

The Dependence of the Egyptian Public on News Websites to Obtain Information About Vaccines Against the Emerging Coronavirus (COVID-19)

Lydia Safwat Ibrahim

Sociology Department, Faculty of Women, Ain Shams University, Cairo, Egypt

Email address:

lydia.ibrahim@women.asu.edu.eg

To cite this article:

Lydia Safwat Ibrahim. (2023). The Dependence of the Egyptian Public on News Websites to Obtain Information About Vaccines Against the Emerging Coronavirus (COVID-19). *Social Sciences*, 12(6), 326-338. <https://doi.org/10.11648/j.ss.20231206.18>

Received: November 22, 2023; **Accepted:** December 14, 2023; **Published:** December 26, 2023

Abstract: This research objectivizes to reveal Egyptian public's dependency upon number of Egyptian and international news websites (in Arabic) to access to information regarding COVID-19 vaccines and the stimulus of choice to these websites as a source of information. The research depends upon the hypothesis of media dependency theory, it was implemented on purposive sample of 209 individuals using electronic questionnaire. Besides, the interview guide implemented on 12 cases. The research demonstrated that 71.7% of the sample depend upon these websites as a source of information-especially Youm7, and B.B.C. Arabic- and revealed the impact of dependency on these websites on the public's knowledge, affective and behavioral aspects, moreover, the research examined the educational level impact on some of these aspects, particularly those related to the importance of adhering to precautionary measures after vaccination, furthermore the findings demonstrated the influence of religious factors and residence on some cognitive, emotional and behavioral aspects resulting from dependency of media. The research also highlighted various mechanisms of developing news service, such as content enhancement with more statics and constantly updating them, and the significance of neutrally covering all perspectives of the issue, which most Egyptian news websites lack, it is associated with perspective of dependency theory regarding the relationship between media and prevailing political.

Keywords: Infodemic, Misleading Information, New Media, Social Media, COVID-19, Pandemic, Rumors

1. Introduction

COVID-19 is one of the most prominent global crises that has been followed by local and international media, particularly after developing the vaccines which was described by UNICEF as the optimal solution to eradicate the pandemic. Crises represent a breeding ground for implanting false information, to which the public exposed by spreading rumors and opinions circulated by individuals and sometimes broadcast by media, on which the public's dependency escalated as a source of information when a crisis occurs, moreover, social media that contribute to the outbreak of the Infodemic and the misleading information. It might lead to interference and lack of trust in the response of governments and authorities in charge of the public health, it might lead to change behaviors. Thereby, the Infodemic jeopardizes to increase hesitancy in receiving the COVID-19 vaccine.

This maybe prompted the WHO Director-General dr. Tedros Adhanom Ghebreyesus, to say, "we're not just fighting an epidemic; we're fighting an infodemic. Fake news spreads faster and more easily than this virus, and is just as dangerous." [33]

Therefore, the significance of the research is associated with the increased of media dependency, new media in particular, as a source of information during the pandemic, which posed a challenge to health systems, particularly in the Middle East and North Africa, whose economies suffer from a decrease in health disbursement, a shortage of human resources in the healthcare sector, and a shortage of medical equipment [30]. This prompting the requirement for conducting more studies regarding the role acted by media in guiding the public, whether towards proper measures and the demand for receiving the vaccine, or even to raise concerns and aggravate the negative psychological effects, in addition to the significance of analyzing its role with the intensive Social media dependency, which many previous

studies have demonstrated that it has become an vital source of information in administrating the COVID-19 pandemic, whether negatively or positively.

This contributes to revealing the role of Egyptian media in addressing the COVID-19 crisis, and the research also contributes to providing a mechanism for developing the service provided by news websites in relation to this issue.

Then this research objectivizes to reveal the Egyptian public dependency on a number of Egyptian and international news websites to access to information regarding COVID-19 vaccines and its stimulus. Moreover, monitoring and analyzing the cognitive, affective and behavioral effects resulting from the public's dependency on these websites.

The research questions were as follows:

1. What are the sources of the public's access to information of COVID-19 vaccines?
2. What are the Egyptian and international news websites that the public depend upon the most to access to information about vaccines?
3. What are the stimuli of the public's choice of news websites as a source of information about COVID-19 vaccines?
4. How far the mediator variable such as (age, gender, educational and economic level, and occupation) affect the public's choice of news websites as a source of information?
5. How does the public's dependency on Egyptian and international news websites affect their knowledge regarding COVID -19 vaccines?
6. What are the attitudes of the public towards the coverage of news websites of the issue of COVID-19 vaccines?
7. How does the public's dependency on Egyptian and international news websites affect their behavior towards demanding these vaccines?

2. Literature

2.1. *The Role of Media in Access to Information During the COVID-19 Pandemic*

Some studies conducted by this group have concentrated on debating the challenges created by the COVID-19 pandemic to newsroom practices in newspapers, particularly in the field of investigative journalism such as Munoriyarwa, 2022 [29], Birks, 2022 [15], and Al-Shafi, Mekki, Abdelaal, 2021 [10] studies.

The Absolute majority of the studies in this area objectivized to reveal the extent to which the Egyptian and Arab public depend upon media -new media in particular- and social media, as a source of information and news regarding the COVID-19 pandemic and its vaccine, as well as its role in administrating the crisis and promoting public health awareness such as studies of Latif, 2020 [23], Al-Matbouli, 2020 [9], Ahmed, 2020 [6], Darwish, 2020 [17], Mahmoud, 2020 [25], Abdel Haleem, 2020 [3], Abdelhafiz, Ibrahim and Ziady, 2020 [2], Fouda, 2021 [20], Matar, Anabtawi, 2021 [26], El-Bashir, Bishara, 2021 [18], Saied, Saied and Kabbash, 2021 [31], Alfatease, Alqahtani, and Orayj, 2021 [8], Al-Zaghoul, 2022 [12].

These studies were implemented by utilizing qualitative and quantitative data collection tools on samples from public or some of its categories, for example university students, women, journalists, and media experts at the Egyptian, Arab and international levels. Findings demonstrated that despite the challenges imposed by the COVID-19 pandemic on journalistic work -investigative work in particular- in several African and European countries, such as the news sources credibility, government control over the published information in newspapers, and neglecting debating some vital issues, it has provided new opportunities -particularly in South Africa- for media coverage, data-based in particular.

On the other side, findings of studies that debates the extent of Arab and Egyptian public dependency on traditional, new media and social media platforms -as a source of information regarding COVID-19 pandemic and its vaccination, revealed the significance of the role acted by social media platforms and social media platforms -compared to traditional media- in administrating the crisis and developing health awareness of Arab and Egyptian public, due to lack of trust in official media as well as the role of social media in enhancing identity, particularly in some Arabic countries, beside some disadvantages of these websites, for example spreading rumors and depending upon unqualified individuals to speak of the pandemic.

2.2. *The Relationship of Social Media Platforms with the Affective and Behavioral Aspects of the Public During the COVID-19 Pandemic*

These studies examined the effect of traditional and new media -particularly journalism the so-called constructive- and social media platform on some affective and behavioral aspects of public such as detect the effect of Big Five personality traits or the so-called personality traits which are (extraversion, agreeableness, openness, conscientiousness, and neuroticism) in reinforcing the feeling of missing out (FOMO) which mean utilizing media excessively and social media platforms in particular, for fear of missing out any information related to the COVID-19 pandemic, for example study of Ashiru, Oluwajana and Biabor, 2022 [13] as well as its effects on some other affective and behavioral aspects such as self-esteem, hazards perceptions and fear of infection, for example studies of Akarika, 2020 [7], Muniz, 2020 [28], Gong, Zanuddin and Hou, 2022 [22] and AL-Solamy, 2022 [11].

These studies were implemented on samples in Britain, Mexico, China, Nigeria, and Saudi Arabia, and combined quantitative and qualitative tools utilizing an electronic questionnaire and interviews via Zoom application.

Findings revealed the effect of personality traits related to openness, conscientiousness, and extroversion in reinforcing the FOMO, during the COVID-19 pandemic. In the lockdown during the pandemic a phenomenon of "social media exertion" also associated with the FOMO phenomenon, and it refers to withdrawal from social media as a result of mental breakdown state that occurs due to utilizing these platforms excessively. Furthermore, findings demonstrated that positive media messages, particularly those based on the concept of constructive journalism associated with formulating fruitful

and attractive news coverage, contribute to increasing positive self-esteem and the resulting positive behaviors.

3. Theoretical Frame

The research is driven by the arguments of media dependency theory that hypothesize mutual dependency between individuals, media and other social systems, as media is a vital part of the social structure of the new society. The intensity of this relationship varied between strength and fragility according to the surrounding circumstances, previous experiences of individuals, objectives and individual needs to be satisfied. [14]

This is evident in the update made by Defleur & Rokeach at 1989 on the fundamental hypothesis of the theory when they indicated that the aforementioned dependency procedure is conducted in two levels:

First: Macro, which mean the relationship between media and prevailing political system in the society.

Second: Micro, which represent in media effect on the individual level. The more the media plays a vital role in the lives of individuals, the greater the intensity of the public's dependence on it and thus the greater its influence. In accordance with this theory, media dependency increased in times of conflicts and crises, as well as the dependency increased by increasing selective exposure to the content, which reinforce the potential of media system in developing orientations and behaviors. [28]

Based on that, Defleur and Rokeach divided the effects of public's media dependency to three categories:

First: cognitive effects, which associated to detecting the mystery of events, unpredictable ones in particular, and associated, as previously mentioned, to the conflicts and crisis that occurs in the society.

Second: affective effects, which emotions and sensations that formed by individuals from the surrounding environment and appears when media present messages contain information influence their sensations and responses.

Third: behavioral effects, these effects demonstrate upon changing the orientations to the extent that influence the individuals behaviors. [27]

4. Definitions

4.1. News Websites

One of new media that indicates utilizing digital media that characterized by usability, rapid event transmission, effectiveness, and bidirectionality, as opposed to traditional media that depend upon unidirectionality [5]. It varies in forms and templates such as YouTube, Facebook, and websites, etc., [1]. News websites are diverse and may include gaming, entertainment, or news that is not recent but still interesting, such as MSN. Another type of news website is those that are dedicated entirely to news. These websites may include all types of news, such as political, entertainment, or sports, such as CNN [21]. Practically, electronic news websites are defined as websites that provide a variety of news

services in Arabic related to COVID-19 and its vaccines issue, using the digital media provided by the Internet. They are owned by Egyptian or foreign media organizations that direct some of their services to the Arab audience, such as BBC Arabic, CNN Arabic, Sky News, France 24, Youm7, Al-Masry Al-Youm, ElWatan, and AlBald News.

4.2. COVID-19

Novel coronavirus was called "COVID-19" as it is an acronym for the first three letters of "corona," "virus," and "disease" in English [3].

Coronaviruses are a broad range of viruses that cause illnesses, ranging from the cold to more severe illnesses, such as MERS-CoV and SARS-CoV. nCoV is a new strain that has never identified before in humans.

The common symptoms of infection include respiratory symptoms, fever, cough, shortness of breath, and respiratory difficulties. In severe cases, infection can cause pneumonia, SARS, renal failure, and even death. COVID-19 transmits between humans directly through contact with infected individuals or indirectly through contact with contaminated surfaces.

As of July 6, 2023, the total of cases in the Eastern Mediterranean region was 23,384,115, with 22,720,449 recoveries and 351,346 deaths. [35]. In Egypt, as of March 2023 the number was approximately 515,792, with 442,182 recoveries and 24,613 deaths. [16].

4.3. COVID-19 Vaccines

A vaccine is a treatment that confront an infection or disease and safely stimulates the immune response. Several different types of COVID-19 vaccines have been developed, including:

1. Inactivated or attenuated virus vaccines which use a form of the COVID-19 virus that has been inactivated or weakened so as it does not ail.
2. Protein-based vaccines which use non-pathogenic protein fragments or protein coats that Imitate COVID-19 virus.
3. Viruliferous vaccines which use a secured virus that cannot ail but acts as a platform to produce the proteins of coronavirus for stimulating the immune response.
4. RNA and DNA vaccines which is an advanced approach that uses genetically modified RNA or DNA to generate a protein.

The following COVID-19 vaccines have been granted emergency use authorization by WHO from December 2020 to November 2021:

1. Pfizer-BioNTech vaccine.
2. AstraZeneca vaccine.
3. Janssen vaccine.
4. Moderna vaccine.
5. Sinopharm vaccine.
6. Sinovac vaccine [34].

5. Methodology

This is a descriptive and analytical research, which used a

survey method and was implemented on a purposive sample of 209 individuals. Considering the diverse in terms of gender, age, occupation, educational level, economic status, and place of residence.

Quantitative and qualitative methods were combined during collecting the data and analyzing the findings, noting that the researcher conducted an exploratory study in July 2022 on 30 individuals to reveal the most news websites they depend upon to access to information regarding the topic of the research and why. Findings demonstrated that the sample follow 23 websites approximately. The following were the most popular, respectively: Youm7, Al-Masry Al-Youm, France 24, CNN Arabic, ElWatan News, BBC Arabic, Sky News Arabic, and RT Arabic".

These findings contributed to the development of the data collection tools more precisely, which consisted of:

5.1. Electronic Survey

It was completed and sent via email. The survey was conducted from the end of July to the end of November 2022.

Face validity was used by reviewing a panel of professorsⁱ to the survey sheet. Reliability test was implemented on 20% of the sample and then re- implemented to them two weeks later. The reliability was 80%.

5.2. In-Depth Interviews

A structured interview guide was designed and implemented on 12 cases selected from the sample who were most cooperative with the researcher. The study cases varied in terms of age, gender, economic level, educational level, occupation, residence, and vaccination status. The interviews were conducted from September 20 to November 22, 2022. The following are the characteristics of the study cases:

Table 1. Illustrate characteristics of study cases.

No.	Gender	Age	Education	Profession	Monthly income of the family (in Egyptian pounds)	Residence	Vaccination
1	Female	21	Industrial Secondary Schools Diploma	Unemployed	3000 -4000	Beheira	Vaccinated
2	Male	35	University education (College of Pharmacy)	Works in inspection in the health administration affiliated to the Ministry of Health	4500	Beheira	Received two doses and the booster dose
3	Male	27	University education (Faculty of Sciences)	Administrator a Project financing company	4000	Assiut	Vaccinated
4	Male	23	University education (faculty of Commerce)			Assiut	Received one dose
5	Female	25	University education	Private business		Assiut	Received one dose
6	Female	26	University education (faculty of Law)	Private business		Cairo	Never vaccinated
7	Female	44	PhD	department head in a research center	7000	Cairo	Vaccinated
8	Female	43	PhD	Professor	3800	Cairo	Vaccinated
9	Female	39	PhD	Professor	16000	Cairo	Vaccinated
10	Female	27	University education	Researcher	6000	Cairo	Never vaccinated
11	Male	51	Literate	office boy	3000	Cairo	Vaccinated
12	Female	16	Secondary school student	Student	17000	Cairo	Vaccinated

6. Discussing Results

Below is a presentation and analysis of the research findings:

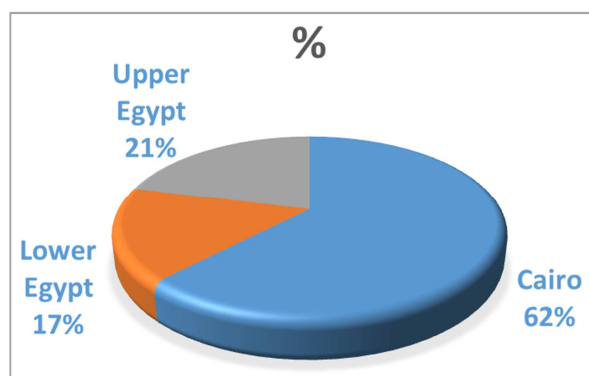


Figure 1. Illustrates the sample's residence.

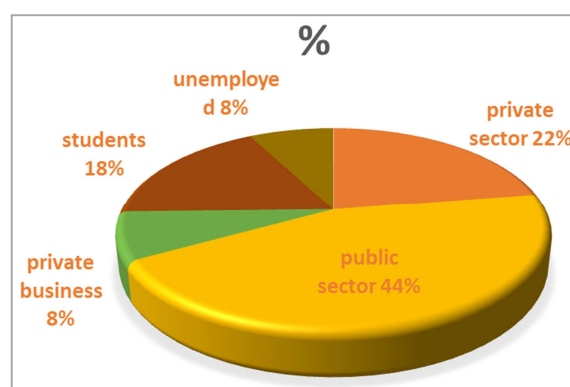


Figure 2. Illustrates the occupation of the sample members.

6.1. Characteristics of the Sample

This area refers to some of sample's characteristics such as gender, residence and occupation, as the findings demonstrated an increase in rate of females, reaching 73%

compared to 27% for males. The residence of sample members was diverse, most of them centered in Cairo at a rate of 62%, and about 38% of the total sample in Upper and Lower Egypt. Furthermore, the findings demonstrated that nearly half of the sample work in the public sector, with a rate

of 44%, followed by those working in the private sector at a rate of 22%. The percentage of students, whether in pre-university or university stages, reached 18%. The following figures illustrate some of the characteristics of sample members, represented in residence and occupation.

6.2. Sources of Information Regarding COVID-19 Vaccines

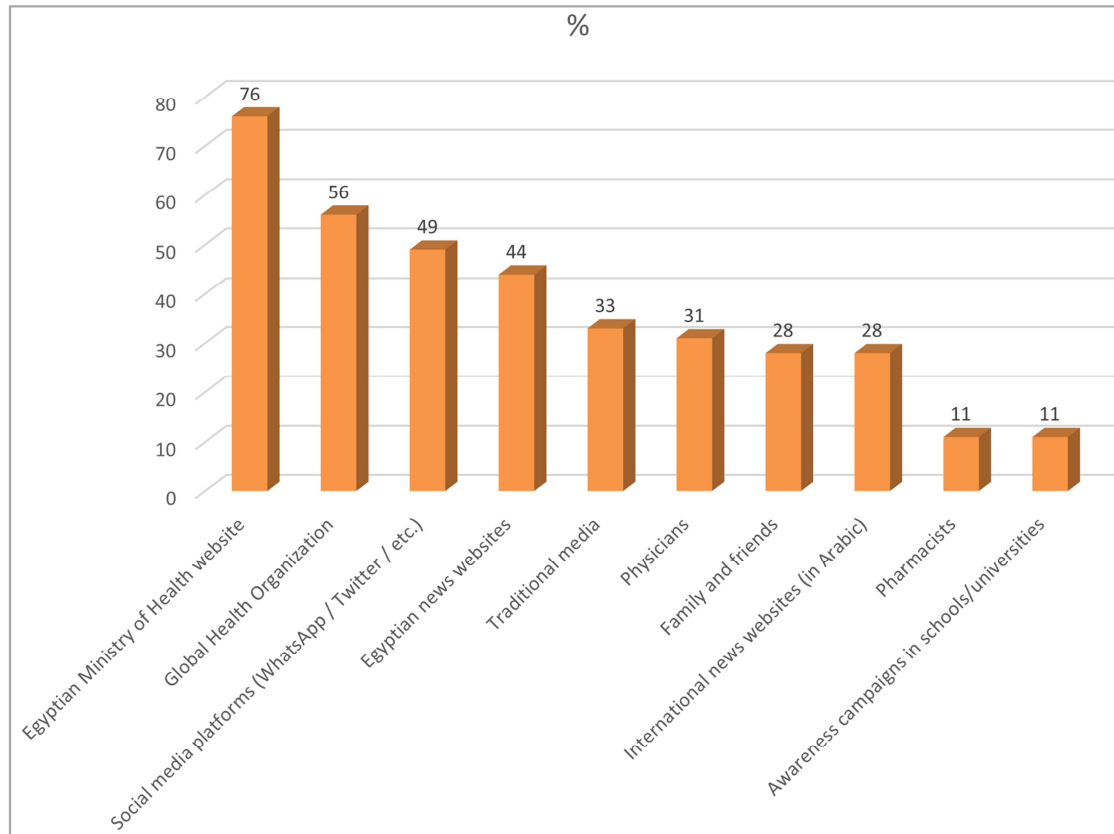


Figure 3. Illustrates the sources of information regarding COVID-19 vaccines.

This area debates the public's -research's sample- sources of information regarding COVID-19 vaccines, along with intensification on the most significant Egyptian and

international news websites (in Arabic) that are depended upon and the reasons for their preference.

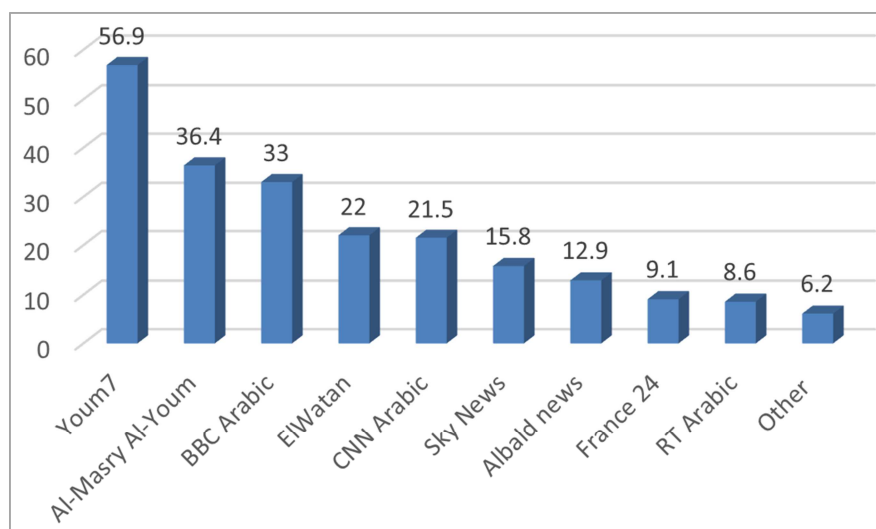


Figure 4. Illustrates news websites that were depended upon in following the issue of vaccines.

Egyptian and international news websites dependency (in Arabic) ranked fourth and fifth among sources of information on the social issue of vaccines, at 44% and 28%, respectively. Meanwhile, the percentage of follow-up to traditional media compared to new media declined to 33% of the total sample. This may be due, as revealed by the case studies, to a lack of trust in traditional media, moreover, new media provides many capabilities, such as interactivity, ability to self-expression, and sharing content with others.

Furthermore, 31% of the public indicated that they depend upon physicians as a credible source of information regarding being vaccinated and comparing their different characteristics, especially through the pages and channels created by some physicians on social media platforms. This was confirmed by some case studies, such as case No. (4), who stated, "I watch videos of physicians, such as Dr. Walid Shawky's channel on YouTube, which provides plenty of information related to the pandemic and prevention methods". Noting that this channel has subscribers of 492,000 approximately and contains 563 videos.

Findings demonstrated a declining in the dependence of family and friends as source of information, which was also agreed upon by most of the study cases. However, some cases demonstrated that family, friends and coworkers played a significant role in adopting a resolution to be vaccinated, particularly by monitoring the effect of being vaccinated among family and friends.

Findings of this figure indicate that Egyptian digital newspaper websites were the primary source of information. Youm7 ranking first with 57% and Al-Masry Al-Youm ranking second with 36.4%. This is due to the widespread of these websites and its large number of visitors, such as Youm7, as a result, their chances of appearing in search engines increase. According to the Similarweb ranking in July 2023, Youm7 ranked first among Egyptian news websites with 67.9 million visitors, and El-Masry Al-Youm ranked third with 23.8 million visitors. [32]. Case No. (8) illustrates this by stating, "I used to visit Youm7 and ElWatan as they were the most accessible websites for me." Furthermore, some of these websites are perceived to be credible by some members of the sample, in addition to instance in reporting events and providing comprehensive coverage, as confirmed by some cases of the qualitative study.

On the other hand, BBC Arabic ranked third among the news websites that sample members depend upon to access to information, with a percentage of 33% of the total sample. This owes, as demonstrated by the interview findings, to the method by which the site addresses issues, particularly by presenting all the supporting and opposing viewpoints of vaccines and publishing the findings of scientific studies in this field. As a result, the site's credibility increases among the study cases, as it is being depended upon to verify the information published in Egyptian news websites, especially that relevant to the side effects of vaccines. Moreover, BBC website has a high following rate, which increases its chances of appearing in search engines. Case No. (4) illustrates this by

stating, "I feel that BBC has a high credibility, due to the considerably conforming of the information published on the site with the information mentioned in the World Health Organization. It has no particular orientations in Egypt."

As well as, 6.2% of the total sample size indicated that they depend on other sources to follow the issue of vaccines, which were concentrated in some Egyptian print and digital newspapers.

6.3. Cognitive, Affective and Behavioral Effects

A 3D criterion was designed to present findings that contains 43 statement to measure the foregoing effects, weights were as follows:

- 1) 1 to 1,9 disagree.
- 2) 2 Neutral.
- 3) 2,1 to 3 agree

This figure includes 14 statements that measure the cognitive effects of news websites dependency as a source of information regarding COVID-19 vaccines. Findings of the table express the high cognitive level of the public regarding issues related to the increasing infections in Europe due to neglecting precautionary measures -at the time of implementing the field study- and "compliance to precautionary measures." After being vaccinated, as well as the potential of producing a vaccine treat COVID-19 and its variants, which was indicated by some of the news websites under study, such as BBC website, which debates a new vaccine trial to provide protection from future virus variants, BBC published this report on December 14, 2021. On the other hand, media, including news websites, addressed news and reports about Khosta2 virus that appeared in Russia and the expected hazards of conjugation this virus with COVID-19. The study demonstrated the ignorance of study cases with this topic, except for case No. (2) due to his job, as he works in inspection at health department affiliated to Ministry of Health. He says, "Khosta virus is not widespread, and many people never heard of it." Probably this explains the sample cases' lack of interest in following up on this issue, which manifest that public interest is associated to the hazard spread and extent of geographical distance of danger zone. It consists with studies that concluded this, such as study of (Muniz, 2020) that was implemented in Mexico, which is far from the epicenter of the pandemic. On the other end, the high percentage of neutral opinions was evident in most of the statements, most notably the statement that "variants of (PA4) and (PA5) can infect individuals before passing six months of a previous infection," about (65%) the sample were neutral on this statement, in addition to some issues that were the subject of debate in the media, including news sites, at the time of conducting field study was, such as the effect of the vaccine on pregnant women. About (46%) of the total sample were neutral on this issue. However, the qualitative study demonstrated the impact of other sources on the decision to be vaccinated. Regarding pregnant women, some of the study cases indicated this, such as case No. (5), which said, "The doctor following up my pregnancy advised against being

vaccinated.”

Other factors also impacted the decision of being vaccinated in general, as previously mentioned, such as family

and friends, as well as the employer. Some cases indicated that although they were not convinced of the vaccine’s feasibility, the employer imposed it, such as case No. (8).

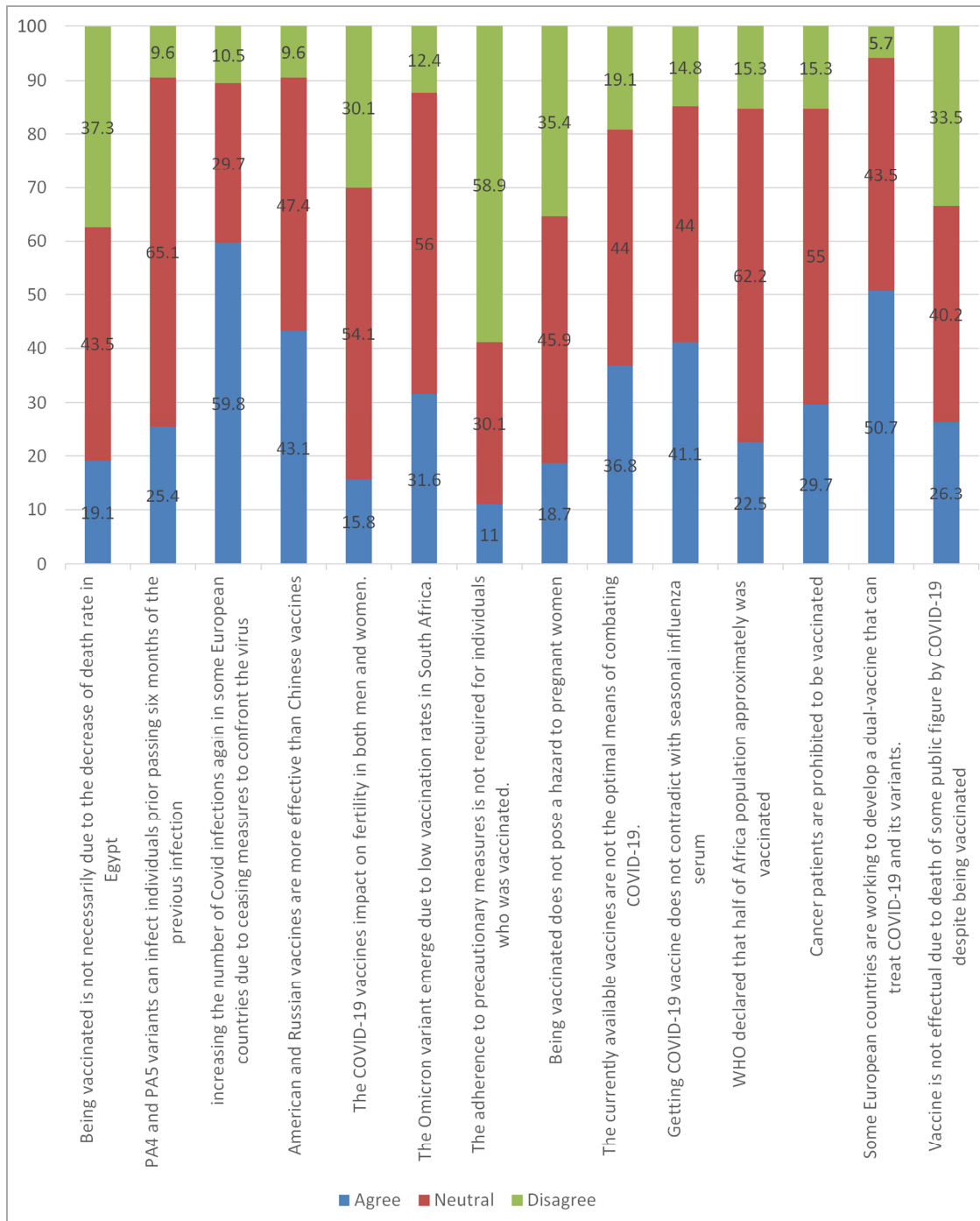


Figure 5. Illustrate the cognitive effects of news websites dependency as a source of information.

Table 2. Illustrate the indication of the relationship between educational level and cognitive effects on the public.

Statement	N	Arithmetic average	Standard deviation	F value	Indication
Being vaccinated is not necessarily due to the decrease of death rate in Egypt	209	1.81	0.73	1.40	0.20
PA4 and PA5 variants can infect individuals prior passing six months of the previous infection.	209	2.15	0.57	1.05	0.39
Increasing the number of COVID infections again in some European countries due to ceasing measures to confront the virus	209	2.49	0.68	0.79	0.59
American and Russian vaccines are more effective than Chinese vaccines	209	2.33	0.64	0.39	0.90

Statement	N	Arithmetic average	Standard deviation	F value	Indication
The COVID-19 vaccines affect fertility in both men and women.	209	1.85	0.66	1.49	0.17
The Omicron variant emerges due to low vaccination rates in South Africa.	209	2.19	0.63	1.65	0.12
The adherence to precautionary measures is not required for individuals who was vaccinated.	209	1.52	0.68	3.41	0.00
Being vaccinated does not pose a hazard to pregnant women	209	1.83	0.71	1.76	0.09
The currently available vaccines are not the optimal means of combating COVID-19.	209	2.17	0.72	1.96	0.06
Getting COVID-19 vaccine does not contradict with seasonal influenza serum	209	2.26	0.70	0.94	0.47
WHO declared that half of Africa population approximately was vaccinated	209	2.07	0.61	0.94	0.47
Cancer patients are prohibited to be vaccinated	209	2.14	0.65	1.94	0.06
Some European countries are developing a dual-vaccine that can treat COVID-19 and its variants.	209	2.44	0.60	0.91	0.49
Vaccine is not effectual due to death of some public figure by COVID-19 despite being vaccinated	209	1.92	0.77	1.20	0.30

This table debates the findings of the significance of the relationship between educational level and cognitive effects on the public at a significance level of (0.05). The total arithmetic average, standard deviation, F test value, and significance level in each of the previous statements were extracted.

Findings demonstrated the raising of agreement average on most of the statements that illustrate raising the cognitive level

of the research sample, for example “PA4 and PA5 variants can infect individuals prior passing six months of the previous infection” and “Getting COVID-19 vaccine does not contradict with seasonal influenza serum”

On the other side, findings revealed a statical discrepancies between the educational level and the issue relevant that “The adherence to precautionary measures is not required for individuals who was vaccinated”.

Table 3. Illustrate the affective effects of the dependence upon news websites.

Statement	Agree		Nutrient		Disagree		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%
I've become distracted by the information asymmetry about the effectiveness of the vaccine and its effects	114	54.5	61	29.2	34	16.3	209	100
I have become more concerned for vaccinated my family due to the negative experience of the surroundings who was vaccinated	97	46.4	57	27.3	55	26.3	209	100
I feel reassured due to the transparency of media in addressing vaccines issue	55	26.4	100	47.8	54	25.8	209	100
I feel apprehensive of being in a crowded place and social occasions despite of being vaccinated	108	51.7	71	34	30	14.4	209	100
I feel proud of Egypt's potential in producing vaccines	109	52.2	76	36.4	24	11.5	209	100
I have doubts regarding the preservation methods of the vaccines	62	29.7	112	53.6	35	16.7	209	100
I feel concerned due to deceasing some people after being vaccinated	91	43.5	74	35.4	44	21.1	209	100
I do not trust what is published by the Egyptian news websites	55	26.3	103	49.3	51	24.4	209	100
I am excited for the idea of my family being vaccinated	102	48.8	74	35.4	33	15.8	209	100
I am despondent due to the emerging of recent variants and the increase of infections rate	86	41.1	87	41.6	36	17.2	209	100
I feel assured due to increasing the rate of people who was vaccinated	108	51.7	78	37.3	23	11	209	100
I have doubts regarding the potential of the health system to confront the repercussions of being vaccinated for some individuals	54	25.8	113	54.1	42	20.1	209	100
I have concerns of participating the country in the production of vaccines without conducting sufficient experiments on its safety	96	45.9	84	40.2	29	13.9	209	100
I feel satisfied due to expressing my opinions freely through the published in news websites	94	45	95	45.5	20	9.6	209	100

This table contains (14) statement and reveal the increase of the rate of distractibility emotions with research sample due to information asymmetry regarding the effectivity of the vaccine and its effects, this was indicated by (54.5%) approximately out of the sample total. Qualitative study indicated that the distractibility has widespread at the beginning of the vaccine release, and these feelings began to diminish over time due to providing more information and the results of some clinical trials regarding the vaccines. Moreover, the proud rate increased with Egypt's potential in producing vaccines, which was unanimous by (52.2%) out of the research sample. However (46%) approximately of the research sample expressed their concerns of the participating the country in the production of vaccines without conducting sufficient experiments on its safety.

On the other end, both apprehensiveness emotions of being in a crowded place despite of being vaccinated and reassurance emotions due to increasing the rate of people who was vaccinated.

This demonstrate a quiet balance between positive and negative emotions relevant to the issue of vaccinations, this may refer to several factors including the moderate rate exposure to news websites, which is consistent with some of the findings of the previous studies such as the study of Muniz, 2020 [28] that the moderate exposure to media result in moderate perception of hazards and vice versa.

Furthermore, the increase in the number of vaccinated people somewhat without serious side effects in the short term, and the increase in information about vaccines and their effects reduced negative feelings in addition -as indicated by some of the

qualitative study- to the significance of the religious in confronting the emotions of concern and fear such as case No. (4)

who is a university student says “I started to control emotions of concern because Allah holds everything under his control”.

Table 4. Illustrate the significance of the relationship between the public's educational level and the affective effects.

Statement	N	Arithmetic average	Standard deviation	F value	Significance
I've become distracted by the information asymmetry about the effectiveness of the vaccine and its effects	209	2.38	0.75	1.32	0.24
I have become more concerned for vaccinated my family due to the negative experience of the surroundings who was vaccinated	209	2.20	0.82	1.30	0.25
I feel reassured due to the transparency of media in addressing vaccines issue	209	2.00	0.72	1	0.43
I was apprehensive of being in a crowded place and social occasions despite of being vaccinated	209	2.37	0.72	0.20	0.98
I feel proud of Egypt's potential in producing vaccines	209	2.40	0.68	0.30	0.95
I have doubts regarding the preservation methods of the vaccines	209	2.12	0.67	0.57	0.77
I feel concerned due to deceasing some people after being vaccinated	209	2.22	0.77	1	0.43
I do not trust what is published by the Egyptian news websites	209	2.01	0.71	1.24	0.27
I am excited for the idea of my family being vaccinated	209	2.33	0.73	1.38	0.21
I feel despondent due to the emerging of recent variants and the increase of infections rate	209	2.23	0.72	2.18	0.03
I feel assured due to increasing the rate of the people who was vaccinated	209	2.40	0.68	1.01	0.42
I have doubts regarding the potential of the health system to confront the repercussions of being vaccinated for some individuals	209	2.05	0.67	1.29	0.25
I have concerns of participating the country in the production of vaccines without conducting sufficient experiments on its safety	209	2.32	0.70	2.40	0.02
I feel satisfied due to expressing my opinions freely through what is published in news websites	209	2.35	0.64	2.38	0.02

The findings demonstrate the increase of the response averages of the samples (with agreement) on the absolute majority of the statements that demonstrate the negative and positive affective aspects of the public. The negative emotions associated with distraction, fear, despondence and concern as previously mentioned, the positive emotions associated with proud, reassurance, excitement and satisfaction due to increasing the rate of the people who was vaccinated and Egypt's potential in producing vaccines. At the other end, the

findings demonstrated statical discrepancies in the level of significance of (0.05) between the educational level and some issues relevant to the affective effects with some research sample and represented in “feeling despondent due to emerging recent variants and the increase of infection rate”, as well as the issue related to concerns of participating the country in the production of vaccines without conducting sufficient experiments on its safety and “satisfaction due to expressing the public of their opinions freely in news websites”.

Table 5. Demonstrates the behavioral effects of the news websites dependency.

Statement	Agree		Nutrient		Disagree		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%
Persuading undecided individuals to be vaccinated is easier than persuading reluctant	124	59.3	64	30.6	21	10	209	100
Following being vaccinated, I no longer comply with the precautionary measurements	37	17.7	80	38.3	92	44	209	100
I keen on receiving the booster dose of the vaccine as it raises the immunity	92	44	80	38.3	37	17.7	209	100
I debate with my family and surroundings regarding everything recent published by news websites related the issue of vaccines	117	56	67	32	25	12	209	100
Following being vaccinated, I completely comply with the precautionary measurements	109	52.2	77	36.8	23	11	209	100
I warn my family and acquaintances of being vaccinated due to ambiguity of its long-term effects	51	24.4	82	39.2	76	36.4	209	100
I follow news websites more upon the increase of the infection and death rates	126	60.3	70	33.5	13	6.2	209	100
I contact with surroundings as regular upon having a fever or sore throat due to being vaccinated	24	11.5	68	32.5	117	56	209	100
I keen to verify the content published on news websites from other media sources	134	64.1	62	29.7	13	6.2	209	100
I have created one or more groups on social media to raise awareness about the significance of being vaccinated and correct the relevant misleading information.	39	18.7	77	36.8	93	44.5	209	100
I advise my family and friends to stop following what publish by news websites regarding vaccines issue due to their lack of credibility	25	12	105	50.2	79	37.8	209	100
I send everything published regarding vaccines issue on news websites to my friends, particularly foreign news websites	56	26.8	99	47.4	54	25.8	209	100
I refuse receiving the vaccine due to information asymmetry regarding its effectiveness	41	19.6	93	44.5	75	35.9	209	100

Statement	Agree		Nutrient		Disagree		Total	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%
I only send the content issued by competent medical organizations to my friends	83	39.7	91	43.5	35	16.7	209	100
I keen to verify the content published by competent medical organizations	134	64.1	66	31.6	9	4.3	209	100

This table contains (15) statements to measure the behavioral effects related to news websites dependency, it demonstrated that the sample majority are keen to verify the content published whether by other source of information or by competent medical organizations with a rate of (64.1%), case No (9) who is a professor demonstrates that by stating that "I follow news from more than one website, if the news repeated in more than one source, I know that it is verified, but in the event that the information differs among the sources, I follow them in the subsequent days to identify the trueness of the content". Thereafter, the raise of the following to the news websites upon the increase of the infection and death rates, this was indicated by approximately (60%) of the total of the sample. It was indicated by (59.3) that persuading undecided categories to be vaccinated is easier than persuading reluctant,

which is contradict with some of the previous findings that demonstrated that persuading reluctant categories to be vaccinated is easier than persuading undecided categories which influence by all the point of views to which they expose and it is difficult to persuade them.

More than half of the sample indicated that they debate with their families and the surroundings all the recent information published by news websites regarding the vaccination issue, at a rate of (56%) of the total sample. As well as (52%) approximately indicated their compliance with precautionary measures post being vaccinated. In this context, Case No. (1) from Al-Bahira states: "I was keen to wear a mask and use alcohol after touching things outside the house, but the way that people in the town look at me made me feel such as I was doing something wrong because we are not used to it."

Table 6. Illustrates the significance of the relationship between educational level and behavioral effects of the public.

Statement	N	Arithmetic average	Standard deviation	F value	Significance
Persuading undecided individuals to be vaccinated is easier than persuading reluctant	209	2.49	0.67	1.26	0.26
Following being vaccinated, I no longer comply with the precautionary measurements	209	1.73	0.74	1.99	0.05
I keen on receiving the booster dose of the vaccine as it raises the immunity	209	2.26	0.74	1.79	0.09
I debate with my family and surroundings regarding everything recent published by news websites related the issue of vaccines	209	2.44	0.69	0.90	0.50
Following being vaccinated, I completely comply with the precautionary measurements	209	2.41	0.68	1.08	0.37
I warn my family and acquaintances of being vaccinated due to ambiguity of its long-term effects	209	1.88	0.77	1.31	0.24
I follow news websites more upon the increase of the infection and death rates	209	2.54	0.61	0.93	0.47
I contact with surroundings as regular upon having a fever or sore throat due to being vaccinated	209	1.55	0.69	7.37	0.00
I keen to verify the content published on news websites from other media sources	209	2.57	0.60	0.67	0.69
I have created one or more groups on social media to raise awareness about the significance of being vaccinated and correct the relevant misleading information.	209	1.74	0.75	3.36	0.00
I advise my family and friends to stop following what publish by news websites regarding vaccines issue due to their lack of credibility	209	1.74	0.65	1.44	0.19
I send everything published regarding vaccines issue on news websites to my friends, particularly foreign news websites	209	2	0.72	1.15	0.32
I refuse receiving the vaccine due to information asymmetry regarding its effectiveness	209	1.83	0.72	1.52	0.16
I only send the content issued by competent medical organizations to my friends	209	2.22	0.71	0.37	0.91
I keen to verify the content published by competent medical organizations	209	2.59	0.57	0.32	0.94

This table demonstrate the increase of the responses average of the research sample by agreement with the statements that reflect the positive behaviors for the sample individuals.

The quantitative findings demonstrated statical discrepancies between the educational level and some behaviors represented in "contacting with surroundings as

regular upon feeling increasing in temperature or sore throat due to being vaccinated".

It also demonstrating statical discrepancies between the educational level and neglecting precautionary measures post being vaccinated, as well as, created groups on social media to raise awareness about the significance of being vaccinated.

6.4. Mechanisms of Developing Service Provided in News Websites Regarding the Issue of Vaccination

Table 7. Illustrate the mechanisms of developing the provided service in news websites regarding the issue of vaccination.

Statement	%
Reinforcing content with more statics and constantly updating them	68
Correcting rumors and confronting misinformation	64
Ensuring immediacy and accuracy of reporting the event	63
Consideration of covering the findings of new research on the effectiveness and impact of vaccines	61

Statement	%
Dependency upon specialized sources	60
Covering all perspectives related to the issue	53
Increasing dependency upon videos, photos and infographics	37

This table indicates that, from public's point of view, reinforcing content with more statics and constantly updating them is one of the prominent mechanisms of developing service provided in news websites, this was expressed by (68%) of the sample total. This is also associated with mechanisms for correcting rumors, confronting misinformation, and ensuring immediacy and accuracy of reporting the event, at a rate of (64%) and (63%), respectively. It is worth noting that the issue of confronting misinformation and rumors, particularly in social media platforms, is one of the issues that have captured the attention of researchers during the COVID-19 pandemic, both locally and internationally. Findings of these studies was varied, some studies indicated that social media platforms, particularly Facebook, had a major role in spreading rumors and misinformation during the COVID-19 pandemic, such as study of Farag, 2021 [19]. Meanwhile, other studies such as studies of (Latroush, 2021) [24] and (Abdullah, 2021) [4] indicated that these platforms combined the positive role, which represented in providing recent information related to the pandemic, and the negative role, which is relevant to posting false news in addressing COVID-19 pandemic.

Moreover, most of the research sample indicated the significance of dependency upon specialized sources, at a rate of (60%) of the total sample. (53%) of the research sample outlined the significance of covering all perspectives related to the issue. The findings of the qualitative study revealed that some Egyptian news websites lack professionalism in the selection of reporters and the neutrally covering of all perspectives in the issue, which affects their credibility and prompting the public to follow some foreign news websites to address the lack of information and bias in some of their Egyptian counterparts. This was demonstrated by case No. (10) "the basic development in news services, particularly in Egyptian websites, represents in increasing freedom level, as these websites provided several videos, photos and infographics, but how to present the information is not the real matter, what matters is the credibility of the information. Increasing freedom level associated with the state policy". This finding conforms with the perspective of dependency theory regarding the relationship between media and political system of the state.

7. Conclusions

Based on the foregoing, we indicate to a set of conclusions considering the theoretical frame that guides the research:

1. Increasing the public's dependency upon news websites to access to information related to vaccines issue, which is conforms with the hypotheses of the dependency theory associated with the increase in exposure rates during crises, although the exposure rate was moderate, which thereby resulted in a relatively balanced affective

effect of the sample between negative and positive emotions regarding vaccination issue, and an increase in information regarding vaccines and their effects, as well as the significance of religious influence in confronting emotions of anxiety and concern.

2. Increasing the cognitive aspect of the public for the issues related to increasing number of infections once more due to neglecting precautionary measures and the significance of compliance to precautionary measures after being vaccinated, and pursue of some countries to produce a dual-vaccine that can treat COVID-19 and its variants. Moreover, increasing the public awareness which represent in keenness most of the sample to verify the information published in news websites from competent sources such as WHO or other media sources.
3. Availability of statical discrepancies in the significance level of (0.05) between the educational level and some cognitive, behavioral and affective effects, the most significant of which is compliance to precautionary measures after being vaccinated, not contacting with surroundings as regular upon feeling raising in temperature or sore throat, and some affective aspects particularly those which related to despondency due to emerging recent variants and the increase of infections rate.
4. Lacking some Egyptian news websites of neutrally covering all supporting and opposing perspectives on vaccinations issue. As the findings demonstrated – qualitative in particular-it is associated with perspective of dependency theory regarding the relationship between media and prevailing political system.
5. Given the foregoing, findings prompt some recommendations, in professional and academic aspects, as follows:
6. Dedicating Egyptian media including new media to cover all supporting and opposing perspectives on the posed issues rather than concentrating on interpretation coverage of the events.
7. Conducting more research to reveal the impact of some factors such as religion, residence and educational level in cognitive, behavioral and affective aspects resulted from media dependency.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Abdel-Bari, W. New media research Methods and tools: An analytical study-Studies in *E-media methodological problems practices and post e-media*, First Edition. Academic book center, Oman, 2019, 95.

- [2] Abdelhafiz, A., Ibrahim, M., Ziady, H. Knowledge, perceptions, and attitude of Egyptians towards the novel Coronavirus (Covid-19). *Journal of Community Health*, 2020, 1-11 Doi: 10.1007/s10900-020-00827-7. Available from <https://www.Researchgate.net/publication>. Accessed on 22/6/2022.
- [3] Abdel-Haleem, M. Dependency of Egyptian and Saudi teenager s on mass media to obtain information during health crises: Coronavirus pandemics a model. *Journal of Public Relations Research Middle East*, 2020, 2(29), 589-636.
- [4] Abdullah, F. The Corona crisis and the role of social media. *Journal of Afaq Ektemaeya*, 2021, (2), 1-4.
- [5] Ahmed, A. New media problems and patterns of expression. *Arab Center for Research and studies*, (2020). Available from <http://www.acrseg.org>, Accessed on 22/6/2023.
- [6] Ahmed, N. Social media networks and developing women' s awareness of the emerging Coronavirus Crisis as a variable in planning to manage the crisis. *Journal of Studies in Social Work and Humanities*, 2020, 1(52), 121-154 Doi: 10.21608/Jsswh.2020.38913.1151.
- [7] Akarika, D., Kierian, N., Ikon, A. Media dependency and information- seeking behavior of Uyo residents during the (COVID-19) pandemic in Nigeria. *International Journal of Civil Engineering Contraction and Estate Management*, 2020 , 8(3) 1-10.
- [8] Alfatease, A., Alqahtani, A. and Orayj, K. The Impact of social media on the acceptance of the Covid-19 vaccine: A cross- sectional study from Saudi Arabia. *Patient Preference and Adherence*, 2021, 2673-2681. Doi: 10.2147/PPA.S342535 Available from <http://www.devopress.com>. Accessed on 20/7/2022.
- [9] Al-Matbouli, D. The role of social media networks in managing the Corona crisis "COVID-19" and its impact to the Egyptian audience. *Scientific journal of Radio and Television Research*, 2020, (20), 281-367.
- [10] Al-Shafi, Kh., Mekki, A., Abdelaal, W. Coverage of the Corona pandemic in the English language Qatari press-analytical study. *El Hikma journal for Media and Communication Studies*, 2022, (1), 54-89. Doi: 10.34277/1457.009.001.001.
- [11] AL-Solamy, A. The impact of social networks in times of crises on undergraduate students: an analytical study of the relationship between twitter use and widespread confusion and fear of infection during the Covid-19 crisis. *El Hikma journal for Media and Communication Studies*, 2022 , 10(1), 10-36. doi: 10.34277/1457-010-001-001.
- [12] Al-Zaghoul, A. The role of social media networks in developing health awareness among Jordanian universities student s in light of Corona pandemic. Master Degree Thesis, *Middle East University*, 2022.
- [13] Ashiru, J., Oluwajana, D. & Biabor, O. Is the global pandemic driving me crazy? the relationship between personality traits, fear of missing out, and social media fatigue during the Covid-19 pandemic in Nigeria. *International Journal of Mental Health and Addiction*, 2021, 1-16 Available from <https://doi.org/10.1007/s11469-021-00723-8>
- [14] Banein, F. (2015). The public's dependence on news satellite channels to obtain information about Arab crisis- Afield study. Master Degree Thesis, *Faculty of Social and Human Sciences*, Eloued University, 2021, 28-29.
- [15] Birks, J. Just following the science fact checking journalism and the government s lockdown argumentation in *Power, Media and the Covid-19 Pandemic Framing Public Discourse*, First Edition, Abingdon, New Work: Routledge, 2022, 139-158. Doi: 10.4324/9781003147299-10.
- [16] Daily medical info.2023 Available from <https://www.dailymedicalinfo.co>. Accessed on 2/8/2023.
- [17] Darwish, A. Role of the Saudi news websites in health education during the corona" Covid-19" pandemic. *Journal of Public Relations Research*, 2020, (29), 641-695.
- [18] El Bashier, H., Beshara, F. The role of social media in facing the pandemic of corona virus in Gezira State-an explorative study among gezira state citizens. *Arab Journal of Media Studies*, 2021, (15), 9-35.
- [19] Farag, F. The role of social media in spreading and circulating rumors related to corona pandemic -a field study on a sample of social media users in Sirte. *Sirte University Journal of Humanities*, 2021, 11(2), 247-288. Doi: 10.37375/sujh.v11i2.
- [20] Fouda, M. Reliance of expatriate students in Egypt on news websites and its relation to forming their health awareness towards the coronavirus (Covid19) crisis: A field study. *Journal of Mass Communication Research*, 2021, 1(56), 158-214.
- [21] Grand Valley State University. Michigan, USA, 2023 Available from <https://www.gvsu.edu> Accessed on 28/7/2023.
- [22] Gong, J., Zannuddin, H. and Hou, W. Media attention, dependency, self-efficacy and prosocial behaviors during the outbreak of Covid-19: a constructive journalism perspective. *Global Media and China*, 2022, 7(1) 81-98. Doi: 10.1177/20594364211021331.
- [23] Latif, R. The Egyptian public dependence on new media as a source for information and news about the coronavirus (covid-19) pandemic and its role in reinforcing its health awareness. *Journal of Mass Communication Research*, 2020, 5 (55), 3090-3167.
- [24] Latroush, A. Social media interaction with corona pandemic. *Jil Center Journals*, 2021, (67), 99-118.
- [25] Mahmoud, C. The role of social networks in pursuing the adjustment of the Egyptian public with the quarantine during covid-19 pandemic: A study of the uses and effects within the embargoed period. *Scientific Journal for Public Relations & Advertising*, 2020, (20), 499-550. Doi: 10.21608/sjocs.2020.159716.
- [26] Matar, A., Anbatawi, M. (2021). The impact of social media on university of Jordon students during the corona crisis. *Arab Journal for Scientific Publishing*, (31), 502-526.
- [27] Mofdi, A. Dependency of Kuwaiti journalists on twitter as a source of information about corruption issues-A survey study, Master Degree Thesis, *Yarmouk University*, 2017.
- [28] Muniz, C. (2020). Media System Dependency and change in Risk Perception During the Covid-19 Pandemic. *Tripodos*, 1(47) 11-26. Retrieved from <https://www.researchgate.net>, Accessed on 22/6/2022.
- [29] Munoriyarwa, A. (2022). The burden of responsibility-investigative journalism in South Africa during the Covid -19 crisis in S. Price, B. Harbisher. *Power, Media and the Covid-19 Pandemic Framing Public Discourse* Abingdon, New Work: Routledge, 2022, 159-171. Doi: 10.4324/9781003147299-11.

- [30] OECD. Coronavirus (COVID-19) vaccines for developing countries: An equal shot at recovery, 2021, 3-6.
- [31] Saied, S., Saied, E. and Kabbash, I. Vaccine hesitancy: Beliefs and barriers associated with Covid-19 vaccination among Egyptian medical students. *Journal of Medical Virology Wiley*, 2021, 4280-4291, Doi: 10.1002/jmv.26910.
- [32] Similar web. Top websites ranking Retrieved at <https://www.similarweb.com>, Accessed on 5/8/2023.
- [33] Thompson, A., Finnegan, G. Vaccine misinformation management field guide -guidance for addressing a global infodemic and fostering demand for immunization, New York, 2020, 10-11.
- [34] World Health Organization Strategy to achieve global covid-19 vaccination by mid 2022, 2022. Available from <https://who.int/ar>, Accessed on 5/9/2022.
- [35] World Health Organization. Coronavirus (Covid-19), 2022. Available from [http:// www.who.int/ar](http://www.who.int/ar), Accessed on 5/5/2023.

ⁱ (1) Prof. Dr. Etemad Allam, Professor of Sociology at Faculty of Women, Ain Shams University.

Prof. Dr. Wael Abdel Bari, Professor of Media at Faculty of Women, Ain Shams University.

Prof. Dr. Mehrez Ghaly, Professor of Journalism at the Faculty of Information, Cairo University.