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## RESEARCH ARTICLE

### Information Consumption During Covid – 19

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#### Abstract:

#### Background:

The Coronavirus disease (COVID-19) was declared a global pandemic in March 2020, only two months after its discovery in Wuhan. This pervasiveness and the epidemic's detrimental effects have seen verified and unverified information avalanche which attempted to help prevent, control and define the disease.

#### Objectives:

The study focused on three objectives. First, it determines how consumption of information relating to coronavirus occurred, focusing on the type and nature of the information utilized and its rationale. Second, it examines the impact of information consumption on preventive practices. Third, it evaluates the effect of gender and age on the consumption of information relating to coronavirus.

#### Methods:

The study adopted a cross-sectional online survey based on quantitative methods. The study included 400 participants from various regions of the world. The data were then subjected to analysis using SPSS.

#### Results:

The research analysis has been shaped by Pearson's Correlation, Coefficient, Percentage, and Frequency which have been used to derive the information consumption rate during the pandemic.

#### Conclusion:

Information consumption was influenced by variables such as age and gender. The participants below the age of 40 years used social media as the source of information.

Participants above the age of 40 years favored legacy media like print and television. The study also evaluated the use of the information and found that most people sought the information to come up with preventive measures to protect them against the disease.

**Keywords:** COVID-19, Coronavirus, Global pandemic, Information consumption, Gender, Age.

#### Article History

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## 1. INTRODUCTION

Coronavirus disease (COVID-19) is a highly contagious disease caused by the novel coronavirus [1]. The first case of the illness emerged in late December 2019; researchers reported the disease's first instance in Wuhan, China, later identified as the novel coronavirus. Less than two months later, the condition spread worldwide and has become a pandemic [2]. The widespread epidemic has resulted in the generation of a lot of information about COVID-19, often providing infor-

mation on how to stay safe and avoid infection while at the same time curtailing the spread of the virus [3]. While social media channels have been useful for exchanging information, especially among individuals at home or in isolation units, So *et al.* [4] suggest that a considerable quantity of disinformation has invaded legitimate sources of information, causing a significant number of people around the world to be deceived.

Moreover, the coronavirus pandemic (COVID-19) has a critical and profound impact on society's various domains. It has affected media systems, news coverage, and journalism at large. Following the mid-march 2020 global state of emergency caused by the various and the further declaration of

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the health crisis, information on the outbreak became the most popular and widely disseminated information across media platforms. The pandemic's significant global relevance has made it highly relevant to study its media impacts. The research focuses on the following objectives; to determine how information consumption relates to coronavirus occurrence, the type and nature of the information consumed, the impact of information consumed in the adoption of preventive practices; evaluate the effect of gender and age on information consumption in relation to coronavirus.

## 2. BACKGROUND

COVID-19's breakout and widespread spread were a tremendously stressful and frightening event for people worldwide. During the early stages of the pandemic, the scarcity of intonations and the lack of a cure for the condition cause panic, anxiety, uncertainty, and extreme perception of threat. According to [5], 79.3% of Chinese citizens showed anxiety reacting to the coronavirus pandemic. Over 30 percent showed panic and fear, with just a handful of the citizens displaying other emotions. The case was similar to most world citizens who lived in fear and uncertainty. The situation pushed people to rely on the media to get information about the pandemic and company during isolation and lockdown. In this light, the media-dependent hypothesis can provide an adequate explanation for citizens' tendency to rely on the media for pandemic information.

Citizens depend on the media for reassurance and information during crises. The theory has various propositions [6]: it characterizes and positions the media systems as a source of information. Therefore, people and society rely on media networks and interpersonal contact to understand their transpiring events. It explains why traditional and new social media platforms have become common ways to access social reality information. Their use continued to be intense, particularly when the population requires guidance, just like in the current health crisis.

During emergencies and crises like the COVID-19 pandemic, it is common for the population to increase their demand for information and search for health issues from authentic and non-authentic sources [4]. The search for information is influenced by different factors and often depends on the individual. The most common influences include emotions, such as fear and anxiety [4]. Furthermore, it is important to note that the media system can reinforce or change certain attitudes and behaviors at various levels. The dependency on media helps generate more information and knowledge about the crisis resulting in healthy behavioral change. Besides, previous studies also point out that dependency on the media results in a crisis in developing a personal risk perspective. A study conducted by [7] on the RINI pandemic confirmed that the risk perception positively influences college students' intention to receive the vaccination.

For numerous stakeholders in society, the concept of risk perception is crucial. Risk perception, in particular, impacts decision-making, especially when it comes to major strategic and decision-making decisions [8]. It refers to an individual's subjective estimation of the possibility that adverse health-

related outcomes or incidences are likely to occur [9]. Risk perception is constructed explicitly by two-dimension: susceptibility and severity. Susceptibility denotes an individual's perception of the possibility of contracting a disease, whereas severity refers to the illness's serosity. Besides, perception risk can also be considered an essential determinant of an individual's safety practices. Considering risk cannot be limited to the possible harm that can be directly observed, media may play a critical role in developing individuals' risk perceptions considering it informs about the specific risk or can persuade the audience to adopt certain safety measures.

Moreover, the recent technological advancement in communication has drastically enhanced access to information. Citizens have been encouraged to use social media networks like Facebook, Twitter, and Instagram as a source of information and company due to the pandemic isolation, restrictions, and uncertainty [10]. The emergence of such technologies has changed the way people obtain and use information. Unlike traditional media, which was primarily one-way and limited users' actions, social media allows people to receive, generate, and share public health information through engagement [10]. explain that during the outbreak of MERs in South Korea, people used social media as a channel for public discourse and exchanged information about the disease. The same pattern was witnessed in H1N1, where people have digital platforms that exchange and share information about the condition [7].

Besides, social media utilization can influence people's risk perception of the primary public health issue. The article revealed that social media users often express emotional responses such as fear, worry, or anxiety about infectious conditions like H1N1 influenza [11]. Furthermore, they argue that negative experiences or messages mainly spread over social networks. Also, since social media users tend to contact their online social networks to include friends, family, and colleagues, they are likely to respond seriously to their online contact and offer varied opinions on disease-related issues. Specifically, during the MERs outbreak, social media was critical in providing factual information, including medical data. A recent study using big data confirmed that social media users shared accurate information about MERS-like symptoms and the prevention methods [12]. The study also confirmed that negative emotion relating to the disease was more prevalent than positive emotion during the infectious outbreak.

### 2.1. Online Health Information Seeking during Covid-19

Information is essential during emergencies and pandemics [13]. investigated the type and nature of information consumed by the public during the H1N1 outbreak. According to the research, three-quarters of the participants wanted knowledge to assist them in becoming more aware and taking safety precautions. Moreover, the study reported that the participants' primary concern was finding the meaning of specific terminologies used in public communication. Another considerable research was conducted by [14] and revealed that COVID-19 information seeking was performed through digital media. The information-seeking was directly associated with

the preventive measures for the disease. The researcher adds that information consumption could elicit intense worry and encourage preventive behaviors. Nevertheless, it is important to note that the study by [14] investigated the role of media exposure on anxiety during the covid-19 pandemic while at the same time paying attention to the mediation effects of media vicarious traumatization.

Similarly [15], conducted a study on information-seeking behavior among parents in Bahrain. The study confirmed that the primary source of information included “social media accounts of health organizations” this was followed by “healthcare professionals,” then “print newspapers,” and lastly, the opinions of the people surrounding them. Additionally, a study conducted in Nigeria, Africa, on the information-seeking behavior among healthcare practitioners confirmed that the majority of the respondents sought information relating to the causes of COVID-19, symptoms, test procedures, the epidemiology of the disease, preventive measures, the at-risk groups, and COVID-19 isolation/quarantine measures. Moreover, the study confirmed that the primary source of information used by the respondents includes World Health Organization (WHO) website, the Daily newspaper, Nigerian Center for Diseases Control Website (NCDC), Network News, and personal opinions from other healthcare practitioners [16]. Given the lack of research on COVID-19 information consumption in the European Union and its impact on the adoption of preventive actions, as well as the gender and age effects on information consumption, this study is necessary to fill the gaps in the literature.

### 3. MATERIALS AND METHODS

The study adopted a cross-sectional descriptive research design. The researcher used an online survey as questionnaires were the safest, most economical, and fastest approach to collecting the data. The study adopted a nonprobability sampling strategy based on snowball sampling that allowed the research participants to share the questionnaire online through social networks and emails with those close to them. Furthermore, the study's target population included all the people in the world who were affected by the Coronavirus disease. The total number of people involved in this study is 400 participants.

#### 3.1. Validity and Reliability of the Instrument

The study used an online survey to collect data. Before the questionnaire was distributed, the researcher pre-tested 30 participants to determine the instrument's validity, reliability, and trustworthiness. During the pre-test, the researcher linked the online questionnaire to Facebook and Twitter, focusing on certain groups, particularly the younger and older populations, who were all part of the study population [10, 17, 19].

Moreover, Cronbach's *Alpha* is used to convey reliability. The result confirmed that instruments were accurate, valid, reliable for data collection, and elicited an appropriate response.

#### 3.2. Data Collection

Primary data was collected using questionnaires. The

questionnaire was organized into six sections. The first section briefly introduced the research's aims and the participants' instructions about addressing the questionnaire questions.

The second section of the questionnaire included the participants' socio-demographic information: gender, age, and country of residence. These questions were:

1. Mark your gender (Male/Female)
2. Tick the box describing your age limit.
3. What is your country of residence?

The third section collected information on the source of information about Covid-19.

The participants were expected to tick their primary source of information from a list that included the internet, television, print, social media and public opinions.

The fourth section collected information nature and intent of information consumption about COVID-19. The questions included:

1. Tick the common type of information that you search on the internet.
  - (a) Preventive measures
  - (b) Isolation/ quarantine
  - (c) Symptoms
  - (d) Social distance

The fifth section included an open-ended question to gather information on adopting an effective preventive measure for personal protection and preventing the spread of COVID-19. The question was: What do you normally intend to do with the information you search concerning Covid-19?

#### 3.3. Data Analysis and Presentation

The completed questionnaires were cleaned and edited to ensure completeness. The data was then coded and entered into SPSS 25.0 to determine the study variable's proportions and frequencies for information consumption. The study also adopted Pearson's Correlation Coefficient to show the relationship between information consumption and other variables like age and gender. The data was presented in tables, frequencies, and percentages.

#### 3.4. Ethical Consideration

The researcher ensured that all the ethical standards were adhered to. The participants' right to privacy was observed to maintain anonymity during the research process. Participants are recruited for the study if they are persuaded that the research interests them.

Lastly, the researcher provided objectivity and honesty when conducting the study.

### 4. RESULTS

The section presents the result related to the aims of the study. Table 1 below describes the socio-demographic information of the research participants.

**Table 1. Socio-demographic Information of the Participants (n=400).**

Characteristic	Frequency	Percentage
<b>Gender</b>		
Male	190	47.5
Female	210	52.5
<b>AGE</b>		
18-24	75	18.75
25-30	125	31.25
31-40	100	25
41-50	70	17.5
51-60	30	7.5
<b>Country of residence</b>		
China	75	18.75
United States	125	31.25
Brazil	50	12.5
United Kingdom	150	37.5

The study's sociodemographic results confirm more female respondents (52.5%) than male respondents (47.5%). Additionally, most participants were youthful individuals below the age bracket (25-30). The study also confirmed that most respondents were from the United Kingdom (37.5%). Regarding the first aim, Tables 2 and 3 present the consumption of information relating to coronavirus, focusing on the type and nature of the information utilized and its rationale.

The findings indicate that social media networks are the primary source of information relating to covid-19. This assertion is consistent with the study by [3], who confirmed that many individuals were using social media to gather information about pandemics and diseases. Moreover, the proliferation of the internet also enables individuals to run online searches about the epidemic. According to [18], Google Trend data confirms that many people worldwide have run online searches about the pandemic.

**Table 2. Source of Information about COVID-19.**

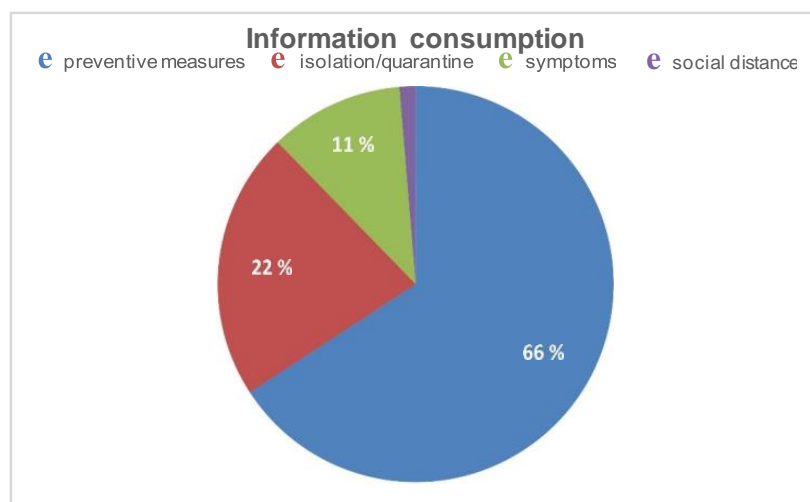
Source of Information	Frequency	Percentage 18.7
Internet searches specialized websites an 75 health personnel		
Television	45	11.25
Print	20	5
Social media	150	37.5
Public opinions	10	2.5

The results confirmed that most participants (37.5%) looked up information about Isolation, social distancing, and quarantine measures. Besides, most of the participants sought information relating to symptoms of COVID-19. The information that received the least attention included causes and treatment of the disease, a phenomenon attributed to the lack of conclusive research that point to the cause of the coronavirus disease.

**Table 3. Type and Nature of the Information.**

Type of Information	Frequency	Percentage
causes of COVID-19	10	2.5
preventive measures	80	20
Disease management	30	7.5
Symptoms	120	30
Isolation, social distancing, and quarantine measures	150	37.5
Treatment	10	2.5

Furthermore, the questionnaire had an open-ended question on seeking information from various sources. 30% of the participants who used social media networks confirmed that the reason for seeking the information relating to COVID-19 was to remain updated about the development of the disease, considering that there is no licensed vaccine. Additionally, over 50% sought information to confirm the effective measures that WHO and other health organizations were advancing.



**Fig. (1).** Information consumption.

**4.1. Information Consumption on the Adoption of Preventive Practices**

The question of using COVID-19 information was open-ended; this was to allow the participants to state how they use the information they consumed and its impact. The researcher conducted a thematic analysis focusing on the key issues emerging from the participants' responses to the feedback on this question. The analysis's main themes include isolation, social distancing, quarantine, symptoms, and preventive measures.

The result shown in Fig. (1) above is that 66% of the participants confirmed to have searched for information relating to the prevention of Coronavirus disease. Besides, the participants also confirmed that this information guided their practices; for instance, one participant confirmed that after looking for data on whether wearing a mask could protect one from the disease, they decided to wear masks all the time, especially when they intend to visit public places. 22% of the participants researched isolation and quarantine measures. The participants indicated that this information was important in ensuring their quarantine and isolation practices were effective. A finding consistent with the study by [19] confirmed that most online information seekers were looking for information about safety practices. In addition, 11% of responders expressed curiosity about the symptoms of Covid-19 disease. Other notable feedback on this question pointed to using the information in making decisions relating to travels, social activities, and family functions.

**4.2. Gender and Age on the Consumption of Information relating to Coronavirus**

Using Pearson's Correlation Coefficient, the study analyzed the nexus between gender and age with the consumption of information relating to coronavirus to answer the study's third aim. The data revealed a significant link between gender and media intake. However, the Pearson correlation confirmed that the younger the person, the more information they consumed. Besides, information consumption through legacy media platforms such as television and the press was greater among the elderly population. They confirmed that age is a decisive factor in information consumption (Table 3a).

**Table 3a. Pearson's Correlation Coefficient of gender, age, and consumption of covid-19 data.**

Consumption of Information Through	Gender	Age
Social media, websites	-.02	-.13***
Legacy media, press	-.01	-.21***
Mass media	.00	-.29***
N	400	

Gender (0 = male, 1 = female). Information consumption (1 = not at all, 5 = very much). \*\* p < .01, \*\*\* p < .001

The findings confirm no association between genders with information consumption in various aspects. This assertion is consistent with the study by [20] that men and women consume information differently. Men consumed more news from social media and websites compared to women. On the contrary, age

was statistically significant with all the dimensions of information consumption. Among the youths, greater and specialized consumption of the information is reported compared to the elderly, who primarily relied on legacy media, press, and mass media. This perspective is consistent with the research by [17], who confirmed that elderly individuals relied on mass media as a source of information. The assertions confirm that age is an essential factor in information consumption.

**5. DISCUSSION**

Consumption of information relating to coronavirus disease has occurred significantly after the first case of the disease was reported in Wuhan, China. When the disease was labeled a global epidemic in March 2020, people's desire for information became even more. The research focused on determining the pattern of information consumption during a pandemic. The study result confirmed that information relating to the coronavirus was unevenly accessed throughout the world, showing a digital disconnect in accessing information relating to the pandemic in different nations, which confirms research by [21] that proved digital communication inequalities due to limited access to information. Additionally, the results indicate that digital information such as websites with specialized data and healthcare professional opinions remains the most critical information source. Most people under the age of 40 rely on social media for information regarding the pandemic.

The study's findings also confirmed that the primary source of information relating to COVID-19 is social network sites. The assertion is consistent with [3], which confirmed that many people resorted to using social media to seek information about the pandemic. Moreover, the study's finding was consistent with the research by [18] that studied the online search trends by Google, concluding that most internet users sought information about the pandemic online. Traditional media, such as radio and television, were also considered important sources of information, especially among the elderly. The study also showed that the shared information was almost identical and communicated across platforms.

Gender and age, in particular, had no substantial impact on consuming COVID-19-related material. According to the findings, men and women consumed nearly similar amounts of news from social media and websites. Similarly, the age determined the dimension of information consumption. The youths consumed more digital information from websites and social media than the elderly, who got their information from legacy and traditional media. The assertion mirrors the study by [17] that indicated that elderly individuals relied more on mass media as a source of information.

Lastly, the study evaluated the nature and use of information. The findings confirmed that 60% of the participants sought information about the disease's prevention.

According to the respondents, the information was critical in developing preventive approaches such as wearing masks and social distancing whenever one is out in public. Twenty percent of the respondents looked up information about isolation, quarantine measures and the disease's symptoms. The

participant confirmed that the information was vital in ensuring they were safe during the isolation period. This assertion mirrors the study by [19] that indicated that most people seeking information were looking for information relating to preventive practices.

## CONCLUSION

The study sought to determine how the consumption relating to COVID-19 occurred, evaluating the nature of the information and rationale for consuming that particular type of information. The study also sought to establish the impact of consumption on adopting preventive practices. It examined the effect of gender and age on the consumption of information relating to coronavirus. After analyzing and interpreting the results, it is evident that most of the population sought information relating to the pandemic. Social media networks played an important role in disseminating information about the pandemic and were also the most preferred source of information regarding COVID-19. The study also confirmed that most participants were concerned with isolation, social distancing, quarantine measures, symptoms, and preventive measures.

Furthermore, the information consumed from various platforms allowed the individuals to be more vigilant and take all the necessary safety precautions to ensure their safety and prevent the disease from spreading. These measures include social distancing, hand sanitation, wearing masks in public places, or moving around.

In a nutshell, the study posits that most of the information relating to coronavirus is obtained from digital media platforms. The information from these platforms allows various users to be vigilant and follow the prevention directives. Also, youths depended on digital media compared to the elderly, who depended on traditional legacy media like television and newspapers. Men and women equally consumed information from social media.

### Contribution of the Study to Policy and Practice.

The study's findings are critical in public health communication and awareness of COVID-19. First, the study results shall help the government and public health department determine the approaches and techniques to target their message and information to reach a large and responsive media. Besides, the findings shall help healthcare practitioners and health organizations worldwide reduce the incidences of misinformation known to cause panic and stress. Through facts, disseminating misinformation will address the misconceptions and myths about the coronavirus pandemic. Moreover, by learning more about the pandemic from media platforms, the citizens and society are likely to be more cautious about the pandemic and take the necessary precautions to reduce the pandemic's spread.

The findings of the study are also critical for policy. Public health practitioners can use the research findings to make tailored messages for various individuals in society. The message can be shared through social media platforms using different languages to meet the needs of multi-linguist and multicultural societies that are common following

globalization's global trend. Additionally, considering that the results confirm that the information that is learned and shared using social media platforms results in behavioral change, policymakers can ensure that all the information that is curated and shared is factual and make the information stand out by sharing it using verified social media accounts for the sake of credibility and trustworthiness of the information. Besides, the policymakers can also ensure that public health information does not cause mental distress by presenting all the facts correctly and in an unalarming manner.

Despite the study's findings having a far-reaching impact on the disease management of COVID-19 and public health communication, there are some limitations:

1. The study adopts a cross-sectional design and uses a survey at only a particular time of a developing health crisis.
2. The study's correlational nature is not fully mature to determine a causal sequence between the variables of media consumption and prevention practices. People with greater awareness, prior knowledge, and preventive behaviors could consume more information to confirm and update their existing beliefs.
3. The study was an online survey with voluntary participation and snowball sampling; the study reported uneven distribution of the involvement in the different countries where the questionnaires were distributed, making it impossible to conduct cross cultural comparison considering the majority of the participants were from the UK that is why the comparison of counties was excluded from the evaluation.

In this respect, future research and studies on the topic must focus on a single country or an equal number of participants from different countries and compare the outcomes.

## ABBREVIATION

COVID-19 = Coronavirus Disease

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

## HUMAN AND ANIMAL RIGHTS

All the humans used were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

## CONSENT FOR PUBLICATION

The participants are volunteers and do not include children who need permission from their parents.

## STANDARDS OF REPORTING

STROBE guidelines have been followed.

## AVAILABILITY OF DATA AND MATERIALS

The data supporting the finding of this study are available within the article.

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None.

**CONFLICT OF INTEREST**

The author declares no conflicts of interest, financial or otherwise.

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