

The Role of the Health Media in Raising Awareness of the Emerging Corona Virus Vaccine: A Field Study from a Point of View on Jordanian Opinion Leaders

Dr. Sahel Ali Al-Atoom¹, Dr. Sakher Ahmad Al-Khasawneh²

¹Researcher, Amman – Jordan

²Assistant Professor, Jordan Media Institute- Amman – Jordan

Corresponding Author: Dr. Sahel Ali Al-Atoom

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ABSTRACT

The study aimed to identify the role of the health media in relation to Corona virus vaccination from the perspective of opinion leaders, and the researcher used a descriptive analytical approach, selecting a random sample of Jordanian opinion leaders (50), distributing a questionnaire to them, and analyzing the results of their responses. The study found that all members of the study sample of opinion leaders received the Corona vaccine, of which (54.0 %) received the Pfizer vaccine, 30.0 % received the AstraZeneca vaccine, and 16.0 % received the Sino-pharma vaccine, and that (88.0 %) prefer Pfizer vaccine, while (10.0 %) prefer Sino-pharm, and (6.0 %) prefer AstraZeneca vaccine. The findings also revealed that (50.0 percent) of the study sample believed that the main reason for people's reluctance to take the Corona vaccine is fear of side effects, and that the majority of the sample members of Jordanian opinion leaders agreed that the information provided by the Ministry of Health in Jordanian media was sufficient to dispel rumors to a large extent, as it clarified the effectiveness and safety of vaccinations.

The study recommended the need for official institutions, particularly Jordan TV and the Ministry of Health, and through various media, to continue to provide sufficient information about the coronavirus disease, and its catastrophic consequences on the economic, health and social levels, as well as the need for official authorities to provide through the

various media accurate information based on global sources in the positive Receiving the Corona vaccine, its effectiveness in fighting the disease, and its safety for individuals.

Keywords: health media, coronavirus, opinion leaders

INTRODUCTION

In many aspects of life, the media is one of the most important tools of societal growth. Given its enormous role in teaching and educating members of society, the media's participation in the field of health or medical education is an effective strategy to influence society's behavior toward healthy habits.

Because health education is considered an inherent right of all members of society, many institutions shape the behavior of society and affect their health habits. Among the most important institutions concerned with health awareness are the family institution, the educational institution, the media institution, and civil society institutions. (Floss and Tommy, 2020).

One of the subjects of health and preventive media, which attempts to generate public health and preventative consciousness, is the interaction of media institutions with health awareness. As a result, the relationship between the media and health institutions is divided into two

levels: a cooperative level manifested in the media, where health programs are produced and published, and the media is used to spread health and preventive culture; and a functional level manifested in health institutions, where health institutions are expected to implement health awareness plans. (Al-Maaytah, 2014).

At the beginning of the emergence of the Corona virus around the world and the beginning of the outbreak in Wuhan, China in December 2019, the media covered this pandemic extensively until Prime Minister Omar Al-Razzaz announced the activation of the National Defense Law and the state of emergency on March 19, 2020, and a curfew was imposed on March 20, 2020, and among the measures announced as part of the closure were ordering people to stay in their homes, (Al-Najjar, 2020).

As the Corona virus spread, so did rumors and erroneous information about how to catch it, to the point that some people questioned the disease's reality. They also questioned the effectiveness of the government's precautionary and preventive measures, which were implemented through various defense orders, and the extent of these rumors and false news reached the point of calling into question the vaccinations provided to citizens by the Ministry of Health in order to limit the spread of the Corona virus epidemic.

According to Amroush and Saker (2020), the spread of diseases and poor levels of health in any country are caused less by a lack of curative health facilities and more by an individual's lack of information about how to maintain their health and their obligation to preserve the health of others. As a result, health education-much of which is borne by media organizations, particularly official ones-has become an essential requirement to assist individuals in developing beneficial behaviors and maintaining the health of others.

Based on the aforementioned, this study focuses on the role of the health media, particularly the official one, in

giving health information and combating false news and rumors concerning the safety and effectiveness of vaccines supplied by the Jordanian Ministry of Health to fight Corona disease.

Study problem and questions

The study's problem is that people spread false information and negative rumors about the emerging coronavirus and the vaccinations that limit the spread of this virus, as well as the extent to which people trust the government's precautionary measures to limit the spread of the virus, the vaccinations approved by the Ministry of Health, and the role of the health media in providing information. It also strives to dispel myths and misinformation, as well as to emphasize the usefulness and safety of immunizations in preventing the spread of this disease. This study aims to address the following sub-questions in order to answer the main question: what is the function of the health media in connection to the coronavirus vaccination from the perspective of opinion leaders?

1. What are the attitudes of opinion leaders in Jordan towards the Corona vaccine?
2. What are the sources of information about the Corona virus and Corona vaccines in Jordan from the opinion leaders' point of view?
3. What is the position of opinion leaders in Jordan regarding rumors and misleading news about the Corona vaccine?
4. Is the information provided by the Ministry of Health in the Jordanian media sufficient to refute the rumors?
5. Did the information provided by the Ministry of Health in the Jordanian media clarify the effectiveness and safety of vaccinations?

The study's objectives

This study aims to achieve the following:

1. Getting to know the trends of opinion leaders in Jordan towards the Corona vaccine.

2. A review of the sources of information on the Corona virus and Corona vaccines in Jordan from the opinion leaders' point of view
3. Knowing the position of opinion leaders in Jordan regarding rumors and misleading news about the Corona vaccine.
4. Identifying the sufficiency of the information provided by the Ministry of Health in the Jordanian media to refute the rumors.
5. Recognizing the adequacy of the information provided by the Ministry of Health in the Jordanian media in clarifying the effectiveness and safety of vaccinations.

The importance of studying

The study's significance may be divided into two categories: scientific and practical:

The scientific significance: The study's significance stems from the worldwide and local health circumstances represented by the Corona pandemic, as well as the concomitant proliferation of myths and erroneous news, particularly about immunizations and their safety and efficiency in restricting viral spread. From the perspective of opinion leaders, this study seeks to assess the function of Jordan's health media in countering rumors and delivering proper health information to residents. As a result of the research, the Jordanian library will have access to knowledge regarding health media and their involvement in the safety and efficacy of the Corona virus vaccine.

The practical significance: is that its results will show the extent of Jordan's health media's ability to refute rumors and misleading news and provide sufficient information about the duration of safety and effectiveness of the Corona virus vaccine, and its results will benefit decision-makers in understanding opinion leaders' points of view. The extent to which official authorities, particularly health authorities,

give enough information and their capacity to convey comforting signals to residents.

The importance of health media

It should be noted that there is a subset of the media that is vested in creating the republican mindset. This is done in order to present them with audiovisual material that is closely tied to health attitudes and trends. This is due to the fact that the media is the consciousness of the target audience in all of its forms. This is due to the fact that the media is the consciousness of the target audience in all of its forms. All of these methods require increasing knowledge, awareness, and guidance abilities in health domains, with the goal of raising public awareness of health issues that a certain community may face. (Al-Shalhoub, 2013).

As a result, it is vital to emphasize the fact that the health media contributes to the provision of a set of global experiences about health commerce that evolved as a result of a set of worldwide health events and concerns that aim to shed light on them. Furthermore, scientific health methods assist the receiver in providing a wealth of medical information, which is carried out in collaboration with all entities functioning in the health sector. (Khalil, 2020).

Contribute to increasing health awareness among people about diseases in general, as health is one of the most important priorities for people, especially with a high level of health awareness among individuals, as health awareness among individuals is the cornerstone of their daily behavior patterns, which have a significant impact on their health in general. The media is the primary source of information and plays a huge and vital part in the development of the individual, including cognitive, emotional, and behavioral formation. It has evolved into a powerful instrument for shaping and modifying behaviors and practices. Its contents have evolved into a collection of concepts outlining the norms that sustain life. The media has become a formidable force through strengthening its grip over the

sources of information on which community members, elites, groups, and organizations rely when formulating views, choices, and attaining goals. (Al-Shalhoub, 2013).

Health media levels

The health media has a set of levels that originated from health institutions, which in turn influence the media in all of its forms, including these levels:

The Cooperation Level: this is the level that focuses on the need for the health media to generate and prepare a large number of health programs. This level also focuses on the health institution's utilization of all of these media venues to propagate preventive and health-promoting cultures.

Functional level: refers to the level that contributes to the necessity for health institutions to accept all health awareness programs provided by the media, as well as the potential of these media to invent and have the community embrace numerous moral, health, and religious values.

The media's approach to the epidemic

It is certain that the Corona virus crisis will dominate newspaper headlines and traditional and social media, and that its news will take center stage, because it is a widespread global event, fraught with danger and consequences, and rapidly spreading in a way that humanity has not seen, at least in the last few decades. This is what prompted the World Health Organization to declare it a global epidemic, while the media found itself confronted with this epidemic in a difficult and real test of their abilities to prove their existence, self-realization, and win the greatest possible number of recipients, followers, and those exposed to its contents. (Al-Sherman, 2020).

According to Al-Hermasi (2020), the international media has mobilized around the clock to play the role of the first, not the fourth, authority in the global war against the extremely dangerous Corona epidemic, transforming them into war bases and operations rooms that support the efforts of the White Army and the military and

security forces by conveying the truth as it is without manning or hiring.

The mission of the health media in its struggle with the epidemic

According to Maarouf (2020), there are two roles for journalists, media professionals, and media outlets in the fight against the Corona pandemic. The first is to disseminate news and the number of affected people based on official sources rather than hearsay and gossip, and the second is to discuss and evaluate the nature of the Corona virus, including its hazards, origins, and compositions, through articles and analysis. It is backed up and substantiated by scientific reports. In addition to hosting physicians and professionals and engaging in dialogues and discussions with them about anything related to Corona. As a result of the emergence of the new virus, the international and local media dealt with two tracks, as follows (Abbas, 2020):

The first track entails conveying facts about the virus from its actual sources, such as hospitals, specialized institutions, and the World Health Organization, as well as publishing previous scientific research on viruses, the nature of their lives and modes of transmission to humans, and the preventive measures that a person must take to protect himself and others from those incurable viruses. The second track is based on skewed reports, implying that the virus is being used for political purposes. Some satellite channels deal with the virus's transmission based on the type of nation they target.

Mustafa (2020) believes that in times of crises, the media serves two purposes. The first purpose of the media is to represent the societal situation, which means that it should be as individuals desire, reflecting their demands. This adds credibility to him, which raises interest in and attraction to him. Concerning the second function, which is to guide the media to the crisis society, this implies that it should be as the community leaders prefer.

Rumors about the Corona virus and its trends

Bouygues (2020, Bouygues) says that nearly a third of the public believes in COVID-19 myths, according to a Robot survey of more than 1,000 people of different ages across the country, with nearly a third of respondents found to be misinformed about at least one aspect of the virus, and Robot researchers found that whenever The more time people spend on social media, the more they believe these coronavirus myths.

A survey conducted by the Center for the Studies of Refugees, Displaced Persons and Forced Migration at Yarmouk University on the impact of rumors on Jordanian society in light of the Corona crisis revealed that (33.9%) of individuals rely on information related to this epidemic through the media and social media, while (72.1%) they take it seriously when it is issued or approved by the concerned authorities, while (40.0%) of the sample see that rumors guide their behavior and marketing style. the results indicated that 67.7% of the sample found that the transparency of the official authorities made them not pay attention to rumors, compared to the 23.3% of the study sample members who believed that rumors reduced their confidence in the information issued by the official authorities, which led them-as an excuse-to break the ban and infringe on official decisions issued (Newroz News Agency, 2020).

The Corona Virus (Covid-19)

Middle Eastern Respiratory Syndrome (MERC) is the scientific abbreviation for the new virus, which is derived from the term "Middle Eastern Respiratory Syndrome," the new Corona virus, or the Novel Corona virus. Corona is the sixth virus in the coronavirus family, and it was first referred to as "SARS-like" or "Saudi SARS" in certain overseas publications. The Middle Eastern Respiratory Syndrome Corona Virus was just identified (MERS Corona Virus). The

respiratory syndrome epidemic was caused by a previously unknown virus from the family of severe coronaviruses (SARS), which first appeared in China in 2003 and then spread to 17 countries, causing global panic before being quickly controlled; Coronaviruses are a group of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome (MERS) (Ullah, 2020).

A new type of coronavirus has been identified as the source of a sickness that emerged in China in 2019. The virus is now recognized as the coronavirus causing severe acute respiratory syndrome, and the condition that results is known as coronavirus disease 2019. (Covid 19). The World Health Organization declared Coronavirus Disease 2019 (Covid-19) to be a pandemic in March 2020. (Khalil, 2020).

There are three main types of the new coronavirus (Covid-19), which are:

- The first is that sporadic cases arise in society, and we don't know where the virus comes from or how it infects people.
- The second is a group of diseases termed clusters that occur amongst family members, and transmission happens in most of these groups from one person to another, although the infection appears to be restricted by direct contact with the sick individual in the family.
- The third kind of infection occurs in health care institutions, and such a pattern has been recorded in France, Jordan, and Saudi Arabia, where the illness in these groups is passed from person to person after an infected patient is admitted to the health facility for treatment. (Zaman et al. 2020).

Previous studies

There are many previous studies examining the role and importance of the health media in disseminating health information and honest news and educating individual citizens.

Al-Attar (2021) conducted a study aimed at identifying the role of new media in raising the awareness of the Egyptian public to confront the Corona virus, and it is one of the studies. The descriptive survey used the sample survey method from the Egyptian public. The study concluded that there is a positive and direct correlation between the degree of public dependence (rural and urban) on new media and its role in increasing the dissemination of health awareness among them.

Ullah (2020) also conducted a study aimed at verifying the predictability of the new media's role in shaping health awareness and combating global health crises in light of the spread of the COVID-19 virus in Algeria and based on the descriptive analytical approach and a sample of 140 individuals, the study concluded that it is possible to predict the positive role of the new media in developing health awareness and combating global health crises in light of the spread of the COVID-19 virus in Algeria.

El-Sherman (2020), the role of the media in confronting epidemics and infectious diseases, used the Corona virus epidemic as a model, and aimed at explaining the importance of the health media and its role in spreading awareness of ways to prevent epidemics and infectious diseases, and identifying the rumors that accompanied the emergence of the Corona virus epidemic and knowing their trends, and it dealt with The views of a number of specialists, researchers, writers, and media professionals on how the media dealt with the Corona epidemic, how it presented it, and its role in raising awareness of ways to prevent the epidemic, during the period of the epidemic's emergence until the end of May 2020. The study used an exploratory or exploratory approach to conduct the study. It has brought a number of results, the most important of which is that traditional media enjoy greater confidence in the public than social media created during crises, and this is what the study showed in the Corona epidemic crisis. it explained that some

international and Arab governments, including them, do not deal transparently and clearly with the media in times of crisis, and have taken the Corona epidemic as an excuse to tighten their control over the media. The study also showed that the media in general contributed greatly to spreading health awareness of ways to prevent corona disease and opened the way widely for the exchange of opinions among specialists on the best ways to prevent and deal with it.

As for Al-Zoubi (2020), her study aimed to know the nature of the Arab elite's assessment of the coverage of news satellite channels for the global crisis of Corona, where the researcher used in this study the survey method, and through it, the method of sampling the public was employed. The questionnaire was distributed to a sample of 228 individual Arab elites (politicians, academics, and media professionals) according to the available sample method. The study produced a number of results, the most prominent of which are: The majority of the respondents follow the Corona crisis through satellite news channels to a large extent, and the results indicated that members of the Arab elite prefer to follow the Corona crisis through local news satellite channels. The results indicated that private news coverage topped the list of preferred news formats for members of the Arab elite in following up on the Corona crisis through satellite news channels.

The study by Amroush and Saker (2020) came with the aim of identifying the role of the media in spreading health culture and awareness among all individuals and groups of society regarding the incidence of diseases and the risks of their complications. To achieve the aim of the study, the researchers adopted the descriptive approach. The study reached a set of results, the most important of which are: Health education is based on providing advice and healthy communication with members of society, with the aim of providing them with the knowledge and skills necessary to adopt healthy behaviors with the aim of

preventing diseases, infectious epidemics, and environmental problems around them. The media also works to produce health programs and publish them among individuals by their various means in order to introduce their health activities to consolidate the health and preventive culture in the community. The study also concluded that the media plays a key role in sensitizing the community to the importance of health and warning it of the dangers facing it, such as diseases and epidemics.

The study (2017, Jun Long, Frank Kee) also aimed to test the feasibility of designing, implementing, and evaluating social media interventions and changing knowledge, attitudes, and behaviors in ways aimed at promoting public health, especially with regard to the prevention of skin cancer. A survey of 752 households was conducted to understand the use of social media platforms among people in Northern Ireland (the target population for the study). The most prominent results were reached: Facebook and Twitter are the most popular with the people of Northern Ireland, who rely on them as a means of providing health information related to skin cancer.

In 2014, Lago & Line conducted a study aimed at identifying the effect of social networks on the cognitive and behavioral aspects of the swine flu epidemic. To achieve the goal of the study, the researchers adopted the descriptive-analytical approach, and the study sample consisted of 80 university students in the Netherlands. The study showed a statistically significant relationship between the use of social networks and the behavioral effects that prompted university youth to take the vaccine against the disease, as the students who took the vaccine used more social networks compared to their colleagues who did not take the vaccine.

STUDY METHODOLOGY

The study relied on the descriptive analytical approach by describing the concept of health media and the Corona

pandemic and its spread, in addition to the concept of opinion leaders, and identifying the role of health media in relation to the coronavirus vaccine from the point of view of opinion leaders in Jordan.

The study population was sampled.

The study population consisted of a group of Jordanian journalists, Jordanian university professors, and school principals. A simple random sample of them was relied upon, with a rate of (100) individuals, and their demographic characteristics were as shown in the following tables.

Table (1) Distribution of the study sample by characteristics

Variable		Rep.	%
Sex	Male	78	78.0%
	Female	22	22.0%
	Total	100	100%
Age	20-30	6	6.0%
	31-40	10	10.0%
	41-50	64	64.0%
	+51	20	20.0%
	Total	100	100%
Education	Secondary	4	4.0%
	Bachelor's	62	62.0%
	Postgraduate	34	34.0%
	Total	100	100%

It is clear from Table 1 that most of the study sample members are males. They comprised 78.0%, while females constituted 22.0%. It is also clear that 64.0% of the study sample were within the age group (41–50 years), and this is the largest percentage among the age groups, followed by those within the group (more than 50 years) with 20.0%, followed by people in the age group (31–40 years) with a percentage of 10.0%. The last ranked were those within the age group (20–30 years), with a rate of 6.0%. And that most of the study sample members were holders of bachelor's degrees, as their number reached 62, they comprised (62.0%), followed by holders of postgraduate degrees, at a rate of 34%, and those with a secondary education level came in last place (4.0%).

Study tools

A study tool is a means of collecting data and may be a questionnaire, an interview, or an observation. The study aims

and objectives are the study tool, which consists of two parts, as follows:

- The first part (general information) includes the following variables: gender, age group, educational level, work sector, place of residence, and marital status.
- The second part (the attitudes of opinion leaders and their position on the vaccine) includes seven questions.
- The third part (Jordan Corona Vaccine Information Sources), which consists of four questions,
- The fourth part (opinion leaders' attitudes and attitudes towards rumors and misleading news about the Corona vaccine) includes six questions.
- The fifth part (the sufficiency of the information provided by the Ministry of Health in the Jordanian media to refute the rumors) includes seven questions.
- The sixth part (sufficient information provided by the Ministry of Health in the Jordanian media about the effectiveness and safety of the Corona vaccine) and this part includes seven questions.

Examine the tool's stability.

To verify the stability of the study tool, the method of applying and re-applying the test was used, where the study tool (the questionnaire) was applied to 10 individuals from outside the study sample at an interval of one week, then the application was re-applied to the sample members again, followed by data collection and the extraction of the Pearson correlation coefficient between the two times of application as an indicator of the stability of the scale, and Table 2 shows the results of that.

Table (2): Pearson Correlation Coefficients for Repeat Test

Study Tool Parts	PCC of Test-Retest	Study Questions	PCC of Test-Retest
1	0.88	12	0.87
2	0.85	13	0.92
3	0.87	14	0.91
4	0.82	15	0.88
5	0.83	16	0.79
6	0.87	17	0.82
		Total	0.89

The results in Table (2) reveal that the correlation coefficients between the test and re-test results in the study questions varied between 0.82 and 0.92, and for all questions it reached 0.89, indicating the questionnaire's stability.

Data analysis and presentation of findings

Results related to the first question: What are the attitudes of opinion leaders in Jordan towards the Corona vaccine?

To address this topic, Jordanian opinion leaders' sample members' replies to a set of questions measuring their opinions and viewpoints on the Corona vaccination were gathered, and the findings were as follows:

1- Have you received corona vaccine?

Table (3): Having Corona vaccine

Answer	Rep.	%
Yes	88	88.0%
No	12	12.0%
Total	50	100%

From the previous table, it is clear that most of the study sample members of opinion leaders received the corona vaccine at a rate of 88.0%, while those who did not receive it amounted to 12.0%.

2- If the answer is yes, what is the type of vaccination?

Table (4) The type of vaccination received by the sample members

Answer	Rep.	%
Pfizer	54	54.0%
AstraZeneca	30	30.0%
Sino-pharm	16	16.0%
Other	00	00
Total	100	100%

From the previous table, it is clear that most of the sample members received the Pfizer vaccine, as their number reached 54 individuals, constituting a rate of 54.0%, followed by those who received the AstraZeneca vaccine at a rate of 30.0%, and finally those who received the Sino-pharm vaccine at a rate of 16.0%.

3-If you had the choice of choosing the type of vaccination, which type would you choose?

Table (5): Choosing a Vaccination Type

Answer	Rep.	%
Pfizer	84	84.0%
AstraZeneca	6	6.0%
Sino-pharm	10	10.0 %
Other	00	00
Total	100	100%

From the previous table, it is clear that most of the study sample members prefer receiving the Pfizer vaccine, as their number reached 84 individuals, and their percentage was 84.0%), while 10.0% preferred the Sino-pharm vaccine, and 6.0% preferred receiving the AstraZeneca vaccine.

4- Do you think that the vaccine will reduce the possibility of infection with the Corona virus?

Table (6): The extent to which the vaccine reduces the possibility of infection with the Corona virus

Answer	Rep.	%
Yes	70	70.0%
No	24	24.0%
irresolute	6	6.0%
Total	100	100%

From the previous table, it is clear that most of the study sample members

6- What do you think is the main reason for the reluctance to take the corona vaccine?

Table 8: The main reasons for reluctance to take the corona vaccine

Answer	Rep.	%
Fear of side effects.	50	50.0%
Distrust of the vaccine in terms of ingredients, the origin of the vaccine and the manufacturer.	38	38.0%
Lack of confidence in the effectiveness of the vaccine in protecting an individual from infection with the Corona virus.	6	6.0%
No need to vaccinate, enough preventive measures.	4	4.0%
Immunity can protect a person from the virus without the need for a vaccine.	2	2.0%
Total	100	100%

From the previous table, it is clear that (50.0%) of the study sample believe that the main reason for individuals' reluctance to take the corona vaccine is the fear of side effects, and that (38.0%) of them believe that the main reason lies in the lack of confidence in the vaccine in terms of ingredients, the origin of the vaccine, and the manufacturer, while (4.0%) believe that

believe that the vaccine will reduce the likelihood of infection with the Corona virus, as their number reached 70 individuals, forming a percentage of 70.0 percent, while 24.0 percent of them believe that the vaccination will not reduce the risk of infection with the virus. of the possibility of infection with the Corona virus, and a percentage (6.0%) are hesitant about that.

5-Do you think that the vaccine will restore life to normal as it was before the pandemic?

Table 7: The extent to which life returns to normal in the event of receiving the vaccine

Answer	Rep.	%
Yes	60	60.0%
No	26	26.0%
irresolute	14	14.0%
Total	50	100%

From the previous table, it is clear that most of the study sample members believe that the vaccination will restore life to normal, as their number reached 60 individuals, forming a percentage of 60.0 %, while 26.0 % of them believe that the vaccination will not restore life to normal. and a significant number (14.0%) are hesitant to do so.

there is no need for the vaccine, as the precautionary measures are sufficient.

From the above analysis, it can be concluded that most of the study sample members of opinion leaders received the corona vaccine at a rate of 88%, of whom (54.0%) received the Pfizer vaccine, (30.0%) received the AstraZeneca vaccine, and (16.0%) received the Sino-pharm vaccine, and that (88.0%) of them preferred

the Pfizer vaccine, whereas (10.0%) prefer Sino-pharm and (6.0%) would prefer to receive AstraZeneca. It can also be concluded that (70.0%) of the Jordanian opinion leaders in the study sample believe that the vaccine will reduce the possibility of infection with the Corona virus and that (60.0%) of them believe that the vaccination will restore life to normal.

The results of the analysis also showed that (50.0%) of the study sample believed that the main reason for individuals' reluctance to take the corona vaccine is the fear of side effects, and that (38.0%) of them believed that the main reason lies in the lack of confidence in the vaccine in terms of ingredients, the origin of the vaccine, and the manufacturer.

Results related to the second question: "What are the sources of information about the Corona virus and Corona vaccines in Jordan from the point of view of opinion leaders?"

To answer this question, the answers of the sample members of the Jordanian leaders were collected to a set of questions related to the sources of information about the Corona virus and vaccinations, and the results were as follows:

1- From your point of view, what are the three most important sources that you trust to obtain information regarding the effectiveness and safety of the Corona virus vaccine?

Table 8: The most important sources of information on the effectiveness and safety of the Corona vaccine

Answer	Rep.	%
The official website of the Prime Minister	39	9.5%
The official website of the Ministry of Health	72	17.5%
Kingdom Channel	33	8.0%
news websites	19	4.75%
Jordan TV	13	3.17%
Roya Channel	26	6.35%
Social media	45	11.0%
Scientific journals	58	14.2%
foreign media	56	14.0%
Other	29	7.0%
Total	410	100%

Due to the possibility of choosing more than one answer, and in most cases, the sample members chose three answers at

the same time, the total answers were relied upon as a unit of analysis. The number of answers reached 410, and the results of the previous table indicate that 17.5% of the answers of the study sample indicate that they obtain information about the effectiveness and safety of the Corona vaccine from the official website of the Ministry of Health, and (14.2%) indicate that they get information from scientific journals, and (14.0%) say they get their information from foreign media.

Thus, it is possible to arrange the three most important sources from which the sample members of opinion leaders obtain information related to the safety and effectiveness of the Corona virus vaccine, which are in order (the official website of the Ministry of Health; scientific journals; and foreign media).

2- What social networking site do you consider to be the first source of news related to the Corona virus?

Table 9: The most important social networking sites for news related to Corona

Answer	Rep.	%
Facebook	62	62.0%
The YouTube	10	10.0%
Twitter	6	6.0%
Instagram	4	4.0%
Websites	18	18.0%
snap chat	00	2.0%
Total	100	100%

From the previous table, it is clear that most members of the study sample of Jordanian opinion leaders depend on Facebook as one of the most important social networking sites, which they consider the first source for knowledge of news related to the Corona virus with a percentage of (62.0%), and (18.0%), they see websites as the first source for knowing about the Corona virus, (10.0%) see YouTube as the first source, (6.0%) see Twitter as the first source, and (4.0%) of the sample see Instagram as their first source.

3- To find out information about the Corona vaccine through the Facebook platform,

what is the main source of your information?

Table (10): Knowing information about the Corona vaccine through the Facebook platform

Answer	Rep.	%
Ministry of Health page	10	10.0%
Crisis management page	14	14.0%
Roya channel page	20	20.0%
Jordan TV page	24	24.0%
Kingdom channel page	10	10.0%
social influencer pages	2	2.0%
Pages for social influencers from the medical sector	18	18.0%
Other	2	2.0%
Total	100	100%

According to the previous table, 24.0 % of Jordanian opinion leaders rely on the Jordanian TV page on Facebook for information regarding the Corona vaccine, followed by those who rely on the Roya channel page (20.0 %), followed by those who rely on social influencer pages from the medical sector, who have a percentage of (18.0 percent), those who rely on the crisis management page, who have a percentage of (14.0 %), those who rely on the Kingdom channel page, who have a percentage of (10.0 %), and those who rely on pages for social influencers and others, who have the same percentage (2.0 %).

4- If you want to know medical information about a vaccine, what is your favorite content?

Table (11) Preferred content to know medical information about the vaccine

Answer	Rep.	%
Explanatory video, no longer than a minute	16	16.0%
3-5 minute explainer video	10	10.0%
short article	4	4.0%
Post contains an illustration with a scientific fact	70	70.0%
Total	50	100%

From the previous table, it is clear that most of the study sample members of the Jordanian opinion leaders see, from their point of view, that if they want to know medical information about the vaccine, they prefer a post that contains an illustration of a scientific fact. Where a percentage of (70.0%) agreed on this, while (16.0%) preferred an explanatory video of no more than a minute, (10.0%) preferred an

explanatory video of 3–5 minutes, and (4.0%) preferred a short article.

From the above analysis, it can be concluded that 24.8% of the answers of the study sample indicate that they obtain information about the effectiveness and safety of the Corona vaccine from foreign media, and (21.7%) indicate that they obtain information from Jordanian television, and (10.9%) indicate that they obtain information from scientific journals, and (62.0%) of Jordanian opinion leaders rely on Facebook as one of the most important social networking sites that they consider the first source for news related to the Corona virus.

The results also indicate that 24.0% of the study sample members of Jordanian opinion leaders rely on the Jordanian TV page on Facebook to get information about the Corona vaccine, followed by those who rely on the Roya channel page (20.0%), followed by those who rely on influencer pages. Two social workers from the medical sector (18.0%) In addition to that (70.0%), if they want to know medical information about the vaccine, they prefer an explanatory video of 3-5 minutes. Results related to the third question: What is the position of opinion leaders in Jordan regarding rumors and misleading news about the Corona vaccine?

To answer this question, the responses of the Jordanian opinion leader sample members to the question that measures their position on rumors and misleading news about the Corona vaccine were collected and the results were as follows:

1- During the last thirty days, have you seen or heard depressing messages against the coronavirus vaccine?

Table (12) frustrates messages against the corona vaccine

Answer	Rep.	%
Yes	90	90.0%
No	4	4.0%
irresolute	6	6.0%
Total	100	100%

From the previous table, it is clear that most of the respondents of Jordanian opinion leaders heard or saw frustrating

messages against the Corona vaccine, as their number reached (90) individuals, constituting (90.0%), while (4.0%) did not see or hear such frustrating messages, and (6.0%) of them were not sure.

2- Have you heard or seen information about the Corona vaccine, and you were unable to know how true the information was?

Table 13 to check the correctness of the information

Answer	Rep.	%
Yes	86	86.0%
No	6	6.0%
irresolute	8	8.0%
Total	100	100%

From the previous table, it is clear that most of the sample members of Jordanian opinion leaders heard or saw information about the Corona vaccine and could not know the extent of the validity of the information, as their number reached (86) individuals, constituting (86.0%), while (6.0%) did not see or hear such information, and (8.0%) of them were not sure about it.

3- Did the frustrating messages about the corona vaccine make you reluctant to take the vaccine?

Table (14) to know the correctness of the information

Answer	Rep.	%
Yes	00	00
No	96	96.0%
irresolute	4	4.0%
Total	100	100%

5- What action do you take if you obtain information that raises concern about the vaccine's safety and effectiveness?

Table (16) The action taken in the event that information that casts doubt on the vaccine's safety and efficacy is received.

answer	Always		frequently		Sometimes		never	
	Rep	%	Rep	%	Rep	%	Rep	%
I am looking for a source of information on the internet	10	10%	16	16%	20	20%	54	54%
Find it on social media	6	6.00%	20	20%	14	14%	60	60%
Reposted without verifying the source of the information	00	0	00	0	00	0	100	100%
I am reading a specialized scientific journal	16	16%	20	20%	44	44%	20	20%
Visit the Ministry of Health website or social media pages of the Ministry of Health or Crisis Management	20	20%	60	60%	18	18%	2	2%
I visit websites for international references such as: WHO	40	40%	30	30%	20	20%	10	10%
Consultation with a specialist (doctor/pharmacist)	50	50%	30	30%	20	20%	00	0
Consult friends and relatives	00	0	00	0	10	10%	80	80%
I am looking for news/information on TV sites	20	20%	24	24%	30	30%	6	6%

Table (16) The action taken in the event that information that casts doubt on the vaccine's safety and efficacy is received.

From the previous table, it is clear that most members of the Jordanian opinion leader sample who heard or saw frustrating messages about the corona vaccine did not hesitate to take the vaccine; hat is, they did not affect their attitude towards taking the vaccine, as their number reached (96) individuals who were formed by that. (86.0%), while (4.0%) of them are not sure of that.

4- On which platform have you seen the largest number of frustrating messages about the Corona virus vaccine?

Table (15), the platform on which the largest number of frustrating messages were seen

Answer	Rep.	%
Facebook	70	70.0%
YouTube	10	10.0%
Twitter	6	6.0%
Instagram	4	4.0%
WhatsApp	10	10.0%
TV channels	00	00
Total	100	100%

According to the previous table, the majority of Jordanian opinion leaders agreed that the Facebook platform had the most frustrating messages for the Corona virus vaccine, with a percentage of 70.0 %, followed by YouTube and WhatsApp platforms with the same percentage of 10.0 %, followed by Twitter 60 % and Instagram 4.0 %, while they unanimously agreed that there were no differences.

1. Most of them (50.0 %) always consult an expert (medical or pharmacist) to check the material, or they visit

- international reference sites such as the World Health Organization (40 %).
2. The majority of them (80 %), do not consult friends or family
 3. 80% of them do not search for such information or verify its veracity through social networking sites (60 %).
 4. They all do not republish anything without first verifying its source, and the majority of them do not search the Internet for the information's source.
 5. What, in your opinion, is the most accessible source of vaccination information?

Table (17) The most convenient source of vaccination information is:

Answer	Rep.	%
Social media	80	80.0%
Jordanian Ministry of Health	4	4.0%
social influencers	00	00
Influencers in the medical sector	2	2.0%
TV channels	14	14.0%
Total	100	100%

According to the preceding table, the majority of Jordanian opinion leaders agreed that the social media platform is the simplest source of vaccination information, with a percentage of (80.0%), followed by those who feel that television channels are the easiest source of information. according to (14.0%).

Based on the analysis, it can be concluded that the majority of Jordanian opinion leaders heard or saw frustrating messages against the corona vaccine, with a percentage of (90.0 percent), while its percentage was (4.0 percent), and that its rate (86.0 percent) of the sample heard or saw information about the corona vaccine but did not know the extent of the validity

of the information, and that the majority of them did not hesitate to take the v (86.0 %). According to the results, 70.0 percent of Jordanian opinion leaders agreed that the Facebook platform had the most frustrating messages about the Corona virus, followed by the YouTube and WhatsApp platforms with the same percentage (10.0 percent), followed by Twitter with a percentage of 60.0 percent, and Instagram (4.0 percent) is ranked last, while they unanimously agree that there are no other platforms.

The findings also revealed that when a Jordanian opinion-leaders sample received information questioning the safety and effectiveness of the vaccine, the majority of them (50.0%) always consult a specialist (medical or pharmacist) to verify the information, or, at 40%, they check international reference websites such as the World Health Organization, and they do not all regurgitate the material without confirming its source. (80.0%) of the respondents agreed that the social media platform is the easiest source for obtaining information about the vaccine. Results related to the fourth question: (Is the information provided by the Ministry of Health in the Jordanian media sufficient to refute the rumors?)

The responses of Jordanian opinion leaders sample members were collected on a series of questions that test the sufficiency of the information supplied by the Ministry of Health in Jordanian media to counter rumors, and the findings are shown in the table below:

Table 18 the A.M and S.D. of the sample members' responses to the paragraphs that assess the adequacy of the information supplied by the Ministry of Health in Jordanian media to dispel rumors.

NO.	Paragraph	A.M.	S.D.
1	The information provided by the Ministry of Health in the media and communication platforms contributed to fighting rumors about the Corona virus	2.1	0.87
2	The information provided by the Ministry of Health in the media contributed to fighting rumors about medicines and herbs and their effectiveness as an alternative to medicines and vaccinations	1.7	0.88
3	The information provided by the Ministry of Health in the media contributed to fighting rumors about the insecurity of the vaccine	1.8	0.79
4	The information provided by the Ministry of Health in the media contributed to fighting the most widely circulated rumors about the ineffectiveness of the vaccine	1.9	0.72
5	The information provided by the Ministry of Health in the media contributed to reducing rumors about the futility of the Chinese vaccine.	1.8	0.82
6	Information provided by the Ministry of Health in the media contributed to reducing rumors about the unsureness of the British AstraZeneca vaccine.	1.4	0.81
7	Information provided by the Ministry of Health in the media contributed to reducing concerns that a microchip inside the vaccine could attract the magnet.	1.6	0.84

To explain the arithmetic averages of the answers of the sample members, it was relied on the quadrilateral level of the degree of sufficiency, and the extent of the answers was calculated according to the following equation: (the upper limit of the answer-the lower limit)/number of levels $(4-1)/(3-1) = 1$

Thus, the paragraph can be judged according to the following:

- Arithmetic mean (from 1-less than 2) = poor adequacy score.
- Arithmetic mean from (2-less than 3) = medium adequacy score.
- Arithmetic mean (between 3 and 4) = high adequacy score.

Depending on this, it is noted from the previous table that the average answers of the sample members ranged between (1.4-2.1). Paragraph No. (6), which states: (The information provided by the Ministry of Health in the media contributed to reducing rumors about the unsafety of the British AstraZeneca vaccine) obtained the lowest arithmetic average of (1.4) with low adequacy. Paragraph No. (1) which states: (The information provided by the Ministry of Health in the media and communication platforms contributed to fighting rumors

about the Corona virus) obtained the highest arithmetic average of 2.1, with a medium degree of sufficiency.

This indicates that the majority of Jordanian opinion leaders in the sample agreed that the information provided by the Ministry of Health in Jordanian media was insufficient to refute the rumors, and to a lesser extent, because they believe the information provided by the Ministry of Health in the media and communication platforms did not contribute significantly. It is adequate to combat myths about the vaccine's insecurity, as well as falsehoods about the coronavirus and the efficacy of medications and herbs as alternatives to medicines and immunizations.

Results related to the fifth question: (Did the information provided by the Ministry of Health in the Jordanian media clarify the effectiveness and safety of vaccinations?)

The responses of Jordanian opinion leaders sample members were collected on a series of questions that test the sufficiency of the information supplied by the Ministry of Health in Jordanian media to counter rumors, and the findings are shown in the table below:

Table (19): Arithmetic averages and standard deviations of the responses of the sample members to the paragraphs that measure the adequacy of the information provided by the Ministry of Health in the Jordanian media about the safety and effectiveness of the vaccine.

No.	Paragraph	A.M.	S.D.
1	The data provided by the Ministry of Health in the media was clear regarding the types of vaccines and the quantities available in Jordan.	3.6	0.77
2	The data provided by the Ministry of Health in the media was clear regarding the effectiveness of the available vaccines.	4.1	0.72
3	The data provided by the Ministry of Health in the media was clear regarding the difference between the safety of vaccines.	3.9	0.69
4	The data provided by the Ministry of Health and the media about the side effects of each vaccine was sufficient.	3.9	0.72
5	The data provided by the Ministry of Health in the media was clear about the groups that are prohibited from receiving the vaccine.	4.2	0.74
6	The data provided by the Ministry of Health in the media was presented in a simple scientific language.	3.8	0.73
7	The data provided by the Ministry of Health to the media was based on fighting rumors and unreliable news.	4.0	0.72

To explain the arithmetic averages of the answers of the sample members, the five-level level of the degree of approval, which represents the degree of sufficiency, was relied upon, and the extent of the answers was calculated according to the following equation: (the upper limit of the answer-the lower limit)/number of levels

(1.33 multiplied by (5-1) Thus, the paragraph can be judged according to the following:

- Arithmetic mean (between 1 and less than 2.33) = insufficient adequacy score.
- Arithmetic mean of (2.33-less than 3.66) = medium adequacy score.

- Arithmetic mean (from 3.66 to 5) indicates a high level of adequacy.

Depending on this, it is noted from the previous table that the average answers of the sample members ranged between (3.6-4.2), paragraph no.(5), which states: (The information provided by the Ministry of Health in the media was clear about the groups that are prohibited from receiving the vaccine) obtained the highest arithmetic average of (4.2) with a high degree of adequacy, paragraph no (1), which states: (The information provided by the Ministry of Health in the media was clear regarding the types of vaccines and the quantities available in Jordan) obtained the lowest arithmetic average of (3.6) and with a high degree of adequacy as well.

This indicates that the majority of Jordanian opinion leaders in the sample agreed that the information provided by the Ministry of Health in the Jordanian media clarified the effectiveness and safety of vaccinations to a large extent, as they saw from their perspective that the information provided by the Ministry of Health in the media was clear about the groups that it prevented from receiving the vaccine and the side effects of the vaccine, in addition to her being clear about the effectiveness and safety of the available vaccines.

RESULT

Based on data analysis and answers to study questions, the study reached a set of results that can be reviewed as follows:

1. All members of the study sample of opinion leaders had received the Corona vaccine, of whom (54.0%) had received the Pfizer vaccine, (30.0%) had received the AstraZeneca vaccine, and (16.0%) had received the Sino-pharm vaccine, and that (88.0%) of them preferred the Pfizer vaccine, while (10.0%) preferred Sino-pharm, and (6.0%) preferred to receive AstraZeneca.
2. There is a percentage of (70.0%) of Jordanian opinion leaders in the study sample who believe that the vaccination will reduce the possibility of infection

with the Corona virus, and that (60.0%) of them believe that the vaccination will restore life to normal.

3. A percentage of (50.0%) of the study sample believes that the main reason for individuals' reluctance to take the corona vaccine is the fear of side effects, and that (38.0%) of them believe that the main reason lies in the lack of confidence in the vaccine in terms of ingredients and origin (Scion and manufacturer).
4. There is a rate of 24.8% of the answers of the study sample indicating that they obtain information about the effectiveness and safety of the Corona vaccine from foreign media, and a percentage of 21.7%) indicates that they obtain information from Jordanian TV.
5. There is a rate of (24.0%) of the study sample members of Jordanian opinion leaders who rely on the Jordanian TV page on Facebook to get information about the Corona vaccine, followed by those who rely on the Roya channel page at a rate of (20.0%), followed by those who rely on influencer pages two social workers from the medical sector, at a rate of 18.0%.
6. There is a rate of 70.0% of the study sample of Jordanian opinion leaders, and if they want to know medical information about the vaccine, they prefer an explanatory video of 3-5 minutes.
7. Most of the respondents of Jordanian opinion leaders heard or saw frustrating messages against the Corona vaccine, with a percentage of (90.0%), while a percentage of (4.0%) and that (86.0%) of the sample heard or saw information about the vaccine. Most of them were unable to know the extent of the validity of the information, and most of them did not hesitate to take the vaccine; that is, they did not affect their tendency to take the vaccine, with a rate of 86.0%.
8. A percentage of (70.0%) of Jordanian opinion leaders sample agreed that the Facebook platform is the platform on

which they saw the largest number of frustrating messages about the Corona virus, followed by the YouTube and WhatsApp platform with the same percentage (10.0%), followed by Twitter with a percentage of (60%) and in the last place, Instagram (4.0%), while they unanimously agreed that there were no depressing messages on TV channels.

9. Most of the Jordanian opinion leaders sample agreed that the information provided by the Ministry of Health in the Jordanian media was sufficient to refute the rumors to a large extent.
10. Most members of the Jordanian opinion leaders sample agreed that the information provided by the Ministry of Health in the Jordanian media clarified the effectiveness and safety of vaccinations to a large extent.

Recommendations

The researcher recommends a set of recommendations as follows:

1. The necessity of the continuation of official institutions, particularly Jordan TV and the Ministry of Health, and through various media outlets, to provide sufficient information about the coronavirus disease and its disastrous consequences on the economic, health, and social levels.
2. The necessity for the official authorities to provide, through the various media, accurate information based on international sources on the advantages of receiving the Corona vaccine, its effectiveness in combating the disease, and its safety for individuals.
3. Official authorities must fight rumors and misleading news about the Corona disease and its spread by providing the information that individuals need quickly and accurately.
4. Work to provide health information by the Ministry of Health about Corona disease and how to limit its spread and combat it in a simple scientific language to reach all individuals and groups of society.

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