Original article

The extent of people's response to rumors and false news in light of the crisis of the Corona virus

L'ampleur de la réaction des gens aux rumeurs et aux fausses nouvelles à la lumière de la crise du virus Corona

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A B S T R A C T

Background. – With the spread of the Corona virus globally, the negative effects increased at all levels, especially the economic and social sectors. The situation was made worse by the spread of rumors and false information about what this virus is and ways to prevent it.

Objective. – Test how people interact with different information circulating through social media and online platforms.

Methods. – The DATA was taken from a survey conducted in 2020 on 1500 quarantined people between the ages 18-60 years old. A questionnaire was created containing most of the rumors and false information circulated, in addition to the correct information with a reliable source. The results were analyzed in the form of tables showing the proportions of supporters and opponents and expressed in numbers and percentages.

Results. – A total of 2000 quarantined people participated in the study with the mean age (30.35 ± 9.9 years). Where the response rate is 100%. The analysis showed a large percentage of support for health protections against the Corona virus, and a large rejection of most of the fake information and rumors circulating across the Internet platforms, in addition to their solidarity within the principles of social responsibility.

Conclusion. – The extent of the spread of rumors and false information is decreasing based on the presence of governments and the competent authorities through their official platforms within the mechanism of fighting against the Corona virus, and also taking advantage of the current mistakes to be a shield in the future in dealing with such crises.

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R É S U M É

Contexte. – Avec la propagation du virus Corona à l'échelle mondiale, les effets négatifs ont augmenté à tous les niveaux, en particulier dans les secteurs économique et social. La situation a été aggravée par la propagation de rumeurs et de fausses informations sur ce qu'est ce virus et les moyens de le prévenir.

Objectif. – Tester comment les gens interagissent avec différentes informations circulant sur les réseaux sociaux et les plateformes en ligne.

Méthodes. – Les données ont été extraites d'une enquête menée en 2020 auprès de 1500 personnes en quarantaine âgées de 18 à 60 ans. Un questionnaire a été créé contenant la plupart des rumeurs et fausses informations diffusées, en plus des informations correctes avec une source fiable. Les résultats ont été

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analysés sous forme de tableaux montrant les proportions de partisans et d'opposants et exprimés en nombre et en pourcentage.

Résultats. – Deux mille personnes en quarantaine (âge moyen (30,35 ± 9,9 ans) ont participé à l'étude avec un taux de réponse de 100 %. L'analyse a montré un large pourcentage de soutien aux protections de la santé contre le virus Corona et un large rejet de la plupart des fausses informations et rumeurs circulant sur les plateformes Internet.

Conclusion. – L'ampleur de la propagation des rumeurs et des fausses informations diminue en raison de l'action des gouvernements et des autorités compétentes à travers leurs plateformes officielles dans le cadre du mécanisme de lutte contre le virus Corona, et en prenant appui sur les erreurs actuelles pour faire face à ces crises à l'avenir.

1. Introduction

1.1. Overview

With the imposition of curfew measures to combat the spread of Corona virus, social media and online platforms have become the most interactive and prominent tools for social discussions remarkably during a short period and may extend for longer than expected, based on the genetic status of the Corona virus and the stability of the epidemiological situation in various countries of the world.

Rumors of various kinds are spread, whether they include feelings of solidarity or fear, but at the beginning of the spread of this pandemic, despite the emergence of clinical evidence, many rumors spread about the drugs proposed to treat Corona's disease without any medical or scientific evidence, especially in societies absent from the genetic development of the status of this virus, And the most prevalent and still the subject of trial and discussion on the medical level, is a common effectiveness of the drug Hydroxychloroquine in the treatment of the Corona virus, which was used in the fight against malaria, where we can classify these rumors, especially with the absence of medical evidence and evidence as false news [6].

Where one of the social studies (*N* = 1600) showed that most people circulate false information and false allegations because they are unable to determine the reliability of this information, whether from a medical or scientific point of view [24].

On the other hand, some researchers considered that the circulation of information and interaction across social media platforms was linked to mental health problems and symptoms, including feelings of fear, depression and anxiety, as a result of social isolation procedures and instructions related to the curfew and the existence of strict penalties that include prison or financial security and that constitute a significant burden Under these conditions [10].

1.2. Conspiracy theories

Often events of a historical nature are used as a platform for spreading rumors and conspiracy theories that explain the causes of these events and link them to the facts, procedures and instructions followed associated with an event.

Therefore, it is natural to spread such news and theories in light of the spread of Corona virus, especially in the absence of scientific evidence with a reliable source about what this virus is and how to cure and control it, or study the effects at the social and economic levels in the event of the end of the disease, where many conspiracy theories emerged. Since the beginning of the spread of this disease, such that this nebulizer is a lie to achieve personal interests, or that this virus is a biological weapon produced in China to control the global economy, or that the 5G network works to activate the virus and change it physiologically in a way that kills people [28].

The credibility and spread of this news depends on the extent of the emergence and absence of official government platforms and its communication with the general population, and its success in hiding information that may harm the public interest of the country's policy, as decision-makers enjoy a different perspective from the rest of the people due to their rational, scientific and security foundations to serve the public interest away from Feelings and emotions. Also, these rumors and fabricated news affect the relationship between the influential people in the government and the general public, especially when people feel dissatisfied with the material welfare and the social effects that precede or track the spread of such news and rumors.

Where the CEO of Snoops Company confirmed that "[there are] rumors, barriers and frauds that cause real catastrophic consequences for people at risk.. It is the most severe information crisis we may ever face" [19].

The existence and validity of these theories support historical crises, whether natural such as Hurricane Katrina [20] or political ones that claim to be human-made, such as 9/11 [7] or disease-related events [3,12,16], where Emphasizing the role of storytelling in these historical events in cementing principles, concepts, and beliefs around the most commonly discussed conspiracy theories [8,17].

2. Literature review

Crisis models rely on the foundations of communication in the event of risks on understanding the perception of risks and responding to the general population in addition to the sources and references of information and news circulated in order to ensure the effectiveness of communication [26].

This communication must be based on evidence and evidence to ensure responders' behavior in a rational and preventive manner [25].

This is not to affect protective behaviors in the event that the risk is sought by social media pioneers and users [31].

Uncertainty and exaggeration in the news and the spread of fear phobia were linked to a decrease in the implementation of preventive measures and instructions during the 2009/2010 crisis [27].

Intimidation, spreading phobia, and exaggeration of the danger often occur through social media, where information is interacted

with emotional information and news, and most of this news is incorrect [34].

This spread of this information and rumors is always closely related to the number of people using these means and platforms, as one of the studies that included more than 13,000 participants showed that internet platforms were the least used as sources of information during the 2009/2010 pandemic [35].

Here, we find the opposite from that in our time, where the number of people using Internet and social media platforms doubled dramatically during the past decade [4] where the number of users of the Twitter platform doubled in the last ten years, from 30 million in 2009 to 330 million in Year 2019 [29]. Any knowledge or information acquired from these platforms and means of communication is often incorrect in the absence of official, scientific and medical sources to confirm it.

While Tedros Ghebreyesus, the Director-General of the World Health Organization, declared that "we are not just a pandemic, we are facing a disease", there are no strong scientific sources for the current terminology of information and false news spreading in the fight against the Corona virus, as one study showed that using a new model that works To produce new scientific terms on the identification of false information and misunderstanding [2].

One of the studies that discussed the transformation of the usual real life into digital life taking place through social media during the Corona crisis, in addition to that it showed the types of information and rumors spread during this crisis, firstly false news related to the origin of corona virus like Eating meat is the cause of corona virus, secondly false news about how the virus is contracted and can be killed such as Vinegar kills corona virus [9]. In addition to one of the common false information, that only the spread of the Coruna virus is confined to the Chinese because they eat wild animals like Bats and Pangolin [1].

We also mentioned earlier that the extent of spreading rumors and false news depends on the level of trust between the official authorities and the general population and plays an important role in following the procedures and preventive instructions and ratification of everything published by these authorities, where one of the research papers revealed at the beginning of the Corona crisis published by the General Center for Disease Control And to prevent it, the responsible authorities may have known about the spread of the Corona virus among people two weeks before the announcement to the public, and this worked to create a state of mistrust between the Chinese people and agencies including the early warning system [37].

In addition to the concerns that the World Health Organization fears about the Corona virus epidemic, the combination of false information and rumors also contributes to exaggerating the epidemiological situation and the difficulty of combating it, because most users and pioneers of social media are at their best in tracking fake sources and competing to spread misinformation [22,23]. In contrast to the declared negatives of social media, one of the studies that determine the procedures for social separation and considers it the first line of defense in combating the spread of the Corona virus, mentioned the positive role of one of the internet platforms, Twitter, to share with users the instructions for social separation and show them feelings of support and support for affected workers, in addition to their support for some of them Some are the best ways to deal with social isolation [30].

We also mention the positives of social media and the effective role they play, especially in natural disasters such as floods and hurricanes, when speed of communication and response is required, thus isolating people to safer places, imposing precautionary measures and deploying the workforce to avoid material and human damage [15,32,33].

3. Methodology

3.1. Materials & methods

This study analyses DATA from a survey conducted in May 2020 among (1500) quarantined people from different provinces between the ages (18-60) years old with the mean age (30.35 ± 9.9 years).

The survey was anonymous and Questions were clear and straight and none of the questions made the respondents uncomfortable or personal.

Respondents are from all provinces of the country.

We collect the DATA through a survey that presented at social media.

Samples of both Male and Female were contributed.

3.2. Study Tool

It is A self-administrated questionnaire that includes 26 items and aims to Test the extent of interaction with the most frequently reported news and rumors regarding ways to prevent corona virus. The feedback from this questionnaire contributes to helping increase awareness To properly deal with these rumors and find out what is right from the wrong and thus combat the spread of the disease and reduce the incidence of it. This questionnaire was utilized including information regarding Age, Sex, Resident place, Academic level. Data was entered and analyzed by using SPSS V20.0 for windows.

3.3. Participants

The Jordanian state is divided into 3 regions, which is the first administrative division in the Kingdom. In turn, these regions are divided into 12 governorates, distributed among these three regions. Where the time of population indicated to the Department of Statistics is that the population of Jordan reached 10309,000 people.

Almost 75% is distributed over 3 governorates, namely the capital, Amman, at 42%, Irbid, 18.5%, and Zarqa, 14.3%, Mafraq 5.8%, Balqa 5.2%, Jarash 2.5%, Karak 3.3%, Tafiela 1%, Ma'an 1.7%, Aqaba 2%, Madaba 2% and Ajloun 1.8%. (**Dosweb, 2018**).

From the chosen sample, we find that the percentage of respondents is distributed as shown in the Table 1.

Table 1
Respondents according to Resident Place.

Provinces	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	698	31.8	31.8	31.8
Ajloun	45	2.0	2.0	33.8
Al-Karak	9	.4	.4	34.2
Mafraq	20	.9	.9	35.1
Amman	325	14.8	14.8	49.9
Aqaba	2	.1	.1	50.0
Al-Tafila	3	.1	.1	50.1
Irbid	929	42.3	42.3	92.4
Jerash	31	1.4	1.4	93.8
Ma'an	2	.1	.1	93.9
Madaba	10	.5	.5	94.4
Salt	22	1.0	1.0	95.4
Zarqa	102	4.6	4.6	100.0
Total	2198	100.0	100.0	

4. Descriptive Analysis for Sample

Age	
N	
Valid	1500
Missing	0
Mean	30.35
Median	27.958
Std. Deviation	9.9
Variance	98.15
Minimum	18
Maximum	60

Histogram
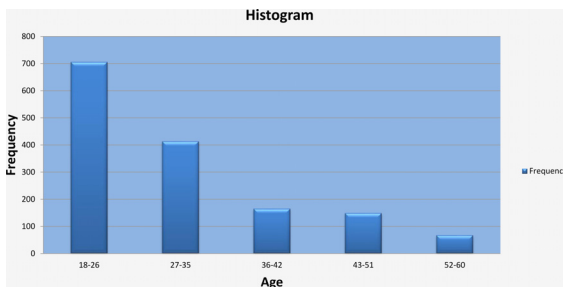
5. Results

In general, respondents interact with most of the rumors related to ways to prevent corona virus as false information, and it is fundamentally incorrect to them, such as taking cocaine and consuming alcohol by (96.3%), using ultraviolet lights by (87.9%) And the use of hand dryers by (78.5%).

On the other hand, we find people who believe the rest of the rumors are somewhat close to people who consider them false information with unreliable references, such as spraying the skin with alcohol or chlorine at rates (41.5%) & (58.5%) respectively, and using nasal spray, mouthwash And garlic every 15 minutes at rates (57.7%) & (42.3%) (Table 2).

We note a general consensus on the correct ways to prevent the Corona virus with very little opposition, almost negligible on not following these procedures, such as after receiving parcels from affected areas by no more than (23%).

On the other hand, it recorded (98.6%) and (96.9%) respectively the necessity of washing hands with soap and water on a continuous basis and avoiding shaking hands with people and making a safety distance of not less than a meter.

In addition to cleaning surfaces using household cleaning fluids with a support rate of (88.4%) and an opposition (12.6%) (Table 3).

A percentage of (90.7%) (1361 out of 1500) respondents who did not circulate news without verifying its authenticity and reliable sources, in addition to the rumors' impact on the compliance of people with curfew instructions and laws, showed (57%) (857 of 1500), While (25.7%) (385 out of 1500) find that this news affects their commitment, which creates a state of non-compliance with the laws and regulations.

On the other hand, the analysis shows a rate of (96.9%) (1453 out of 1500) in favor of counting the concealment of the disease in the case of infection with the Coronavirus.

Most of the respondents gather that these rumors and fake news have a danger to the local community, and their rate is estimated at 93.2% (1398 of 1500) (Table 4).

6. Discussion

Corona Virus is a global crisis unlike previous historical crises, which will have bad effects on the social and economic levels [18].

As the situation worsens and the number of concerns increases, the state of suspicion will increase among the general public, thus spreading false information and rumors greatly [15], in addition to the presence of free times due to curfews, spacing, and social closures, which will make the situation more anxious and thus persistent and pervasive misinformation [36], especially with the ease of finding fake news and information about the Corona virus [13].

Therefore, it is necessary to work to share only accurate and accurate information, in order for the governments to solidify with the general public and intensify their efforts together to combat the Corona Virus with minimal damage [5].

Although technological platforms work to reduce the height of fake information that is shared on social media and internet platforms, a recent study has proposed a new conceptual approach that introduces new definitions about false information, rumors and misinformation and thus work to make the analysis of this information more accurate and facilitate the classification of fake information On verification committees and data analysts [2,11], in addition to helping the public to think more clearly about the nature of the information circulating on these platforms and distinguish the sinner from the correct [24].

In this study, the first of its kind in terms of targeting the public and testing their interaction with the circulation of rumors and false information, the analysis was limited among 26 subjects to

Table 2
Respondents interacting with rumors regarding treatment of the Corona virus according to sex.

Rumors		Sex					
		Female		Male		Total	
		N	%	N	%	N	%
Cocaine use and drinking alcohol	Fake	722	(96.3)	723	(96.4)	1445	(96.3)
	Real	28	(3.7)	27	(3.6)	55	(3.7)
Nasal spray, mouthwash and garlic every 15 minutes	Fake	328	(43.7)	306	(40.8)	634	(42.3)
	Real	422	(56.3)	444	(59.2)	866	(57.7)
Sprinkle the skin with alcohol or chlorine	Fake	450	(60.0)	427	(56.9)	877	(58.5)
	Real	300	(40.0)	323	(43.1)	623	(41.5)
Ultraviolet lights	Fake	662	(88.3)	657	(87.6)	1319	(87.9)
	Real	88	(11.7)	93	(12.4)	181	(12.1)
Hand dryers	Fake	593	(79.1)	585	(78.0)	1178	(78.5)
	Real	157	(20.9)	165	(22.0)	322	(21.5)
	Total	750	(100.0)	750	(100.0)	1500	(100.0)

Table 3
Respondents interacted with the correct ways to prevent the Corona virus according to Resident Place.

Resident Place	Washing hands with soap & water frequently				Cleaning surfaces with house cleaning fluids				Avoid shaking hands and make a safe distance				Not receiving parcels from affected areas				Total	
	Fake		Real		Fake		Real		Fake		Real		Fake		Real			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Ajloun	1	(4.8)	44	(3.0)	4	(2.1)	41	(3.1)	2	(4.3)	43	(3.0)	24	(2.1)	21	(6.3)	45	(3.0)
Karak	0	(.0)	9	(.6)	0	(.0)	9	(.7)	1	(2.1)	8	(.6)	9	(.8)	0	(.0)	9	(.6)
Mafraq	2	(9.5)	18	(1.2)	2	(1.1)	18	(1.4)	1	(2.1)	19	(1.3)	15	(1.3)	5	(1.5)	20	(1.3)
Amman	3	(14.3)	322	(21.8)	34	(18.0)	291	(22.2)	6	(12.8)	319	(22.0)	259	(22.2)	66	(19.7)	325	(21.7)
Aqaba	0	(.0)	2	(.1)	0	(.0)	2	(.2)	0	(.0)	2	(.1)	2	(.2)	0	(.0)	2	(.1)
Tafila	2	(9.5)	1	(.1)	2	(1.1)	1	(.1)	2	(4.3)	1	(.1)	3	(.3)	0	(.0)	3	(.2)
Irbid	12	(57.1)	917	(62.0)	126	(66.7)	803	(61.3)	26	(55.3)	903	(62.1)	727	(62.4)	202	(60.3)	929	(61.9)
Jerash	0	(.0)	31	(2.1)	3	(1.6)	28	(2.1)	0	(.0)	31	(2.1)	25	(2.1)	6	(1.8)	31	(2.1)
Ma'an	0	(.0)	2	(.1)	2	(1.1)	0	(.0)	2	(4.3)	0	(.0)	2	(.2)	0	(.0)	2	(.1)
Madaba	0	(.0)	10	(.7)	1	(.5)	9	(.7)	4	(8.5)	6	(.4)	9	(.8)	1	(.3)	10	(.7)
Salt	0	(.0)	22	(1.5)	2	(1.1)	20	(1.5)	0	(.0)	22	(1.5)	17	(1.5)	5	(1.5)	22	(1.5)
Zarqa	1	(4.8)	101	(6.8)	13	(6.9)	89	(6.8)	3	(6.4)	99	(6.8)	73	(6.3)	29	(8.7)	102	(6.8)

Table 4
Respondents interacting with the procedures and principles of social responsibility according to age.

Principles		Age											
		18-26		27-35		36-42		43-51		52-60		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
There is a risk of spreading rumors about the Corona virus	No	19	(2.7)	9	(2.2)	5	(3.0)	2	(1.3)	2	(3.0)	37	(2.5)
	Sometimes	36	(5.1)	12	(2.9)	9	(5.5)	4	(2.7)	4	(6.0)	65	(4.3)
	Yes	651	(92.2)	392	(94.9)	151	(91.5)	143	(96.0)	61	(91.0)	1398	(93.2)
Hide or cover up your infection with the virus	No	687	(97.3)	399	(96.6)	161	(97.6)	142	(95.3)	64	(95.5)	1453	(96.9)
	Sometimes	7	(1.0)	5	(1.2)	1	(.6)	3	(2.0)	2	(3.0)	18	(1.2)
	Yes	12	(1.7)	9	(2.2)	3	(1.8)	4	(2.7)	1	(1.5)	29	(1.9)
The effect of rumors on your compliance with the curfew and laws	No	384	(54.4)	248	(60.0)	107	(64.8)	79	(53.0)	39	(58.2)	857	(57.1)
	Sometimes	133	(18.8)	65	(15.7)	20	(12.1)	30	(20.1)	10	(14.9)	258	(17.2)
	Yes	189	(26.8)	100	(24.2)	38	(23.0)	40	(26.8)	18	(26.9)	385	(25.7)
Publishing news without checking its sources	No	628	(89.0)	382	(92.5)	153	(92.7)	138	(92.6)	60	(89.6)	1361	(90.7)
	Sometimes	53	(7.5)	23	(5.6)	7	(4.2)	8	(5.4)	6	(9.0)	97	(6.5)
	Yes	25	(3.5)	8	(1.9)	5	(3.0)	3	(2.0)	1	(1.5)	42	(2.8)
	Total	706	(100.0)	413	(100.0)	165	(100.0)	149	(100.0)	67	(100.0)	1500	(100.0)

the most harmful rumors related to treatment for Corona virus in addition to the correct preventive measures against this virus and the principles of collective social responsibility, with no focus on factors Correlations such as gender, age, academic level, and location of residence, due to the fact that the analysis showed that the interaction with these rumors is not related to these factors as we found a state of great awareness among respondents.

The extent of false rumors and news depends on the rapid response of governments and the local [1], the imposition of sanctions and laws to deter people and unofficial parties from circulating and disseminating false information and creating a state of panic among citizens and creating a gap and a state of distrust between the official authorities and the general public, during which Fukushima disaster More than 4 people were arrested and 32 complaints lodged due to the publication of false information [21].

7. Conclusion

Technology is developing in a way that makes everything easy, so it is necessary to take advantage of this technology to develop and improve the techniques used in monitoring false information and rumors to facilitate the work of the investigation committees and prosecute the authorities responsible for this misinformation, especially in times of crises and disasters, whether natural or man-made. And, because during these crises, everyone is often tense and afraid of the fate of the crisis and the effects on it at a time of widespread disinformation.

The Corona crisis is not like other crises, and we are not sure it is the last global crisis.

All measures and laws that have created a state of suspicion and the promise of stability for citizens must be lessons learned in the future with a focus on supporting infrastructure and developing all means of communication and rapid response in order to deal with such a crisis and others more effectively and flexibly.

Disclosure of interest

The authors declare that they have no competing interest.

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