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COVID-19 and Diffusion of Rumors among Arab Social Media Users: Reasons and Solutions

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Abstract: As the major source of information, social media has outpaced mainstream news channels. In these information overloaded days, differentiating rumors from facts is crucial and difficult. This study aims to explore the respondents' perception of the reasons for spreading rumors related to the Coronavirus on social media. Furthermore, it seeks to look at the respondents' perception of the ways of combating fake news related to the Coronavirus on social media. Lastly, the study attempts to know to what extent the respondents are satisfied with the performance of the media institutions in dealing with the Coronavirus. A cross-sectional survey design was used with a non-probability sample to explore the respondents' perceptions of the above-mentioned aims. A total of 1274 self-selected cases from Bahrain, Egypt, Iraq, Jordan, Morocco, Oman, Saudi Arabia, Sudan, and the United Arab Emirates were investigated. The study finds that all respondents agree with the reasons listed in the survey about spreading rumors related to the Coronavirus on social media, except for the reasons of lacking transparency on behalf of the Ministry of Health and other official bodies and lacking accurate information about the Coronavirus. Moreover, the study confirms the respondents' beliefs that all listed ways effectively combat fake news related to the Coronavirus on social media. Furthermore, the study finds that the respondents are satisfied with the performance of the media institutions in dealing with the Coronavirus in their countries. With these findings, the study significantly contributes to the literature. It may assist various parties, such as the government and media organizations, in making the proper decision to combat the spread of rumors via social media.

Keywords: COVID-19, diffusion of rumors, Arab social media users, combating fake news.

新冠肺炎和阿拉伯社交媒体用户之间的谣言传播：原因和解决方案

摘要：作为主要的信息来源，社交媒体已经超过了主流新闻渠道。在这些信息超载的日子里，区分谣言和事实是至关重要且困难的。本研究旨在探讨受访者对在社交媒体上传播与

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冠状病毒相关的谣言的原因的看法。此外，它还试图了解受访者对在社交媒体上打击与冠状病毒相关的假新闻的方式的看法。最后，该研究试图了解受访者对媒体机构在应对冠状病毒方面的表现感到满意的程度。采用横断面调查设计和非概率样本来探索受访者对上述目标的想法。共调查来自巴林、埃及、伊拉克、约旦、摩洛哥、阿曼、沙特阿拉伯、苏丹、阿联酋的自选病例 1274 例。研究发现，所有受访者都同意调查中列出的关于在社交媒体上散布与冠状病毒相关的谣言的原因，但代表卫生部和其他官方机构缺乏透明度以及缺乏关于冠状病毒的准确信息的原因除外。此外，该研究证实了受访者的信念，即所有列出的方式都可以有效地打击社交媒体上与冠状病毒相关的假新闻。此外，该研究发现，受访者对本国媒体机构在应对冠状病毒方面的表现感到满意。有了这些发现，这项研究对文献做出了重大贡献。它可以帮助政府和媒体组织等各方做出正确的决定，以打击通过社交媒体传播的谣言。

关键词：新冠肺炎，散布谣言，阿拉伯社交媒体用户，打击假新闻。

1. Introduction

During these tumultuous and uncertain pandemic days, we started to wonder why some individuals, and some communities, in particular, could adopt such dramatically opposed stances while we all confront a global pandemic. Thankfully, most people wear masks, uphold social distancing rules, avoid crowded and enclosed spaces, comply when lockdowns are imposed, and in general heed the advice of public health experts and officials. Unfortunately, however, there are groups of people that have not and continue to refuse to do so, arguably making the effects of [1].

Nowadays, because of the widespread usage of social media, we are witnessing enormous consequences for society, business, and culture that have the potential to be negative and positive. As a positive effect, it can help to control the crisis faster. However, on the other hand, people manipulate real information due to political, economic, or social motivations as a negative effect. Therefore, spreading this misleading information can be harmful [2].

Indeed, a quick review of Covid19 papers reveals that a significant effort has been devoted to analyzing: the role of social media in helping address the effects of the current pandemic on perceptions and attitudes towards COVID-19 information on social media in China [3], and the dynamics of COVID-19/5G conspiracy theories on Facebook [4]. In addition, other studies have looked at COVID-19 and religious misinformation in the MENA region [5] and people's perspectives of COVID-19 through the narrative of their comments on social media [6]. Moreover, there are also comparative studies on media coverage of the pandemic: the reportage of Covid-19 during the first and second wave: a case of the Egyptian and Jordanian newspapers [7].

Many researchers have examined the uncertainty surrounding the origins and reactions to the virus

causing the new Coronavirus illness (COVID-19) since its emergence in Wuhan, China, in the late 2019. Countries went into lockdown, many people lost their jobs, and all companies were impacted, with some having to close. The political reaction to the epidemic has shifted priorities as the United States and China trade accusations over its origin. The worldwide reaction to the epidemic has heightened the need for more studies into the link between crises, public responses, and new policy decisions [6].

Indeed, insofar as the pandemic serves to affect all dimensions of daily life by, among others, uncovering and magnifying issues [1]. In this paper, we explore the respondents' perception of the reasons for spreading rumors related to the Coronavirus on social media. We also investigate the respondents' perception of the ways of combating fake news related to the Coronavirus on social media. Finally, we attempt to know to what extent the respondents are satisfied with the performance of the media institutions in dealing with the Coronavirus.

The rest of the paper is organized as follows: Section 2 reviews related works about reasons for spreading rumors on social media and fake news combating. Section 3 presents the methodology applied in this paper. The results and discussion are introduced in Section 4. Finally, section 5 reports the conclusion, limitation, and future scope of this work.

2. Literature Review and Hypotheses

2.1. Reasons for Spreading Rumors Related to the Coronavirus on Social Media

News, as a type of information, has more potential to use for misleading information. For example, through social media platforms, people share articles, photos, and videos such that almost 85% of the topics discussed on social media platforms relate to the news.

Moreover, in social media, the freedom of a user to post anything results in the spread of false information. When this false information is presented as news statements, it is called fake news, which can be a type of propaganda or yellow journalism that consists of misinformation [2].

People usually spread news shared by their friends more quickly without any validation/verification. In the era of social media, people also have powerful voices that influence others for better or worse. Despite numerous articles published recently about COVID-19, an accurate understanding of the disease, its circumstances, and its treatment remains unclear to many. The global societal problem is that many/most turn to social media without questioning the origin of the information. Unfortunately, the inaccurate/untruthful/unreliable comments made or circulated/forwarded by “some” health care professionals through these media added to this mystery [6].

In the age of the COVID-19 pandemic, research on the spread of fake news is growing. In this pandemic era, some researchers have sought to establish a link between social media and disinformation [8]. This supports a growing view that false content concerning COVID-19 has become more pronounced in social media. It has also been observed that many people now seek information online that they perceive to be helpful, leading to a wide range of fake news consumption and sharing [9].

According to [10], people share false claims about COVID-19 partly because they simply fail to think sufficiently about whether or not the content is accurate when deciding what to share. Recent research has shown that conspiracist and scientific content tend to spread among people similarly polarized toward that type of content. However, interest in conspiracy narratives (measured as the number of people with whom specific posts are re-shared) persists for longer periods [11].

RQ₁: What are the reasons for spreading rumors about the Coronavirus on social media platforms?

2.2. Combating Fake News Related to the Coronavirus on Social Media

Fake news detection aims to help users detect and filter out potentially deceptive news. The prediction of intentionally misleading news is based on analyzing truthful and fraudulent previously reviewed news. Fake news has traditionally been spread through print and broadcast mediums, but with the rise of social media, it can now be disseminated virally. The task of fake news detection can be a simple binary classification or, in a multi-label dataset, a fine-grained classification.

Social media has surpassed traditional news outlets as the primary source of information. In this massive amount of information, distinguishing rumors from reality is critical and tough. Therefore, misinformation

detection has received much attention in recent years, resulting in the creation of new jobs in this sector. In addition to the issue of identifying fraudulent new information, the task of detecting unverified information has been explored as rumor veracity identification and stance detection.

Social media users are poor at separating fake news from real news. More importantly, the fake news flag did not influence user beliefs, although it triggered more cognition and increased the time spent considering the headline [12].

Correcting a fake news post, such as writing a comment to debunk the fake news posted, should be consistent with a positive self-presentation. Indeed, studies have found that commenting on someone’s post can signal one’s openness for reciprocal interactions and hence enhance relationships [13].

In the UK, the Government Communication Service presented a toolkit to prevent the spread of disinformation. This toolkit provides a consistent and effective approach to identifying and tackling various types of disinformation that government and public sector communicators may experience. The RESIST disinformation model is divided into components that can be used independently or tailored depending on the kind of organization and the threats it faces.

We do have a new media landscape, and that new media landscape will demand new strategies and initiatives to combat new pathologies. There is evidence, however, that we are coming up with new strategies and initiatives. Moreover, citizens can rely on a growing set of resources to help navigate this new media landscape. However, in addition to structural resources to restore some basic elements that contribute to democracy’s truth-tracking potential, we also need citizens who care about the truth [14].

A taxonomy was proposed that includes indicators of fake news based on a meaningful analysis of descriptions found in academic articles, trade publications, newspapers, and magazines, among others [15]. These features are decomposed as features of the message or linguistics, features of sources and intentions, structural features, and network features and can be useful when assessing online content.

Five strategies were suggested to resist misinformation: pre-exposure warning (the warning has to specifically explain the ongoing effects of misinformation rather than just mentioning its presence), repeating or strengthening retractions (this can alleviate but does not eliminate the effects), embedding corrections in alternative narratives, adjusting motivation, and debiasing [16]. Therefore, we also ask the following questions:

RQ₂. How do we control the spread of fake news about the Coronavirus on social media platforms?

RQ₃. To what extent are you satisfied with the performance of your country’s media institutions in dealing with the Coronavirus?

3. Method

3.1. Data Collection

The data of this study is extracted from [8]. The study employs the questionnaire to explore the respondents' perception of the reasons for spreading rumors related to the Coronavirus on social media. Further, it seeks to explore the respondents' perception of the ways of combating fake news related to the Coronavirus on social media. Lastly, the study attempts to know to what extent the respondents are satisfied with the performance of the media institutions in dealing with the Coronavirus.

The questionnaire was prepared based on prior studies [17]-[19]. In 2020, the total population across all the Arab countries was 423 million [20]. As a result of the mandatory lockdown, unavailability of the sampling frame, and not seeking to estimate the characteristics of the population statistically from the sample, snowball, self-selection, and convenience non-probability sampling techniques were used. The questionnaire was administered to respondents in July 2020 through the Internet; posted on social media accounts, internet newsgroups, and discussion groups; emails were sent to colleagues and friends inviting them to fill the questionnaire. A total of 1274 self-selected cases from Bahrain, Egypt, Iraq, Jordan, Morocco, Oman, Saudi Arabia, Sudan, and the United Arab Emirates were investigated out of 423 million of the total population of the Arab region.

3.2. Measurement of Variables and Data Analysis

To investigate the respondents' perceptions of the reasons for spreading rumors related to the Coronavirus on social media, we have asked them to express their opinion about the reasons for spreading such rumors on social media networking sites. These listed statement reasons have been adapted from [17]: (i) Lack of transparency by the Ministry of Health and other official bodies; (ii) Lack of accurate information about the Coronavirus; (iii) Social media content is not censored; (iv) Fake accounts for individuals and institutions; (v) Ease of publishing news and information related to the virus on social media; (vi) Absence of responsibility and no punishment for rumor mongers; (vii) People's lack of awareness of the danger of spreading rumors related to the Coronavirus; (viii) The desire of some media organizations to obtain a headline, so they publish any information published on social networking sites related to the Coronavirus.

Concerning the respondents' perception of the ways of combating fake news related to the Coronavirus on social media, we have asked them to express their opinion to what extent they agree with the listed ways. Then, in more detail, we have asked the respondents whether they agreed, completely or partially, or disagreed with the listed ways of reducing the news

related to the Coronavirus on social media. These listed statements ways have been adapted from [17]: (i) Official authorities publish correct information related to the Coronavirus; (ii) Learn about rumors related to the Coronavirus and warn the public about them; (iii) Implement a set of media campaigns to educate the public about the virus and how to prevent it; (iv) Educate the public not to publish information related to the Coronavirus until it is confirmed that it is correct; (v) Monitor rumor mongers on social media and report them to the official authorities; (vi) Cooperate with social media celebrities to spread health information about the Coronavirus; (vii) Tighten and enforce penalties for spreading rumors about the Coronavirus; (viii) Establish and activate rumor monitoring bodies; (ix) Create and activate official accounts on social networking sites.

Lastly, we have asked the respondents to express their opinion to what extent they are satisfied with the performance of the media institutions in dealing with the Coronavirus; do they are satisfied, unsatisfied, or somewhat satisfied.

4. Results and Discussion

Table 1 shows that majority of the respondents are male (546; 42.86%), aged between 18 and 35 (595; 46.70%), have bachelor's degrees (854; 67.03%), from Bahrain (483; 37.91%), and use social media more than five years.

Table 1 Demographic characteristics of the respondents

Demographic Characteristics		N	%
Country	United Arab Emirates	14	1.10
	Bahrain	483	37.91
	Saudi Arabia	413	32.42
	Oman	56	4.40
	Jordan	21	1.65
	Iraq	7	0.55
	Egypt	231	18.13
	Morocco	7	0.55
	Sudan	42	3.30
Experience with using social media	Less than 3 years	21	1.65
	From 3 to 5 years	126	9.89
	More than 5 years	1127	88.46
Education	Below High School	14	1.10
	High School	77	6.04
	B.Sc.	854	67.03
	M.A/ PhD	329	25.82
Gender	Male	546	42.86

		Continuation of Table 1	
	Female	728	57.14
Age	(18 – 35)	595	46.70
	(36 – 50)	532	41.76
	Above (50)	147	11.54

4.1. Reasons for Spreading Rumors Related to the Coronavirus on Social Media

Table 2 shows the respondents' perception of what extent they agree with the listed statements about the reasons for spreading rumors about the Coronavirus on social networking sites. Based on the weighted average of agreed, the study released that the majority of respondents believed that ease of publishing news and information related to the virus on social media is the major reason for spreading rumors related to the Coronavirus on social media (weighted average of agreed is 2.72 out of 3). In more detail, a total of 966 respondents (75.82%) agreed with that statement, and

20 respondents (20.33%) somewhat agreed with that statement, while only 49 respondents (3.85%) disagreed with the statement.

The study also discovered that the second major reason for spreading rumors related to the Coronavirus on social media is the People's lack of awareness of the danger of spreading rumors related to the Coronavirus. The majority of respondents (868; 68.13%) agreed with this reason, and 350 respondents (27.47%) somewhat agreed with this reason, while only 56 respondents (4.40%) are not agreed with this reason. Further, the study finds that the third major reason for spreading rumors related to the Coronavirus on social media is the desire of some media organizations to obtain a headline; therefore, they publish any information posted on social networking sites related to the Coronavirus. Again, the majority of respondents (847; 66.48%) agreed with this reason, and 343 respondents (26.92%) somewhat agreed with this reason, while only 84 respondents (6.59%) are not agreed with this reason.

Table 2 Reasons for spreading rumors related to the coronavirus on social media

Statements	Agree		Somewhat agree		Disagree		Total	Weighted Average
	No	%	No	%	No	%		
	Ease of publishing news and information related to the virus on social media	966	75.82	259	20.33	49		
People's lack of awareness of the danger of spreading rumors related to the Coronavirus	868	68.13	350	27.47	56	4.40	1274	2.64
The desire of some media organizations to obtain a headline, so they publish any information published on social networking sites related to the Coronavirus.	847	66.48	343	26.92	84	6.59	1274	2.60
Absence of responsibility and no punishment for rumor mongers	644	50.55	413	32.42	217	17.03	1274	2.34
Social media content is not censored	616	48.35	455	35.71	203	15.93	1274	2.32
Fake accounts for individuals and institutions	637	50.00	392	30.77	245	19.23	1274	2.31
Lack of accurate information about the Coronavirus	301	23.63	539	42.31	434	34.07	1274	1.90
Lack of transparency by the Ministry of Health and other official bodies	196	15.38	434	34.07	644	50.55	1274	1.65

Moreover, the study also finds that social media content is not censored in the absence of responsibility and punishment for rumor mongers Fake accounts for individuals and institutions are also among the major reasons for spreading rumors related to the Coronavirus on social media, where the weighted average of agreement on these reasons is high; (2.34 out of 3), (2.32 out of 3) and (2.31 out of 3), respectively. Almost half of the respondents (644; 50.55%), (616; 48.35%), and (637; 50%) agreed with these reasons, respectively. Further, a total number of respondents (413; 32.42%), (455; 35.71%) and (392; 30.77%) agreed with these reasons, respectively. However, only 217 respondents (17.03%), 203 respondents (15.93%), and 245 respondents (19.23%) disagreed with these reasons, respectively.

Regarding the reasons for the lack of transparency

from the Ministry of Health and other official bodies and the lack of accurate information about the Coronavirus, fewer respondents expressed their agreement as the weighted average of agreement on these reasons is not high; (1.90 out of 3) and (1.65 out of 3). In more detail, a total number of respondents (539; 42.31%) and (434; 34.07%) agreed with these reasons to some extent, respectively. Besides, a few of the respondents (301; 23.63%) and (196; 15.38%) agreed with these reasons, respectively. However, a total number of respondents (434; 34.07%) and (644; 50.55%) disagreed with these reasons, respectively.

4.2. Combating Fake News Related to the Coronavirus on Social Media

Table 3 explains the respondents' perception of the ways of combating fake news related to the

Coronavirus on social media. In addition, it shows respondents' perception to what extent they agree with the listed ways used in combating fake news related to the Coronavirus on social media. Based on the

weighted average of agreed, the study released that the respondents believed that all listed ways mentioned in the survey are effective in combating fake news related to the Coronavirus on social media.

Table 3 Combating fake news related to the coronavirus on social media

Statements	Agree		Somewhat agree		Disagree		Total	Weighted Average
	No	%	No	%	No	%		
Educating the public not to publish information related to the Coronavirus until its correctness is confirmed	1120	87.91	119	9.34	35	2.75	1274	2.85
Implementing a set of media campaigns to educate the public about the virus and its prevention	1106	86.81	140	10.99	28	2.20	1274	2.85
Creating and activating official accounts on social networking sites	1106	86.81	140	10.99	28	2.20	1274	2.85
Compelling official authorities to publish correct information related to the Coronavirus	1099	86.26	154	12.09	21	1.65	1274	2.85
Learning about rumors related to the Coronavirus and warning the public about them	1092	85.71	154	12.09	28	2.20	1274	2.84
Establishing and activating rumor monitoring bodies	1071	84.07	161	12.64	42	3.30	1274	2.81
Monitoring rumor mongers on social media and reporting them to the official authorities	1064	83.52	175	13.74	35	2.75	1274	2.81
Tightening and enforcement of penalties for spreading rumors about the Coronavirus	1050	82.42	175	13.74	49	3.85	1274	2.79
Cooperating with social media celebrities to spread health information about the Coronavirus	749	58.79	336	26.37	189	14.84	1274	2.44

The weighted average of agreed to educate the public not to publish information related to the Coronavirus until it is confirmed that it is correct is 2.85 out of 3; 1120 respondents (87.91%) are agreed, 119 respondents (9.34%) agreed to some extent, while only 35 respondents (2.75%) disagreed. Similar to the implementation of a set of media campaigns to educate the public about the virus and how to prevent it, the weighted average of agreed is 2.85 out of 3; 1106 respondents (86.81%) are agreed, 140 respondents (10.99%) agreed to some extent, while only 28 respondents (2.20%) disagreed.

Likewise, for creating and activating official accounts on social networking sites, the weighted average of agreed is 2.85 out of 3; 1106 respondents (86.81%) agreed, and 140 respondents (10.99%) agreed to some extent, while only 28 respondents (2.20%) disagreed. Equally, the weighted average of agreed for official authorities to publish correct information related to the Coronavirus is 2.85 out of 3; 1099 respondents (86.26%) agreed, and 154 respondents (12.09%) agreed to some extent, while only 21 respondents (1.65%) disagreed.

Table 3 also provides evidence that respondents agreed that the following measures are effective in combating fake news related to the Coronavirus on social media: learning about rumors related to the Coronavirus and warning the public about them; establishing and activating rumor monitoring bodies;

monitoring rumor mongers on social media and report them to the official authorities; tightening and enforcing penalties for spreading rumors about the Coronavirus, and cooperating with social media celebrities to spread health information about the Coronavirus. The weighted average of agreed out of 3 are 2.84, 2.81, 2.81, 2.79, and 2.44, respectively. In more detail, the majority of respondents (1092; 85.71%), (1071; 84.07%), (1064; 83.52%), (1050; 82.42%), and (749; 58.79%) agreed that mentioned ways are effective in combating fake news related to the Coronavirus on social media, respectively. Besides, 154 respondents (12.09%), 161 respondents (12.64%), 175 respondents (13.74%), 175 respondents (13.74%), and 336 respondents (26.37%) agreed to some extent on this opinion, respectively. However, only a few respondents (28; 2.20%), (42; 3.30%), (35; 2.75%), (49; 3.85%), and (189; 14.84%) disagreed that mentioned ways are effective in combating fake news related to the Coronavirus on social media, respectively.

4.3. Satisfaction with Media Institutions in Dealing with the Coronavirus

Table 4 shows the respondents' perception of the performance of the media institutions in dealing with the Coronavirus, whether they are satisfied, unsatisfied, or satisfied to some extent. Based on the weighted average of satisfied respondents (2.85 out of 3), the

study releases that the respondents were satisfied with the performance of the media institutions in dealing

with the Coronavirus.

Table 4 Satisfied with media institutions in dealing with the coronavirus

Statements	Satisfied		Somewhat Satisfied		Unsatisfied		Total	Weighted Average
	No	%	No	%	No	%		
To what extent are you satisfied with the performance of the media institutions in your country in dealing with the Coronavirus?	707	55.49	462	36.26	105	8.24	1274	2.85

Table 4 demonstrates that 707 (55.49%) respondents are satisfied with the performance of the media institutions in their own countries dealing with the Coronavirus. In comparison, 462 (36.26%) respondents are satisfied only to some extent with the performance of the media institutions in their own country dealing with the Coronavirus. However, 105 (8.24%) of respondents are not satisfied with the performance of the media institutions in their own country in dealing with the Coronavirus.



Fig. 1 Weighted average of satisfied (out of 3) with media institutions in dealing with the coronavirus

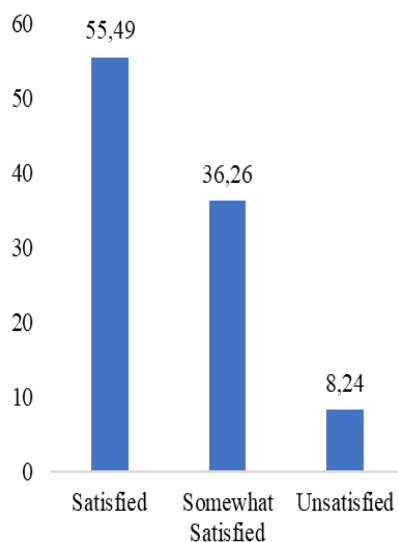


Fig. 2 Satisfied with media institutions in dealing with the coronavirus

5. Conclusion

Even though misinformation is not a new occurrence, it may now spread quickly through social media and possibly reach more than half of the world's population as social media users face difficulties knowing what information can be trusted. Hence, they need to be experts in identifying reliable information. However, there is little evidence on the proportion of COVID-19-related disinformation on various social media sites. Furthermore, nothing is known about the relative relevance of the many motivations for disinformation dissemination. Accordingly, the current study attempts to find out how respondents feel about the causes for spreading misinformation about the Coronavirus on social media. It also aims to investigate the respondents' opinions on how to prevent fake news about the Coronavirus on social media. Finally, the study wants to assess how happy the respondents are with the media institutions' performance dealing with the Coronavirus. Therefore, the questionnaire was used to determine how respondents felt about the above goals.

According to the survey, most respondents feel that the ease with which they may share news and information about the virus on social media is the primary cause of the spread of misinformation about the Coronavirus on social media. The study also revealed that the lack of understanding of the dangers of spreading rumors about the Coronavirus on social media is the second significant cause of spreading falsehoods about the Coronavirus. The study also discovered that the third key cause for the propagation of misinformation about the Coronavirus on social media is the need of some media companies to get a headline. Hence, they publish any material about the Coronavirus. Furthermore, the study reveals that the lack of accountability and penalty for rumor mongers, the lack of censorship of social media information, and the use of fake accounts for persons and institutions are all key factors in the propagation of rumors about the Coronavirus on social media. The respondents, in the majority, disagreed with the lack of openness by the Ministry of Health and other official entities.

Based on the agreed-upon answers, measures for combating fake news on social media include: not disclosing information on the Coronavirus to the public

until its correctness has been proven; deploying a series of media initiatives aimed at informing the public about the virus and how to protect themselves; creating and activating official accounts on social networking sites; official authorities should publish correct information related to the Coronavirus. Further, respondents agreed that among the most effective ways to combat fake news about the Coronavirus on social media are: learning about rumors about the Coronavirus and warning the public about them; establishing and activating rumor monitoring bodies; monitoring rumor mongers on social media, and reporting them to official authorities; tightening and enforcing penalties for spreading rumors about the Coronavirus; and cooperating with social media celebrities. Finally, concerning the respondents' perception of the performance of the media institutions in dealing with the Coronavirus, the study releases that most respondents were satisfied with the performance of the media institutions in dealing with the Coronavirus.

The strengths of this study include the diversity in respondents as the study includes 1274 respondents from different countries, namely, Bahrain, Egypt, Iraq, Jordan, Morocco, Oman, Saudi Arabia, Sudan, and the United Arab Emirates. Further, the topic of COVID-19 and the diffusion of rumors among social media users is considered very important. To the researchers' best knowledge, this is the first research into the respondents' perceptions of the causes for spreading misinformation about the Coronavirus on social media and the ways to prevent such fake news. Therefore, the research findings may help users of social media, social institutions, and policymakers make the right decisions regarding publishing news on social media and dealing with them and other issues. Moreover, the research results will rich the current literature and add value to future studies.

6. Limitations and Future Scope

This study has certain limitations causing the generalizability of its findings. One of the shortcomings is that it only included a small number of respondents from various Arabic nations. As a result, subsequent studies may investigate the same subject with many respondents. Furthermore, certain critical aspects have been overlooked in the current study. As a result, additional research into other concerns linked to social media in Arab nations will benefit. In addition, future research could go further to investigate the extent of concern about COVID-19 that has arisen because of fake news and disinformation.

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