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ASSESSING PERCEPTIONS OF THE SAUDI POPULATION REGARDING DISASTER PREPAREDNESS

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Abstract

Background: Disaster preparedness consists of a set of measures undertaken in advance by governments, organisations, communities, or individuals to better respond and cope with the immediate aftermath of a disaster, risk perception entails the awareness, beliefs, and attitudes concerning the likelihood, severity, threat intrusiveness, and additional attitudinal factors that may reflect on the manner in which one perceives the risk posed by any given threat
Objectives: To assess perceptions of Saudi populations regarding disaster preparedness.
Methods: Descriptive community-based survey**.** samples were taken from all its regions of Kingdom of Saudi Arabia, 561 Samples were collected from adults over the age of 18, between Janoury and April 2023.The information was gathered by standardized, close-ended Questionnaire. Before data collection, the study had received approval from the Al-Taif University ethical committee.
Results: Most of the participants are between the ages of 29-49 (68.1%) and There is a statistical association between age and the perception of disasters preparedness PV (.001)**. 67**% of the participants are men and they are more perception of disasters preparedness than women PV (.003)، More than half of the study sample are university educated. There is no a statistical association between the level of education and perception of disasters preparedness PV (.122).
Conclusion:
The participants had average awareness and knowledge about disaster preparedness, how they occur and prevented, and what role they play in making a decision when disasters occur. We recommended to add and create educational programs to raise awareness, making sure that they are also integrated into education at the local and international levels and more recherché need.

Keywords: Kingdom of Saudi Arabia, Saudi populations and disaster preparedness

Introduction

The number of disasters doubles annually around the world as their number has increased from 200 to 400 disasters per year, including natural and epidemiological accidents.These disasters were difficult for countries to confront, including weather and climate events; natural disasters

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such as volcanoes and earthquakes; water disasters such as rain; torrential rain and tsunamis in some countries; weather; and fires. In terms of health, epidemics and infectious diseases are among the deadliest natural disasters in the whole world, including what happened in 2019, the spread of the Corona virus disease in the Chinese city of Wuhan all over the world.

With the progress of time, the development of human societies, the prosperity of industries and urbanization, and the risks arising from modern technology, in addition to the various disasters and calamities that occur from time to time, human thinking has developed in the field of protection, with the aim of preserving human and economic elements, especially since the modern way of organizing life The social situation is always threatening to erupt into a catastrophe, especially in the big cities where hundreds of thousands of people are huddled together, huge industrial vehicles are scattered, and types of destructive materials accumulate, which makes it a meeting place for all dangers and calamities, in addition to the disturbances, armed conflicts, or wars that occur in some countries from time to time, all of which led the majority of the world's countries to think of establishing an apparatus entrusted with the protection of man and his property from dangers.

The Kingdom of Saudi Arabia was one of the first countries to take an interest in reducing and eliminating natural disasters, infectious diseases and epidemics, and creating awareness programs on social media and audio and visual media. There are some definitions of terms in this regard Reducing disaster risks: It is a concept of elements that includes the possibility of reducing vulnerability and disaster risks in societies within the general framework of sustainable development. Disasters are serious confusion in the local or international community that causes human, material, economic, and environmental losses on a large and wide scale that exceed the capacity of the affected community or communities using their own resources. Hazards are physical events, phenomena, or human activities that cause loss of life, damage, or damage to private or public property that leads to socio-economic confusion or environmental degradation that leads to destruction. Preparedness refers to the capabilities and knowledge that institutions, governments, organizations, or local communities have developed to deal with disasters and crises and respond to them in an effective and organized manner. Relief The process of providing assistance or intervention during or immediately after a disaster situation to save the lives of the affected population. Contingency planning is a tool used by the Development Department to analyze the impact of potential crises in order to be able to deal with them in the future and respond to them as they occur promptly, in an effective manner and appropriate to the needs of the affected community. There are some reviews about societies' preparedness for disasters. In Australia, researchers have looked at social vulnerability and discrimination from the social and political standpoint, preparing for it from the side, and recovering from it, how much research considers natural disasters to be exaggerated with inequality, and how they greatly affect societies in different groups, and that the poor and the socially weak are more vulnerable to disasters and migration because of them. Disasters are concentrated where there are differences in age, gender, color, income, ability, and culture as a cause of disasters, their response to them in the future, and recovery from them. The elderly are more vulnerable to danger than others according to their health conditions and physical condition related to age, inability to move, disability and use of

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medicine, and they are unable to bear the conditions of disasters and the exploitation of contractors for them after disasters happen, as is the case with children, who suffer from many diseases and are exposed to injuries and weak immunity, which have a role in the deterioration of their condition associated with the occurrence of the disaster.(Howard, Agllias, Bevis, & Blakemore, 2018)There is also a research study on the rural areas in mountainous areasof Gilgit-Baltistan, Pakistan. which is located in Pakistan. which is famous for its frequent landslides, and its inhabitants are always in a state of constant danger as a result of these disasters, which led to losses in lives and property, due to the ignorance that occurs there and the emotional and social attachment of people to the areas in which they live. And their unwillingness to leave and their inability to control these collapses, but there is a positive relationship that preparedness for disasters increases people's connection with their villages.He suggested that the government submit a report and also Disasters and associated damage can be used.Losses that will reduce rumours and fear in public. There is a negative relationship between disaster preparedness and with the apprehension of disaster and a positive with the attached place. Therefore, it is suggested to politicians that. Doing a disaster prevention approach and the need to control it and disaster mitigation training to reduce fear of natural disasters.(Khan et al., 2020)

In the Kingdom of Saudi Arabia, preparedness for disasters and risks is a very important political issue, especially in Asian developing countries, most of which suffer from the risks of natural disasters and human losses, which are mainly spread throughout the world. Awareness, public attitudes, and good planning can play a role in reducing disaster risks and reducing the deaths and economic losses that were caused by nature such as floods, torrential rains, epidemics, diseases, and sandstorms, and studies about that are scarce and emerging.
It is also necessary to have information about communities residing in other disaster-risk areas to see if they can adopt the behaviours necessary to deal with disasters. Although Saudi Arabia has a high rate of Internet penetration and individual use of social media, potential exclusion bias may result from the use of online surveys and this makes researchers enthusiastic about such surveys and studies. e not perfect.(AlQahtany & Abubakar, 2020) Globalization has brought about a major change in events in societies in the twenty-first century, and small events turn into crises, and these catastrophes and dangers can lead to heavy losses. But there are collective efforts to solve these disasters and crises and address them. But the efforts of governments to manage risks are ambiguous and complex, and finally the role of governments in reducing capacities and privatization work to address these disasters.However, recent advances in science, technology and information management mean that disaster risk management bodies can conduct comprehensive assessments before an emergency. and how they affect vulnerable humans, and society's ability to deal with risks and threats.The aim is to improve and develop policies and programs to mitigate and use resources according to limited capabilities, and to prevent and reduce the state and society from being exposed to danger, as was the case with some studies used in the European Union in general and Sweden in particular, where they dealt with risks according to their ability to prevent and respond quickly in order to reduce the occurrence of disasters in the future. (Lin, 2018)There are some plans proposed in Nigeria when health practitioners in Zaria made an emergency plan targeting the community and the family in particular, its goal is to prepare for disasters and dangers

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due to the recent events of plane crashes, fires, building collapses, and simulated terrorism by throwing bombs and their explosion on civilians and floods.(Makama, Joshua, Makama, & RM, 2017) Also, for Korea, we will shed light on the elderly because they are a population group that is unable to cope with disasters due to their physical weakness and their low social status and health as well. The purpose of this study is to examine the capabilities of the elderly in dealing with disasters and their readiness for them, with the assistance of the government in that preparing shelters and providing transportation to help them survive as long as possible during times of disasters. The disabled and the sick also worked to provide the necessary knowledge of their special needs to improve policies for dealing with disasters and crises.(Yoo, Lee, & Tullmann, 2016) By listing the previous reviews, the experts agreed that members of the international and Saudi community do not have the competence and ability to deal with disasters and crises, and they need a lot of knowledge, awareness, and more studies on how to deal with these crises. Confronting environmental and biological risks, as is the case with some diseases such as Corona, Covid 19, and the presence of population density within urban cities and villages. The results are of great importance in the national and political sphere in planning for emergencies and crises, preventing disasters, God forbid, and setting policies dedicated to them with the help of the government. (Kohn et al., 2012) In a review of studies in place in the world and the Kingdom of Saudi Arabia, this study aims to assess the perceptions of Saudi society about preparedness in the event of disasters and dealing with crises if they occur. According to my perception, the studies conducted in this regard are few and do not cover the need for them, whether global or local.

As for the Saudi society, there are no studies evaluating the perceptions of the Saudi society regarding how to deal with disasters.Because of this gap and the lack of research, we will work on hypotheses to improve or know the perceptions of Saudi society regarding disasters

Based on some literary reviews that were made about what is related to this research from what happened to some countries regarding dealing with disasters, their evaluation on how to deal with it. But we find that society has an important role in dealing with such a problem, as we find there are more gaps and gaps that exist regarding such studies. How empirical analysis and hypotheses about how to evaluate dealing with disasters before or after their occurrence and recovery from them about the Saudi society and the state. We will focus on the role of family capacity and know the organizational capacity of it in the Kingdom of Saudi Arabia. The research also provides strategic recommendations for the authorities to withstand these risks in the Kingdom.

Methodology

Study designs:

Descriptive community-based survey design, study describing the ability of the Saudi society in the Kingdom of Saudi Arabia to assess their dealing perceptions during disasters**.** conducted between January to April 2023, the study population consisted of 561participant, aged aboves 18 years, who were selected from different community in Saudi Arabia and who agreed to participate.

Study population and setting:

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The study is conducted on all residents of the Kingdom of Saudi Arabia, according to the most recent figures, the population of the Kingdom of Saudi Arabia, including citizens and residents, has reached 48 million. The number of Saudi citizens, including 35 million, is 35,013,414, according to an official report released by the General Administration for Statistics.

Sample:

A multi-stage sampling method was used. List of all clusters were made (the is 4 regions of the kingdom, the Central Region (Riyadh, Qasim) was the most affected area, followed by the Western Region (Mecca, Medina, Jeddah), Eastern Region (Damam, Khafji, Alhasa), Northern Region (Tabuk, Jouf, Hail), and Southern Region (Asir, Najran, Jizan), and a random number of clusters was drawn by the investigators to be included in the study. Samples from 4 a region will selected through a cluster sampling technique (figure 1). Samples of the respondent were selected using simple random sampling from each of the group (cluster). Eligible study subjects included Saudi citizens 18 years and older who showed willingness to participate in the study.

Data Collection Technique & Tools:

Data wear collect by standardized, close-ended and open-ended questionnaire. An electronic Questionnaire has been sent. The questionnaire is divided into three sections, the first section is for the biography, the second section is to measure information and awareness of perceptions and assessment of society's response to disasters in the Kingdom, and the third will be modified to the goals of society in the Kingdom of Saudi Arabia and the results of what previously happened in disasters and crises, which is unknown to this questionnaire More accurate and credible in answering these questions and revealing the extent of their perception of participation**.**

Analysis:

All the data was organized in a master data sheet in windows Microsoft Excel spreadsheet and analyzed using SPSS – 25 with a level of significance (P) at 0.05. Frequency, percentage, and mean were used to determine the perceptions of Saudi populations regarding disaster preparedness, and chi-square test was used to determine the association between dependent and independent variables.

Ethical consideration:

The study had obtained the ethical clearance from ethical committee at Al -Taif University. The committee is accredited by the National Committee for Bioethics with No. (HAO- 02-T-105) before data collection. No potential identifiers such as name, email or phone no. At the outset of the questionnaire, participants were questioned for their agreement. Message for explaining the major aim of the research was written at the beginning of the survey in order to give the participants clarifications about the research. By agreeing to answer the survey, that has considered as approval of the participants to involving in the study. Additionally, all of the collected data were kept with the researchers in order to protect persons' confidentiality who involved in this study.

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Result:

This chapter has focused on examining the risk perception and preparedness of individuals toward various disasters. In this chapter, we will delve into the results of the survey conducted to explore people's knowledge of disaster management systems and their ability to respond to disasters. The survey aimed to assess the extent to which people are aware of the different disaster warning systems, their ability to adopt preventive measures, knowledge of evacuation plans, disaster response time, and sources of reliable information. The findings presented in this chapter will provide insight into the current level of preparedness of individuals and the areas that require more attention and improvement to enhance their disaster resilience. The results of this study will be valuable toTable1 Socio-demographic data N= (561)

Table 1 Socio-demographic data from a study population:

	Frequency	Percentage	PV
Occupation			
government employee	376	67%	.143
A private sector employee	57	10.2%	
Self-employment	25	4.5%	
student	40	7.1%	
does not work	11.2%	63	
Age			
From 18 to 28 years old	62	11.1%	.001
From 29 to 38 years old	184	32.8%	
From 39 to 48 years old	198	35.3%	
From 49 to 58 years old	84	15%	
From 59 years and above	33	5.9%	
Gender			
Male	376	67%	.003
Female	185	33%	
Education Level			

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primary	2	.4%	.122
Secondary	26	4.6%	
High school	100	17.8%	
diploma	91	16.2%	
Bachelor	242	43.1%	
Master	80	14.3%	
PHD	20	3.6%	
Have you been exposed to one of these disasters?			
Infectious diseases such as Coronavirus (COVID-19) and other diseases	368	65.6%	.000
Floods	16	2.9%	
Earthquakes	3	.5%	
volcanoes	2	.4%	
Pollution	18	3.2%	
Storms	23	4.1%	
No, I have not experienced any disasters	127	22.6%	
Other	4	.7%	
TOTAL	**561**	**100%**	

The majority (67%) of the sample are government employees, followed by 10.2% private sector employees, 4.5% self-employed, 7.1% students, and 11.2% do not work. There is no statistical association between occupation

And perceptions of Saudi populations regarding disaster preparedness PV (.143).

In terms of age groups, the highest proportion of the sample (35.3%) falls in the 39-48 years old category, followed by 32.8% in the 29-38 years old category. There is statistical association between age

And perceptions of Saudi populations regarding disaster preparedness PV (.001).

Regarding education level, the largest proportion of the sample (43.1%) holds a bachelor's degree, followed by 17.8% with a high school education, and 14.3% with a master's degree. There is no statistical association between education level

And perceptions of Saudi populations regarding disaster preparedness PV (.122).

The majority of the sample (67%) is male, and 65.6% of the respondents have been exposed to infectious diseases such as Coronavirus (COVID-19) and other diseases. There is statistical association between gender

And perceptions of Saudi populations regarding disaster preparedness PV (.003).

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In terms of regions, the highest proportion of the sample (63.6%) resides in Makkah, followed by 8.9% in Jeddah and 7.0% in Medina.

Finally, 22.6% of the respondents have not experienced any disasters, while 65.6% have been exposed to infectious diseases such as Coronavirus (COVID-19) and other diseases. There is statistical association between exposed to one of disasters

And perceptions of Saudi populations regarding disaster preparedness PV (.000).

Table 2: Awareness of disaster events that may endanger lives and property, such as earthquakes, floods, infectious diseases, volcanoes, pollution, and storms:

Groups	Subgroups	Frequency	Percentage
Do you have knowledge about the concept of disasters and their types**?**	I know	272	48.5%
	I don't know	236	42.1%
	I know somewhat	53	9.4%
	Total	561	100%
Do you have knowledge about possible risks in your current environment**?**	I know	244	43.5%
	I don't know	222	39.6%
	I know somewhat	95	16.9%
	Total	561	100%
Do you have the right knowledge and information to deal with life-threatening situations?	I know	153	27.3%
	I don't know	285	50.8%
	I know somewhat	123	21.9%
	Total	561	100%
Do you know the causes of life-threatening accidents?	I know	196	34.9%
	I don't know	216	38.5%
	I know somewhat	149	26.6%
	Total	561	100%
Can you know and	I know	140	25%
	I don't	234	41.7%

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estimate the consequences, losses and number of injuries in life-threatening situations?	know		
	I know somewhat	187	33.3%
	Total	561	100%

Awareness of disaster events that may endanger lives and property such as (earthquakes, floods, infectious diseases, volcanoes, pollution, and storms) **.**The table shows that 48.5% of the respondents have knowledge about the concept of disasters and their types, while 42.1% do not know, and 9.4% have some knowledge about the topic.

Furthermore, 43.5% of the respondents have the knowledge about possible risks in their current environment, while 39.6% do not know, and 16.9% have some knowledge.

Regarding the right knowledge and information to deal with life-threatening situations, only 27.3% of the respondents have the knowledge, while 50.8% do not know, and 21.9% have some knowledge.

When it comes to knowing the causes of life-threatening accidents, 34.9% of the respondents have knowledge, while 38.5% do not know, and 26.6% have some knowledge.

Finally, the table indicates that only 25% of the respondents can estimate the consequences, losses, and number of injuries in life-threatening situations, while 41.7% do not know, and 33.3% have some knowledge.

Table 3: Knowledge and skills in dealing with life-threatening situations and design of plans in the event of a life-threatening emergency, as well as how to measure their impact:

Groups	Subgroups	Frequency	Percentage
Do you have the ability to handle life-threatening situations**?**	Yes	140	25%
	No	137	24.4%
	I need rehabilitation	284	50.6%
	Total	561	100%
Do you have the ability to plan and try to mitigate the risks of these disasters**?**	Yes	140	25%
	No	137	24.4%
	I need rehabilitation	284	50.6%
	Total	561	100%
Do you	Yes	201	35.8%

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have the capabilities, capabilities and information to be (alert) in the event of a dangerous and sensitive local or global danger?	No	97	17.3%
	I need rehabilitation	263	46.9%
	Total	561	100%
Can you measure the impact of these risks on your life, your work and your surroundings**?**	Yes	196	34.9%
	No	119	21.2%
	I need rehabilitation	246	43.9%
	Total	561	100%

Table 3 shows the percentage and frequency of responses related to disaster risk reduction approaches, specifically related to raising public awareness. The table presents four different questions and their respective responses:

"Do you have the ability to handle life-threatening situations?" - 25% of respondents answered "Yes", 24.4% answered "No", and 50.6% answered "I need rehabilitation".

"Do you have the ability to plan and try to mitigate the risks of these disasters?" - 25% of respondents answered "Yes", 24.4% answered "No", and 50.6% answered, "I need rehabilitation".

"Do you have the capabilities, capabilities and information to be (alert) in the event of a dangerous and sensitive local or global danger?" - 35.8% of respondents answered "Yes", 17.3% answered "No", and 46.9% answered, "I need rehabilitation".

"Can you measure the impact of these risks on your life, your work and your surroundings?" - 34.9% of respondents answered "Yes", 21.2% answered "No", and 43.9% answered, "I need rehabilitation".

Table 4: Knowledge of teaching and educating behaviors as well as reliable sources of information, reducing losses, and understanding insurance:

Groups	Subgroups	Frequency	Percentage
Are you keen to educate yourself and others about	Yes	429	76.5%
	No	75	13.4%
	I don't care	57	10.2%

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global and environmental risks**?**	Total	561	100%
Are you keen to learn preventive behaviors and reduce risks**?**	Yes	468	83.4%
	No	48	8.6%
	I don't care	45	8 %
	Total	561	100%
Do you rely on reliable sources to deliver information to others and teach it?	Yes	392	69.9%
	No	93	16.6%
	I don't care	76	13.5%
	Total	561	100%
Does planning succeed in predicting damages and minimizing losses in the event of damages**?**	Yes	431	76.8%
	No	46	8.2%
	I don't care	84	15%
	Total	561	100%
Do you have health or comprehensive insurance**?**	Yes	107	19.1%
	No	412	73.4%
	I don't care	42	7.5%
	Total	561	100%

Table 4 presents the results related to learning behaviors, resources, planning, and insurance. The table provides the percentage and frequency of respondents who answered yes, no, or I don't care for each question asked.

The first question is about the willingness of the respondents to educate themselves and others about global and environmental risks. The table shows that 76.5% of the respondents answered yes, while 13.4% said no, and 10.2% said they don't care.

The second question is about the willingness of the respondents to learn preventive behaviors and reduce risks. The results show that 83.4% of the respondents answered yes, while 8.6% said no, and 8.0% said they don't care.

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The third question is about whether the respondents rely on reliable sources to deliver information to others and teach them. The table shows that 69.9% of the respondents answered yes, while 16.6% said no, and 13.5% said they don't care.

The fourth question is about whether planning succeeds in predicting damages and minimizing losses in the event of damages. The results show that 76.8% of the respondents answered yes, while 8.2% said no, and 15.0% said they don't care.

The final question is about whether the respondents have health or comprehensive insurance. The table shows that 19.1% of the respondents answered yes, while 73.4% said no, and 7.5% said they don't care.

Table 5: Knowledge of risk management methods, the authorities responsible for alerting the public of disasters in the country, and the impact disasters have on life, as well as the importance of insurance:

Groups	Subgroups	Frequency	Percentage
Do you know the best ways to deal with every danger and warning?	I know	151	26.9%
	I don't know	291	51.9%
	I know somewhat	119	21.2%
	Total	561	100%
Do you know the authorities and centers in the country responsible for alerting and warning times of danger**?**	I know	191	34%
	I don't know	231	41.2%
	I know somewhat	139	24.8%
	Total	561	100%
Do you know how often such events occur in your area**?**	I know	72	12.8%
	I don't know	220	39.2%
	I know somewhat	269	48%
	Total	561	100%
Do you know the material impact on your life	I know	154	27.5%
	I don't know	196	34.9%
	I know	211	37.6%

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after these disasters**?**	somewhat		
	Total	561	100%
Do you know the importance of having insurance for yourself and your family**?**	I know	226	40.3%
	I don't know	156	27.8%
	I know somewhat	179	31.9%
	Total	561	100%

The table presents the results of a survey related to adopting preventive behaviours. Which consists of five questions related to knowledge of certain topics and the percentage of respondents who answered each question in the subgroups and groups.

The first question asks if the respondents know the best ways to deal with every danger and warning. The results show that 26.9% of the respondents answered 'yes', indicating that they have knowledge about the best ways to deal with dangers and warnings. 51.9% answered 'no', indicating that they do not have knowledge about it, and 21.2% answered 'somewhat', indicating that they have partial knowledge about it.

The second question asks if the respondents know the authorities and centers in the country responsible for alerting and warning times of danger. The results show that 34.0% of the respondents answered 'yes', indicating that they have knowledge about the authorities and centers responsible for alerting and warning. 41.2% answered 'no', indicating that they do not have knowledge about it, and 24.8% answered 'somewhat', indicating that they have partial knowledge about it.

The third question asks if the respondents know how often such events occur in their area. The results show that only 12.8% of the respondents answered 'yes', indicating that they have knowledge about the frequency of such events in their area. 39.2% answered 'no', indicating that they do not have knowledge about it, and 48.0% answered 'somewhat', indicating that they have partial knowledge about it.

The fourth question asks if the respondents know the material impact on their life after these disasters. The results show that 27.5% of the respondents answered 'yes', indicating that they have knowledge about the material impact of disasters on their life. 34.9% answered 'no', indicating that they do not have knowledge about it, and 37.6% answered 'somewhat', indicating that they have partial knowledge about it.

The last question asks if the respondents know the importance of having insurance for themselves and their family. The results show that 40.3% of the respondents answered 'yes', indicating that they have knowledge about the importance of having insurance for themselves and their family. 27.8% answered 'no', indicating that they do not have knowledge about it, and 31.9% answered 'somewhat', indicating that they have partial knowledge about it.

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Table 6: An understanding of local and international disaster warning systems, as well as the symbols used and the telephone numbers of parties who should be contacted in case of a disaster:

Groups	Subgroups	Frequency	Percentage
Do you know the local and international systems used for risk alert**?**	I know	114	20.3%
	I don't know	243	43.3%
	I know somewhat	204	36.4%
	Total	561	100%
Do you know the local and international systems used in the event of risks?	I know	95	16.9%
	I don't know	252	44.9%
	I know somewhat	214	38.1%
	Total	561	100%
Do you know the global warning codes (environmental and health hazards)?	I know	105	18.7%
	I don't know	184	32.8%
	I know somewhat	272	48.5%
	Total	561	100%
Do you know what numbers and platforms should be contacted in the event of (environmental, health, chemical) hazards?	I know	140	25%
	I don't know	220	39.2%
	I know somewhat	201	35.8%
	Total	561	100%

This table provides information on disaster-warning systems. The table lists the percentage of respondents who know about different warning systems and platforms related to risk alerts and responses.

The first row shows that 20.3% of the respondents know about local and international systems used for risk alerts, while 43.3% responded that they don't know, and 36.4% know somewhat.

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The second row shows that 16.9% of the respondents know about local and international systems used in the event of risks, while 44.9% responded that they don't know, and 38.1% know somewhat.

The third row shows that 18.7% of the respondents know about global warming codes for environmental and health hazards, while 32.8% responded that they don't know, and 48.5% know somewhat.

The fourth row shows that 25.0% of the respondents know what numbers and platforms should be contacted in the event of environmental, health, or chemical hazards, while 39.2% responded that they don't know, and 35.8% know somewhat.

Table 7: An awareness of emergency evacuation plans, their types, and their importance during disasters, as well as the importance of insurance for individuals and families:

Groups	Subgroups	Frequency	Percentage
Do you know the plans used for evacuation in the event of danger in residential buildings and public locations such as factories**?**	I know	150	26.7%
	I don't know	234	41.7%
	I know somewhat	177	31.6%
	Total	561	100%
Do you know the importance of having insurance for yourself and your family**?**	I know	226	40.3%
	I don't know	156	27.8%
	I know somewhat	179	31.9%
	Total	561	100%
Do you know the types of evacuation plans and why they take place**?**	I know	158	28.2%
	I don't know	266	47.4%
	I know somewhat	137	24.4%
	Total	561	100%
Do you know the importance of	I know	140	25%
	I don't know	201	35.8%

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planning for all kinds of disasters**?**	I know somewhat	220	39.2%
	Total	561	100%

Table 7 presents the responses to questions related to evacuation plans. The first row indicates that 26.7% of the respondents know the plans used for evacuation in the event of danger in residential buildings and public locations such as factories, while 41.7% don't know and 31.6% know somewhat.

The second row shows that 40.3% of the respondents know the importance of having insurance for themselves and their families, while 27.8% don't know and 31.9% know somewhat.

The third row indicates that 28.2% of the respondents know the types of evacuation plans and why they take place, while 47.4% don't know and 24.4% know somewhat.

The fourth row shows that 25% of the respondents know the importance of planning for all kinds of disasters, while 35.8% don't know and 39.2% know somewhat.

Table 8: An understanding of reliable sources, the ability to predict disasters, and the ability to respond to disasters:

Groups	Subgroups	Frequency	Percentage
Do you know the times required to respond to each event to reduce the number of casualties**?**	I know	117	20.9%
	I don't know	207	36.9%
	I know somewhat	237	42.2%
	Total	561	100%
Do you know what reliable sources you get your information about risks and prevention from**?**	I know	239	42.6%
	I don't know	194	34.6%
	I know somewhat	128	22.8%
	Total	561	100%
Do you have the knowledge to forecast such events**?**	I know	86	15.3%
	I don't know	174	31%
	I know somewhat	301	53.7%
	Total	**561**	100%

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This table shows the results of a survey related to disaster response time. The table presents the percentage of respondents who indicated their level of knowledge or awareness about specific aspects of disaster response time, as well as the frequency of each response subgroup.

In the first row, 20.9% of the respondents indicated that they knew the times required to respond to each event to reduce the number of casualties, while 36.9% said they didn't know and 42.2% indicated they knew somewhat.

The second row shows that 42.6% of the respondents knew what reliable sources to get information about risks and prevention from, while 34.6% said they didn't know and 22.8% indicated they knew somewhat.

In the third row, 15.3% of the respondents indicated they had the knowledge to forecast such events, while 31.0% said they didn't know and 53.7% indicated they knew somewhat.

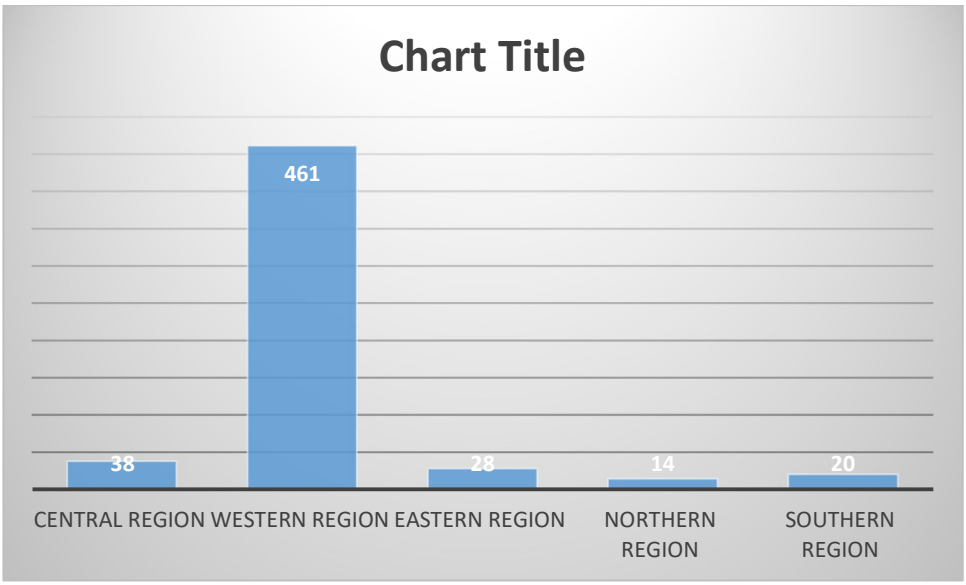

Figure 1: **Region which data collected among Saudi Arabia population**.

Discussion

The results of the study, in which different groups of society were shared in study and whose data are detailed in the table showed important results that should be taken into consideration and work. which were focused on knowing an awareness level And the readiness of the Saudi people about the risks and disasters that may occur, how they can deal with them, what are the best ways to educate the population and what are the most important sources that It must be relied upon to take reliable information about the various risks, the methods of evacuation, and when we must activate plans to deal with disasters and start evacuating from the affected areas that have been exposed to disasters or various risks

The study was divided into a group of themes, which will be mentioned in the following order, level of awareness of risks and disasters, awareness of plans for preparedness, the behaviours adopted by the population to deal with the disaster and their knowledge of the importance and entitlement of medical insurance ،Implement instructions and respond to the event,

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knowledge of individuals regarding the international and local systems for dealing with disasters and numbers that must be communicated with at the time of the event, knowledge of evacuation plans and their application and finally know the time required to respond to disasters if they occur.

The participants in the study differed in their educational levels, but the majority of them were working in government sectors, 67%, unlike the study that previously worked in the Kingdom, which aimed at the general perception of Saudi society towards risks in a coastal city, so the percentage of workers in the government sector was 44.9% There is no statistical association between occupation and perceptions of Saudi populations regarding disaster preparedness PV(.143).and the age group was Which obtained the largest percentage ranging between 29% and 48%, unlike the previous study, the highest percentage was 42.3% and the lowest percentage was 3.6% for the elderly from the age of 61 and over there is a statistical association for p-value between age and preparedness for disaster, and it is remarkable that 43% of them hold a bachelor's degree. indifferent specializations and most of them are residents of Makkah al-Mukarramah region, as the percentage shown by the analytical statistics reached 63.6%. compared to the previous study, the highest percentage of the educational level was also in the bachelor's degree (AlQahtany & Abubakar, 2020) ,there is no a statistical association between education level and preparedness for disaster PV(.122)., and it was 41.3%, and most of them were from the eastern region. 65.6% of the participants in the study had already been exposed to various forms of disasters, such as corona floods, pollution, storms, or earthquake, volcanoes, or other disasters there is a statistical association of the p-value between exposure to a disaster and preparing for disasters, as shown in the TABLE :1

awareness of the respondents regarding different types of disasters and their potential risks is very important. as long as knowledge of how to deal with life-threatening situations, causes of life-threatening accidents, and estimating the consequences, losses, and injuries in such situations is It helps change the results of the event.

the study showed that 48.5% of the population in Saudi Arabia has **a**sufficient understanding of the principles of disasters and that only 43.5% can know the potential risks of each disaster if it occurs. The interesting thing about the study is that only 27.3% have the right knowledge and information in case of life-threatening situations and about 34.9 % of the participants in the research know and distinguish the reasons that lead to the Loss of people and loss of property as it is shown in TABLE:2 (Al Thobaity et al., 2015)

the table provides insight into the level of awareness of the respondents regarding different types of disasters and their potential risks, which can be used to design effective disaster management and response strategies

These high percentages and different levels of knowledge in the basics of principle, sources of risk and good knowledge in critical and difficult situations are shocking compared to the high levels of education of the participants. we need to intensify efforts to reinforce this blind spot with more Education and awareness. (AlQahtany & Abubakar, 2020)

The disaster risk reduction approach is a new trend by all governments interested in the health and safety of people ،In this part, we discuss the percentage of interest in raising awareness and the extent of knowledge that individuals possess in the event of life-threatening risks and

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whether they have the knowledge and ability to participate in planning to prevent risks and what skills and knowledge they possess to alert The occurrence of hazards or disasters, and finally the extent to which individuals know the impact of these disasters on their communities and surroundings. Table:3 shows the percentage and frequency of respondents for different subgroups related to raising public awareness.

Dealing with life-threatening in the time of disaster can help to rescue the victim and decrease the mortality rate. 25% of respondents answered "Yes" when they asked about their ability to handle life-threatening situations and 50.6% stated that they needed more practical training and theoretical knowledge to find the best ways to deal with such cases **.**This may be indicating they require assistance or training to handle such situations.

The ability of individuals to plan and mitigate the risks of disasters is helping to increase their response well during disasters. 25% of respondents only were answered that they have the ability to plan and try to mitigate the risks of disasters, while 50.6% mention that in need of rehabilitation. This of course indicates they require assistance or training to plan and mitigate risks.

As for the capabilities, skills, and information of individuals who have to be alert in the event of a dangerous and sensitive local or global danger, the result was shown that 35.8% of respondents have the capabilities, skills, and information to be alert in such situations, while, and 46.9% They emphasized on the need of rehabilitation. This is also indicating they require assistance or training to be alert in such situations.

While the fourth domain focuses on the ability of individuals to measure the impact of risks on their life, work, and surroundings. 34.9% of respondents confirmed their ability to measure the impact of risks and 43.9% were asked for more rehabilitation programs" indicating they require assistance or training to measure the impact of risks.

The decline in the percentage of knowledge among the population in the Kingdom about the methods of risk reduction and saving people in life-threatening situations, the most important information they need to identify the risks makes readiness and willingness for such a situation. This requires more education and awareness programs to patch up abilities, possibilities and knowledge.(AlQahtany & Abubakar, 2020)

The learning behaviors of the population in Saudi Arabia, their eagerness to learn and know everything new in disasters and risks, the most important methods that must be followed to reduce risk and losses, their search for approved sources with high reliability and their belief in the ability to plan The good for any important event is to reduce risks and losses and knowledge of the necessity and importance of health insurance are the points of analysis and discussion in this grandfather, which we begin with knowing the extent of the citizen's keenness in the Kingdom to educate himself and his family about environmental risks and disasters Different

. The majority of participants, 76.5%, responded that the research and knowledge in this is one of the most important priorities while 10.2% responded they don't care.as it shown in TABLE:4

It is also nice that approximately 83.4% of the participants emphasized their eagerness to learn the preventive measures and methods necessary to reduce the risk to the population and the environment. When asked about the sources they adopt to obtain information about learning the

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principles of preparedness and risk reduction during disasters, we have noticed that 69.9% go to the approved highly reliable sources for which the state is particularly supervising. This gives a good impression about cognitive development among the population and their high desire to reduce ignorance of this.

As for the citizen's belief in the strength and ability to plan well and effectively for such disasters, 76.8% agreed on its importance and necessity. On the contrary, the participants 'belief in the necessity of having health insurance, which reduces many burdens Finance and health services after the risks occurred and the approval rate did not exceed 20% of the total study participants.(AlQahtany & Abubakar, 2020)

The study result represented that the percentage of the respondent's knowledge about the ways to deal with every danger and warning is About 27% while 52% said they don't have clear information.

The results also showed the extent to which the population in Saudi Arabia knows about the authorities and centres in the country responsible for alerting and warning times of danger was about 34% while 41% have no knowledge of the centres involved in warning the people during a disaster. on another hand there where 13 % know how often such events occur in their area and .48% of the respondents said they know somewhat.

Have good knowledge about the material impact on their life after these disasters. About 28% confirmed that they knew the effect of such an event. the same thing was noted once the responder was assessed about their background about the importance of having insurance for themselves and their family. About 40% of the respondents were replay positively.

Table: 5 suggests that there is a lack of knowledge among respondents related to adopting preventive behaviours. The majority of respondents do not know the best ways to deal with every danger and warning or the authorities responsible for alerting and warning. Similarly, many respondents do not know the frequency of events in their area or the material impact on their life after disasters. However, a significant proportion of respondents do recognize the importance of having insurance for themselves and their families.(Yoo et al., 2016).

Knowing the global and local systems and the codes used to warn of risks or to warn the population about the occurrence of risks already and knowing the platforms, contact numbers and the concerned parties with each event undoubtedly reflects increased community awareness and contributes to reducing Risks and assistance in rapid intervention and saving lives.(Bhandari & Takahashi, 2022)

The responses of the participants in the study, showed that there is a great lack of knowledge, as the percentage of their knowledge of local and international systems that provide the necessary alerts to warn before the danger occurred did not reach 25٪ Their knowledge of local and international regulations that must be taken into consideration in the event of a risk and approaching 17% did not increase. Despite the spread of the Internet and the means of communication, the percentage of knowledge among the population in the Kingdom about the numbers and platforms that should be contacted in the event of environmental, health, and chemical hazards and provide their services during disaster did not exceed 25٪. Unfortunately, 18.7% of all participants know the internationally and locally accepted warning codes. see

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TABLE:6

Knowing the evacuation plans in case of danger in residential buildings and public sites such as factories is very important, everyone at the time of the disaster can provide a hand and facilitate the exit of victims from the affected areas ،Reducing the number of victims and deaths is by following the plans approved by the concerned authorities that regulate the evacuation. (Yoo et al., 2016)

It appeared to us in the study that the percentage of people who know the methods of evacuation and can implement them is approximately 26 ٪ This comes along with the proportion of people who know the types of evacuation and can plan, make good decisions and find a suitable shelter that did not exceed 29٪ Only about the percentage of people who really appreciate the importance of having insurance for themselves and their families is 40.3%**.**

This leads us to search for the extent to which parents know the need to educate children about disasters, good planning for them and effective evacuation during danger, to discover through the study that this did not exceed 25% The table reports the percentage of respondents and the frequency of their answers to questions related to their knowledge of evacuation plans in the event of danger in residential buildings and public locations such as factories. all these data were shown in TABLE:7

knowing the times required to respond to each event to reduce the number of casualties, and help to increase the level of resilience in **the** country. (Khan et al., 2020)

The study shows that 20.9% of respondents reported knowing the times required to respond to each event while 36.9% reported not knowing and 42.2% reported knowing somewhat

Frustratingly, the proportion of people who know the time needed to respond to every event or disaster was only 20.9 %. The proportion of those who know and take such information about the risks and times needed for them from known sources confirmed was 42.6٪. Additionally, only 15.3% of respondents reported having the knowledge to forecast such events during the disaster as represented in TABLE:8

Conclusion

Despite the gaps in the study about the perception of disasters and risks in Saudi society, the participants of this study were mostly educated and had average awareness and knowledge about dangers and disasters of all kinds, how they occur and how they can be prevented, and what role they play in decision making when disasters occur. To fill these gaps and avoid them in the future through new studies, it is also necessary to add and create educational programs to raise awareness, making sure that they are also integrated into education at the local and international levels.

Considering the recent developments and increased disasters, it is necessary to study the frequency and impact at local and global levels.

Recommendation:

According to the study conducted regarding the Saudi society's understanding and readiness about the concept of risks and disasters, we need more studies and a number of researchers and volunteers in this field and we need more educational programs on risk training, awareness and preparation for any kind of disaster, whether environmental, disease or human-induced,

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Governmental organizations and institutions must adopt these ideas and must be prepared for them in all circumstances.

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Data materials availability: Data that support the findings of this study are embedded within the manuscript.

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