Early signals detection of crisis in main governmental hospitals in Gaza Strip

Yousef F. Y. Fahajan[1] Mohammed A E .M. Ibrahim[2] Yousef Aljeesh3

1University of Al-Batana, Sudan.
2University of Khartoum, Sudan.
[3]slamic University Faculty of Nursing, - Gaza. Palestine
Corresponding outher; yfahajan@gmail.com

Abstract

The Study aimed to assess the crisis early signals detection in main governmental hospitals in the Gaza Strip. The design of this study descriptive, analytic, a combination of qualitative and quantitative methods (mixed method) was used to address the research questions. The study was conducted at the main governmental Gaza governorates hospitals including Al-Shifamedical hospital, European Gaza hospital, Nasser medical hospital, Al-Aqsa hospital. A structured self-administered questionnaire was distributed to samples who were working in governmental hospitals. In addition, validated by experts and reliability analysis was performed using Cranach's Alpha test (0.954). The questionnaire was used with a response rate of 84% .the study sample included 442 eligible subjects who were work as head of departments in four main governmental hospitals .In this study, the researcher used a key informant sample of public health and crisis management experts from Palestine. These experts have highly experience in crisis management. The respondent's evaluation according to their responses to crisis early signal detection was (68%). There are no statistical differences between crisis management responseand gender, scientific qualification, managerial position, age and experience of work (sig. > 0.05). There was a statistical difference between crisis early signal detection according to hospitals, the outcome showed significant differences found in favor of Al-Aqsa Hospital. also, there was a statistical difference between crises responses according to the profession, the outcome showed significant differences found in favor of administrative. The researcher recommended that there is need to strengthen crisis early signal detection in hospitals and establishment of specialized crisis early signal detection teams in several areas of hospitals, the involvement of employees in the emergency plan, and need to bridge the gap between hospitals and different professions in the concepts of crisis management.
Keywords: Crisis, Management, Signals, Early, Detection, Governmental, Hospitals, Gaza Strip

1. Introduction

This stage in (red flags) that suggest the possibility of a crisis. This phase aims to prevent crises through risk assessment, which is "the process of identification, analysis and response to the project risks" (Petru, 2013), and consists of scanning and analyzing the environment in order to systematically identify, assess, quantify risks by amount of importance, and prioritize the respective environmental risks to the business, estimate the probability of a particular crisis occurring, its expected frequency and its potential impact on operations .Sottilotta (2013). Shortages of water supply and electricity, environmental health hazards, loss of income and many more factors increased drastically the vulnerability of the majority of the population at a time when the siege on Gaza Strip and the financial crisis of the government had already left the health system on the brink of collapse. The chronic situation of the health sector, therefore, is a main underlying cause for the impact of the conflict on the health system in Gaza strip today and unless addressed systematically a recovery of the health sector to a stronger and more resilient health system is highly unlikely. The direct impact of the crisis led to the loss of life, disabilities, decompensating of chronic illnesses and severe negative effect on the mental wellbeing of the population. The study provides a strong

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

foundation for immediate crisis management planning of the most urgently needed in health system; it also reiterates many of the well-known issues that impede the development of a modern, effective and efficient health system, which will need addressing in the medium and longer term in order to improve health service delivery in Gaza strip. An additional purpose of the crisis management assessment included identifying areas and subjects within the health sector that require further in-depth assessments and/or reviews to ensure a better understanding of the situation and enable tailored medium and long-term responses. The overall aim of this study is to assess crisis early signals detection in main governmental hospitals in the Gaza Strip; To identify the extent of differences in the views of respondents about the effectiveness of the crisis early signals detection assessment in regard (socioeconomic status). To identify the extent of differences in the views of respondents about crisis early signals detection assessment in regard their hospital. And To set recommendations to stakeholders about the outcome of crisis early signals detection assessmentinmain governmental hospitals in the Gaza Strip.

2. Previous Studies

A study of Zaboli, Seyedin, &Malmoon(2013)   aimed to determine early warning system for disaster within health organization in Iran. This article presents the findings of a mixed-methods study of early warning systems for disaster management within the health organizations in Iran. During the years 2011 to 2012, a sample of 230 health managers was surveyed using a questionnaire and 65 semi-structured interviews were conducted with public health and therapeutic affairs managers who were responsible for disaster management.Study found that a range of problems was identified. Although there is a multi-agency alert system within the health organizations, other indicators of early warning system are not satisfactory. Furthermore, standard messages which are used to alert organizations are not used under the current system. Some activities such as a memorandum of understanding among different stakeholders of disaster response and education of staff and communities could improve the response to disasters within the health organizations.

A study of El jadeely (2006) aimed to identifying workers tendencies towards the availability of a system for crisis management in its different phases in the main hospitals in Gaza Strip (El-Shifa, Nasser, EGH); to demonstrate the preparedness of the hospitals towards crisis, and to demonstrate the relationship among the crisis management phases. Also the study aims at showing the effect of the demographic factors (job sectors, age, years of service, sex) on the individual opinions of the sample round the mobility of the crisis management system in the mentioned hospitals. A questionnaire was done to achieve the goals of the present study. Six hundred questionnaires have been distributed randomly (200 for each hospital) in the mentioned hospitals. Four hundred sixty three questionnaires have been returned back to the researcher after being responded at, four of which were excluded because of being incomplete. The rest were treated statistically using (SPSS). The results have showed that there is a low level system for crisis management in the mentioned hospitals, in each phase of the system, and in all five phases, which represent the complete view of the crisis management. The study shows that there is no significant statistical differences among the mentioned hospitals round the mobility of the crisis management system. Also the study shows that there are positive significant statistical relationships at (0.01) among the five phases. It was noticeable that there was an effect of the four demographic factors on the individual opinions of the sample from a hospital to another.

3. Methodology of study

The design of this study descriptive, analytic, exploratory, a combination of qualitative and quantitative methods (mixed method) was used to address the research questions. There is

442 head of departments working in four main governmental hospitals in Gaza strip of the Palestinian MOH. Of this group according to specialties, 138 physicians, 158 nurses,62 administration, 31 laboratory, 19 pharmacists, and 34 maintenance technicians and engineers. According to the hospital, there is 112 managers in European Gaza hospital, 105 managers in Nasser hospital, 55 head of departments in Al-Aqsa hospital, and 170 head of departments in Alshifa hospital. The researcher has checked all head departments who working in Alshifa, Naser, European Gaza hospitals and Al-Aqsa hospital with different manager categorization, qualification, gender, age in a governmental hospital in Gaza strip with at least two years' experience in managerial position in governmental hospitals.

3.1Qualitative Interview sample

In this study, the researcher was used key person's sample, semi-structured interviews because it is flexible, but in this case, the researcher has a list of questions, often referred to as an interview guide. This type of interview was used in this research because this correlated the topic in this research. The researcher has a great deal of leeway in how to reply, but questions follow exactly in the way outlined in the interview guide. The data was collected through administering interviews with six key informant experts in Ministry of Health, public health and crisis management from Palestine. These experts have highly experience in management, crises, and related communication functions.

3.2 Sample size and sampling process

The sample of this study is census, which consists all head of departments who are currently working in main Gaza governmental hospitals. (Alshifa –Naser- EGH- Al-Aqsa hospital). Census refers to the quantitative research method, in which all the members of the population are units of research, it is a time-consuming process, reliable and accurate, not present error.

4. Eligibility

4.1 Inclusion criteria: Governmental health manager (head of the department) who met the following criteria was included in the study: Working at main Gaza governmental hospitals. Head of the department and above At least 2 years' experience in this current job.

4.2 Exclusion criteria: Governmental health manager was excluded from the study: Have an experience less than 2 years.

5. Study Setting

The historical Palestine is about 27.000 Km2, stretching from Ras Al- Nakoura in the north to Rafah in the south. Palestine is boarded by Lebanon in the north, the Gulf of Aqaba in the south, Syria and Jordan in the east and by Egypt and the Mediterranean Sea in the west. Palestine was place under British mandate, finished by Israel occupation in 1948 in implementing the Balfour Declaration in 1917 that given providing a homeland for Jews. The result was the uprooting of most Palestinians from their cities, towns, and Villages and the mass migration to West bank, Gaza Strip, Jordan, Lebanon, Syria, and other countries (Palestinian National Authority, 2014).

6. Gaza Strip

Gaza strip is a narrow piece of land lying on The Gaza Strip lies on the Eastern coast of the Mediterranean Sea. It borders Egypt on the south and Mediterranean Sea on the west and Israel on the east and north... Its position on the crossroads from Africa to Asia continents, for their location made it a target for occupiers and conquerors over the centuries. The last of these was Israel who occupied the GS in 1967. Gaza strip is a very crowded place with an area 365 Km^2 and constitutes only 1.3% of the total area of the Palestinian land. In the year 2016, the total population in GS was 2 million, mainly concentrated in the cities, a small village, and eight refugee camps that contain two-thirds of the population of GS (PCBS, 2017). It is about 41kilometers long, and between 6 and 12 kilometers wide, with a total area

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

of 375 square kilometers .This small piece of land is a home to about 2 million Palestinians. The population is mainly concentrated in the cities, small villages, and eight refugee camps that contain two thirds of the population of the Gaza Strip. In Gaza Strip, the population density is estimated at about 4,100 inhabitants / km2. It comprises five governorates: North Gaza, Gaza, Mid Zone, Khan Younis and Rafah. (PCBS, 2017). In the absence of a comprehensive census including all Palestinian diaspora populations, and those that have remained within what was British Mandate Palestine, exact population figures are difficult to determine. The Palestinian Central Bureau of Statistics (**PCBS**) announced at the end of 2015 that the number of Palestinians worldwide at the end of 2015 was 12.37 million of which the number still residing within historic Palestine was 6.22 million. The majority of Gaza Strippopulation is refugees (75%) and 40% of them live in the camps. In Gaza Strip   the population density in the refugees' camps is one of the highest in the world. (PCBS, 2017). In the population pyramid, the age group 15- 60 years (the working age) represents about 49. 6%, the annual growth rate of GS was 2.8% and life expectancy at birth was 70. 7 years for males and 73. 8 years for females (MOH, 2016). The study was conducted at the main Gaza governorates hospitals including Al-Shifa hospital, European Gaza hospital, Nasser medical hospital, Al-Aqsa hospital.

7. Ethical Consideration and procedures

An official letter of approval to conduct the study was obtained from the Helsinki Committee in Gaza Strip. In addition, an official letter was obtained from MOH Director to conduct the study at MOH main hospitals. Every participant was provided with a full explanation of the questionnaire, both verbal and written attachment. The attachment form included the purpose of the study, assurance about the confidentiality of the information, and the instructions how to respond to the questionnaire. Also, it included a statement indicating that the participant has the right to participate or not in this study. The participation was optional, anonymity and confidentiality will be given and maintained. A consent form was obtained from each participant and it was attached to each questionnaire to ensure his or her voluntary participation after signing the consent.

8. Data collection

The study considers and adopts the following sources to implement this study: A structured self-administered questionnaire was distributed to samples who were working in governmental hospitals. The researcher was distributed questionnaires by himself to avoid any possible bias collected the data. Six of the interviews were conducted in a quiet and secluded office space at the chosen offices, decided by the experts themselves. The interviews were audio-recorded and transcribed as soon as possible after each interview was completed. The data gathered from the interview was analyzed using the principles of grounded theory. In other words, the analysis involved the systematic collection and analysis of data, the coding of transcribed data and finally the construction of data.

9. Validity of Study

9.1 Face validity

For ensuring validity, the researcher submitted the questionnaire to experts in the field to judge face and content validity. Those experienced people in Arabic and English languages were revised both and 10 experts in crisis management and public health.

9.2 Pilot study

The study conducted the pilot study prior to data collection by using a sample of 30 participants selected from different hospitals (20 from Al-Shifa hospital, 10 from European Gaza hospital, and 10 from Nasser medical hospital). It was conducted to examine the response rate and clarity of the questionnaire. The response rate was 100% and the

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

questionnaire was finalized, and included in the study. The data from the returned questionnaire was then transferred into a database for analysis using SPSS 22.0. The reliability was tested using Cronbach,s α test method. The face validity and content validity of the questionnaire were assessed and was approved by the experts during the intensive interviews; the importance and consistency of the indicators were evaluated by Spearman's correlation coefficient.

Table 1. Correlation coefficient of each paragraph of "crisis early signals detection assessment" and the total of this field

No.	Paragraph	Correlation Coefficient	P-Value (Sig.)
1.	The hospital has a special team , which monitors crisis indicators.	0.782	0.00**
2.	The hospital administration pays attention and support to monitor indicators of crisis occurrence.	0.807	0.00**
3.	Early warning systems based on monitoring and forecasting, warning messages that link with emergency response	0.855	0.00**
4.	The success of early warning indicators is dependent on the support of hospital management and provide the correct information	0.776	0.00**
5.	The hospital's working environment is comprehensively surveyed and analyzed to identify possible signs of a crisis.	0.797	0.00**
6.	The hospital's working environment is regularly surveyed and analyzed to identify possible signs of a crisis.	0.796	0.00**
7.	There is an agreed message form for warning and activation of the emergency plan	0.560	0.00**
8.	Hospital administration is interested in continuous training programs in data collection and crisis analysis.	0.640	0.00**

Source; prepared by researchers, SPSS, 2018
**Correlation is significant at the 0.01 level * Correlation is significant at the 0.05 level

10. Reliability of the Study

The reliability of an instrument is the degree of consistency which measures the attribute. The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Table (2) shows the values of Cronbach,s Alpha for each field of the questionnaire and the entire questionnaire. For the fields. Cronbach,s alpha equals 0.٨٢٦ for the entire questionnaire, which indicates good reliability of the entire questionnaire.

Table 2. Cronbach'salphafor each field of the questionnaire

Paragraph	No. of item	Cronbach,s Alpha
crisis early signals detection assessment	٨	0.826

Source; prepared by researchers, SPSS, 2018

11. Split half

Table (3) show the correlation coefficient between the total scores of odd statements and the total score of even statements, and then the researcher used Spearman-Brown equation. The coefficient of correlation (R = 0.967) was statistically significant at 0.01, and the Spearman-Brown equation was used to modify the length of the test Unequal Length Correlation Spearman-Brown correlation for testing (t=0.983).

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

Table 3. Correlation coefficient using split-half method

Split half		r
Correlation Between Forms		٠.967
Spearman-Brown Coefficient	Equal Length	٠.983
	Unequal Length	٠.983
Guttmann Split-Half Coefficient		٠.982

Source; prepared by researchers, SPSS, 2018

The study illustrated distribution of the study participants according to their socio demographic information. The study population was more than one third (38.0%) in Alshifa medical complex while 25.3 % in European Gaza hospital, 24.3% in Nasser medical complex and 12.4 % in Al-Aqsa hospital (Table 1). Regarding the distribution of study participants according to their gender, about two third (63.1%) of the study participants were males while 36.9 % were females (Table 2). Classification of the study population according to Profession, the results showed 50.4 %, 22.6%, 17.0%, 5.7% and 4.3% were nursing, administrative, physician, health profession, and others, respectively (Table 3). Regarding to educational level, Most of the study population had Bachelor certificate (68.7%) while 19.7% had master degree and 8.9 % had PhD. On the other hand, only 2.7% of the participants have diploma certificate (Table 4). Additionally, managerial status frequency showed 68.5% had head department while 17.5% had Supervisor and 14.0% had director (Table 5). The average of age among participants were 39.9±8.2 years and Experience 14.8±7.3 years
.

Table 4. Distribution of the study participants according to their socio demographic information

		Frequency (n=371)	%
Hospital	Alshifa medical complex	141	38.0
	European Gaza hospital	94	25.3
	Nasser medical complex	90	24.3
	Alaqsa hospital	46	12.4
Gender	Male	234	63.1
	Female	137	36.9
Profession	Nursing	187	50.4
	Administrative	84	22.6
	Physician	63	17.0
	Health profession	21	5.7
	Others	16	4.3
Qualification	Diploma	10	2.7
	Bachelor	255	68.7
	Master	73	19.7
	PhD	33	8.9
Managerial	Head department	254	68.5
	Supervisor	65	17.5
	Director	52	14.0
		Mean±SD	
Age (years)		39.9±8.2	
Experience (years)		14.8±7.3	

Source; prepared by researchers, SPSS, 2018

Table 5. Distribution of the study participants according to their responses about early warning signals detection phase

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

No	Item	Mean	SD	%	t	P-value	Rank
1.	The hospital has a special team, which monitors crisis indicators.	3.3	1.1	66	5.5	0.000	3
2.	The hospital administration pays attention and support to monitor indicators of crisis occurrence	3.3	1.0	66	6.2	0.000	3
3.	Early warning systems based on monitoring and forecasting, warning messages that link with emergency response	3.3	1.1	66	4.6	0.000	3
4.	The success of early warning indicators is dependent on the support of hospital management and provide the correct information	3.6	1.0	72	10.8	0.000	1
5.	The hospital's working environment is comprehensively surveyed and analyzed to identify possible signs of a crisis.	3.3	1.0	66	4.8	0.000	3
6.	The hospital's working environment is regularly surveyed and analyzed to identify possible signs of a crisis.	3.2	1.0	64	3.7	0.000	7
7.	There is an agreed message form for warning and activation of the emergency plan	3.2	1.1	64	3.6	0.000	7
8.	Hospital administration is interested in continuous training programs in data collection and crisis analysis.	3.4	1.0	68	7.0	0.000	2
	Total	**3.4**	**0.9**	**68**	**8.4**	**0.000**	

Source; prepared by researchers, SPSS, 2018

Table (5) shows that the weighted mean for topic of the field of early warning signals detection phase was 68% and significant less than 0.05 by using one sample t test which mean the participants agree about this topic. According to the results the highest paragraph was number (4) " The success of early warning indicators is dependent on the support of hospital management and provide the correct information." with weighted mean 72.0% and significance less than 0.05, followed by paragraph number (8) "Hospital administration is interested in continuous training programs in data collection and crisis analysis " with weighted mean 68%. While the lowest paragraph was number (6)" The hospital's working environment is regularly surveyed and analyzed to identify possible signs of a crisis" and followed by paragraph (7)" There is an agreed message form for warning and activation of the emergency plan " with weighted mean 64 % and significance less than 0.05.

Table 6. Differences between crisis early warning signals detection and Gender

Domain	Gender	N	Mean	SD	t	P-value
Means of early warning signals detection phase Domains	Male	234	3.35	0.862	-0.838	0.402
	Female	137	3.42	0.846		

Source; prepared by researchers, SPSS, 2018

Table (7) The relation between crisis early warning signals detection and Hospital

	Hospital	N	Mean	SD	F	P-value
Means of early warning signals detection phase Domains	EGH	94	3.4	0.9	5.2	0.002
	NMC	90	3.4	0.8		
	AH	46	3.7^f	0.7		
	ShMC	141	3.2	0.9		
	Total	371	3.4	0.9		

University of Bakht Alruda, Retreed Quarterly Scientific Journal, Issue No. 26 December 2018 [UBJSR: ISSN :(Online) 1858-6139]

http://mag.uofb.edu.sd

EGH: European Gaza hospital; NMC: Nasser Medical Complex; AH: Alaqsa hospital; ShMC:Alshifa medical complex; ([a], [b], [c], [d], [e], [f] significant, P<0.05) [a] compares EGH vs. NMC; [b] compares EGH vs. AH; [c] compares EGH vs. ShMC; [d] compares NMC vs. AH; [e] compares NMC vs and ShMC; [f] compares AH vs. ShMC

Table (7) illustrated that there are statistical differences between items as a total and Hospital (sig. > 0.05), There was a statistical difference between crisis response accordingto hospitals, the outcome showed significant differences found in favor of Al-Aqsa Hospital.

Table 8. Relation between crisis early warning signals detection and Profession

Domain	Profession	N	Mean	SD	F	P-value
Means of early warning signals detection phase Domains	Physician	63	3.3	0.9	3.30	0.011
	Nursing	187	3.3 [e]	0.9		
	Administrative	84	3.6	0.7		
	Health profession	21	3.6	0.5		
	Others	16	3.8	0.9		
	Total	371	3.4	0.9		

([a], [b], [c], [d], [e], [f g], [H], [I G]; significant, P<0.05) [a]compares Physician vs. Nursing; [b] compares Physician vs. Administrative; [c] compares Physician vs. Health profession; [d] compares Physician vs. Others; [e] compares Nursing vs. Administrative; [f] compares Nursing vs. Health profession; [g] compares Nursing vs. Others; [H] compares Administrative vs. Health profession; [I]compareAdministrative vs. Others; [G] compares Health profession vs. Others.

Table (8) showed statistical differences between Crisis response and **profession** for (P<0.05). The outcome of the Scheffe test for showed significant differences for compares Nursing vs. Administrate for crisis response. Also,scheffe test for showed significant differences between Physician vs. Administrive for " prevention and response phase (P<0.05).

Table 9. Showed no statistical differences between Crisis response and scientific qualification.

Domain	Scientific qualification	N	Mean	SD	F	P-value
Means of early warning signals detection phase Domains	Diploma	10	3.9	0.6	1.4	0.245
	Bachelor	255	3.4	0.9		
	Master	73	3.3	0.9		
	PHD	33	3.4	0.8		

Source; prepared by researchers, SPSS, 2018

Table 10. Differences between crisis early warning signals detection and managerial position

Domain		N	Mean	SD	F	P-value
Means of early warning signals detection phase Domains	Head department	254	3.4	0.8	0.819	0.442
	Supervisor	65	3.5	0.8		
	Director	52	3.3	1.0		
	Total	371	3.4	0.8		

Source; prepared by researchers, SPSS, 2018

Table (10) illustrated the relation between Crisis response and managerial position. The results showed no statistical differences between Crisis response and managerial position. (P>0.05).

Table 11. Correlation between age and Crisis response

Domain	Age (yes)	
	r	P-value
Means of early warning signals detection phase Domains	0.088	0.092

r: Pearson Correlation

Table 12. Correlation between Crisis management response and experience

Domain	Experience (years)	
	Pearson Correlation (r)	**P-value**
Means of early warning signals detection phase Domains	0.096	0.065

Source; prepared by researchers, SPSS, 2018

Table (12) illustrated the correlation between the experience of work and Crisis Response. The Pearson correlation test showed no significant correlation was found between Crisis response as a total and experience of work (P>0.05).

Results and Discussion

On the question regarding "What are the effective ways to detect early signs of crisis and is this followed in hospitals". Most of them answer that the most effective way to detect early signals is to communicate permanently with government or non-governmental organizations. The committee meets periodically every three months. It means studying the latest developments in the status of the year up to the regional situation, sometimes studying the repercussions on the region or the Gaza Strip, and communicating with the higher authorities or the Higher Emergency Committee. Of course, we had a regular meeting every four months with a committee to study what plans, plans, or update their data and develop new lists. In light of our crises, which we suffer from wars and a strong threat to the Palestinian people in the Gaza Strip and we are in hospitals when we get signals, whether through the media, such as radio, television and social networking sites and transfer to political news is one of these indicators. The second indicator is the arrival of signals by the Ministry of Health to a higher level that predicts at the highest political level that things are happening and that we are being approached to take precaution and to prepare for the coming crisis. Thirdly, the current health situation and the extent of its preparedness also warn if we have a strong and good preparedness at the level of health services and available resources. This makes preparation easier and makes preparation easier. If the possibilities are not available, the least crisis will affect the level of performance and health services provided as primary and secondary health services and a third level of the injured and those who need this service as we take our information, both social media and The various media, from the highest level to the Ministry of Health, representing the official political level, is to determine the possibilities in advance to determine our ability to deal with the crisis. In this study, data analysis revealed that according to participant's responses to early warning signals detection phase that weighted mean for early warning signals detection phase was 68% which mean the participants agree on this topic. According to the results the highest paragraph was " The success of early warning indicators is dependent on the support of hospital management and provide the correct information." with a weighted mean 72.0%, followed by paragraph "Hospital administration is interested in continuous training programs in data collection and crisis analysis " with weighted mean 68%. While the lowest paragraph was is "The hospital's working environment is regularly surveyed and analyzed to identify possible signs of a crisis" and followed by paragraph " There is an agreed message form for warning and activation of the emergency plan " with weighted mean 64 %. With regard to warning signals and early warning system, the following are key principals and components. The study finding is nearly in agreement with previous research. This finding is in concordance with that of Zaboli, Seyedin and Malmoon(2013) found that a range of problems was identified. Although there is a multi-agency alert system within the health organizations, other indicators of early warning system are not satisfactory. Furthermore, standard messages which are used to alert organizations are not used under the current system. Also El jadeely, R. (2006) Saied that there is a low-level system for crisis management in the mentioned hospitals, in each phase of the system, and in

all five phases. My study finding is nearly in agreement with previous research. My explanation for that all crisis should ideally be preceded by pre-agreed early warning signals .Signals are not self-amplifying or self-blocking. They are part of and reflection of the overall structure of an organization and does not exist by themselves. Signal detection is a direct reflection of our priorities that also necessitates signal detectors.As different types of disasters send out different types of signals, different disasters require different detectors Every signal detector needs a signal monitor. Once an alarm is sounded, then it must be heard by the right person who knows what to do with it. Also, signals have to be transmitted to the right people.Also According to (WHO-Europ, 2011) Up-to-date, reliable data and information are required to conduct risk assessments and carry out the emergency-preparedness planning necessary to ensure appropriate decision-making. These data and information should be available through a distributed, interoperable and reliable information system that connects institutions (including the ministry of health) with the necessary mandate to collect and maintain them. At the same time, the data coming from these different institutions need to be compatible and documented if they are to be combined in the context of risk assessment and emergency planning.A national health information system collects data from the health sector and, in combination with data from other relevant sectors, analyses them, ensures their overall quality, relevance, and timeliness, and converts them into information for use in health-related decision-making. Reliable and timely health information is essential to public health action, including that related to strengthening health systems. The need for sound information is especially critical in connection with emergent diseases and other acute health threats in that rapid awareness, investigation and response can save lives and prevent national outbreaks and even global pandemics.

Conclusions

Based on the findings of this study, it can be concluded that managers in the current study have moderate level regarding crisis management. There are no statistical differences between signal detection phase and gender. In addition, there were statistical differences between hospitals and signal detection phase. The outcome of the Scheffe test showed significant differences in favor of Al-Aqsa Hospital. There were statistical differences between profession and "Early warning signals detection phase" The outcome of the Scheffe test for showed significant differences in favor of Administrative for all of the domains .No statistical differences between signal detection phase and scientific qualification. Similarly, no statistical differences between managerial position and age. The study recommended to:

- Establish a special crises early warning system committee to predict crises at the time of the crisis and hold annual scientific conferences on crisis management to discuss some of the crises faced by the hospital.
- Put all the possibilities close to a crisis such as radiation departments, laboratory departments & administrative units such as patients services and accounting
- "Update medical tools and medical supplies to raise the quality of health services."

Reference

El jadeely, Rabhi (2006): A large number of police officers were arrested by the High Court of Justice in Gaza. Islamic university.

MOH Annual Report to Hospitals,(2016) hospital in Gaza stripwww.moh.gov.ps Palestine: ministry of health-Gaza.

Palestinian National Authority". World Statesmen.org. Ben Cahoon. Archived from the original on 8 February 2014. Retrieved 8 June 2014. http://www.palestinow.com/landscape-of-palestine/

PCBS(2017) The Palestinians at the end of 2016,'The Role and Performance of Palestinian NGOs in Health, Education and Agriculture"(PDF). World Bank. December 2006.   Retrieved http://www.pcbs.gov.ps/Downloads/book2362.pdf

Petru M. On(2015). The Role Of Implementing A Database System In The Risk Communication Process. Young Economists Journal / RevistaTinerilorEconomisti . April 2013;10(20):255-258. Available from: Business Source Complete, Ipswich, MA. Accessed April 14, 2015.

Seyedin H, Abolghasem Gorge H, Jafari M, Shabanikiya H, , Rahimi A. (2017) Hospital Surge Capacity in Disasters in a Developing Country: Challenges and Strategies, Trauma Monthly. 2017 ;22(5):e59238. doi: 10.5812/traumamon.59238.

Sottilotta, C. E. (2013). Political Risk: Concepts, Definitions, Challenges, 1–25. Retrieved from http://eprints.luiss.it/1206/1/SOG-WP6-2013_Sottilotta.pdf

WHO Regional Office for Europe, (2011).Hospital emergency response checklist. An all-hazards tool for hospital administrators and emergency managers. Copenhagen.(http://www.euro.who.int/data/assets/pdf_file/0020/148214/Hospital_emerg_ checklist.pdf, accessed on 29 October 2011).

World Health Organization. (2012). Strengthening health-system emergency response, 96. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0008/157886/e96187.pdf.

Zaboli, R., Seyedin, S., &Malmoon, Z. (2013). Early Warning System for Disasters within Health Organizations: A Mandatory System for Developing Countries. Health Promotion Perspectives, 3(2), 261–268. http://doi.org/10.5681/hpp.2013.030.