت النتائج عن درجة استجابة متوسطة على الجاهزيه والاستجابة للكوارث، و والتحديات التي تواجه احتياجات إنشاء مركز عمليات الطوارئ الصحي، وتقييم عمليات الصحة العامة الطارئة وخطة إدارتها في مؤسسات منطقة نابلس.

وافق حوالي ثلثي المشاركين في الدراسة على أن المنظمة تشارك في نشاط التخطيط قبل تطوير خطة عمليات الطوارئ و أفادوا أيضًا أن لدى المنظمة خطة عمليات طوارئ ، وافق حوالي 29 (63٪) على أن المنظمة تستعد لكيفية إدارة الموارد والأصول أثناء حالات الطوارئ ، وكذلك وافق حوالي ثلثي المشاركين (82.6٪) في البحث الحالي على أن تستعد المنظمة لكيفية تواصلها أثناء حالات الطوارئ ، واتفق ما يقرب من نصف المشاركين في الدراسة الحالية على أن المنظمة يجب أن تستعد لكيفية إدارة الأمن والسلامة أثناء الطوارئ ، أثناء الكوارث.

فوق النصف 28 (60.9%) من المشاركين اتفقوا أنه من الممكن السماح للممارسين المستقلين المتطوعين المرخصين بالمشاركة في عمليات الاستعداد والاستجابة للكوارث، في حين أن 15 فقط (32.6%) منهم يوافقون على أن المنظمة قد تمنح امتيازات في حالات الكوارث للممارسين المتطوعين الذين ليسوا مرخصين على المشاركة في عمليات الاستعداد والاستجابة للكوارث، في حين أن 15 فقط أكثر من نصف الذين ليسوا مرخصين على المشاركة في عمليات الاستعداد والاستجابة للكوارث، في حين أن 15 فقط المتطوعين الذين ليسوا مرخصين على أن المنظمة قد تمنح امتيازات في حالات الكوارث للممارسين المتطوعين الذين ليسوا مرخصين على المشاركة في عمليات الاستعداد والاستجابة للكوارث، اتفق أكثر من نصف المشاركين على أن التحديات التي تواجه التأهب للطوارئ تشير إلى نقص الخبرة والتدريب ودعم التمرين و وافق 33 (71.7%) تقريبًا على أن هذه التحديات تشير إلى الأدوات والموارد لتطوير عمليات الاستجابة للكوارث بينما لم يوافق سوى 4 (8.7%) على هذا التحدي، واتفق أكثر من تلثهم على وجود المزيد من التحديات المشار إليها.

وافق حوالي نصف المشاركين 24 (52.2٪) على التحدي المشار إليه في غياب التنسيق على المستوى الوطني داخل المنظمات التي تعمل في الاستجابة للكوارث بينما لم يوافق 8 (17.4٪) على هذا التحدي.

تقريبًا، أفاد نصف المشاركين 23 (50.0%) بنعم، أن المنظمة تقوم بتقييم فعالية أنشطة عمليات إدارة الطوارئ والموارد والإمدادات اللوجستية والتتسيق والاتصالات وتدابير الأمن والسلامة والأدوار والمسؤوليات لجميع الموظفين. أيضًا، أفاد أكثر من نصف المشاركين 27 (58.7%) بنعم، أن المنظمة تقيم فعالية خطة إدارة الطوارئ الخاصة بها إذا تم الوفاء بالأهداف وإذا كانت هناك حاجة للتغيير أو لا وفقًا للتقارير الراجعة من العمليات الميدانية.

الخاتمة

وبالمختصر تشترك المنظمات في نشاطات تخطيطية تسبق تخطيط عمليات الطوارئ والتحضيرات الخاصة بإدارة مصادرها وأصولها خلال فترة الطوارئ ، وبكيفية التواصل أثناء فترات الطوارئ وكيفية إدارة إجراءات الأمن والسلامة خلال فترة الطوارئ . وكذلك تضمنت التحديات التي تواجه الاستعداد للطوارئ نقص في الخبرات والتدريب ودعم التمارين والتمويل والقوانين الخاصة بالتحديات وهي تعزى لنقص التنسيق على المستوى المحلي وعلى مستوى المنظمة التي تعمل في الاستجابة للكوارث.

ولا يزال تقييم عمليات الطوارئ وخطة الإدارة والدروس المستفادة من الكوارث السابقة بحاجة إلى التنظيم والتحليل من استخلاص العبر وكذلك لرفع الجهوزية وتحسين الاستجابة للمزيد من الكوارث أو أحداث الصحة العامة الكبرى.
