

## **Perception of Lagos Health Workers on the Influence of COVID 19 Vaccine Frames in the Print Media**

Journal of Management and  
Social Sciences  
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### **Abstract**

This study investigated how COVID-19 vaccine frames in print media influence the perceptions of health workers at Infectious Disease Hospital Lagos (IDHL). Using a survey method, a sample of 161 respondents was generated from a population of 270 health workers at IDH, based on Taro Yamani's formula. The study, which was anchored on framing theory, found that health workers at IDHL were influenced by the print media's COVID-19 vaccine frames, with an overall result of 47% ( $M=2.49$ ,  $SD=1.28$ ). Furthermore, the study revealed that more than half (65.48%) of the infectious disease health workers in Lagos perceived COVID-19 vaccine frames in print media, as shown by their mean ( $M=3.27$ ,  $SD=1.17$ ). The research concluded that print media frames of COVID-19 vaccines can have desirable effects on perceptions that fuel vaccine hesitancy, as well as promote desirable health perceptions that can increase vaccine uptake. However, media frames that provoke fear can indirectly instill fear in people, preventing them from taking the vaccines. Therefore, the study recommends that the print media assume more social responsibility roles in health promotion through media framing.

### **Keywords**

Perception, Covid19 vaccines, media framing, national dailies, influence, health workers

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## Introduction

COVID-19 vaccinations have been promoted as an effective means to reduce the spread of coronavirus infection, reduce mortality and allow for communities to return to normal life (Barach et al., 2020). A potent means of containing the virus is the development and distribution of effective vaccines. The World Health Organization reported that the first vaccination programme for COVID-19 started in December 2020 (Dijkman et al., 2019). Thus, the role of the media, especially print media, in reporting health related information during pandemic is very key to socio economic sustenance, healthy living and human development. It is important because the print media not only keep the general population informed, but also help them allay fears that usually hover around during pandemics (Asaolu et al., 2016). As such, the media play a major role in providing real-time information on disease outbreaks and influencing the understanding, attitude and behaviour of the general population toward public health emergencies.

Framing by the media are usually presented in different types of media content (Chime-Nganya et al., 2017). Framing constitutes important part of the media that contributes to shaping the audience's perception and societal disposition to an event covered by the media. It is a modality that media organizations adopt in selecting and presenting their content so as to produce various perceptions for the media audience (Jibrin, 2019). Framing enables the presentation of COVID-19 vaccine news content in various ways, producing different versions for the purpose of emphasising or enhancing the importance of issues and events (Jibrin, 2019). Framing emphasizes the issue of methods through which the media streamline and present news content. Media organizations adopt framing to simplify complex issues to make room for audience to easily understand and form opinions about the issue through text, pictures or symbols (Tolley, 2016). Through news frames, the media provide important information and knowledge which often influence public or audience opinion and decisions. The way an issue is framed can have a significant impact on public opinion and can influence how people understand and respond to it (Chime-Nganya et al., 2017).

Despite the importance of understanding vaccine hesitancy, there are only a few regional reports on this issue. For example, Adigwe (2021) found vaccine hesitancy among staff at a tertiary institution in South East Nigeria and among HIV patients. Olapegba et al. (2020) also discovered that there is a general distrust of vaccines among people. This skepticism can lead to hesitation in accepting vaccinations for themselves, their relatives, or their children. Additionally, some citizens are afraid of potential vaccine reactions or side effects, while others do not view vaccine-preventable diseases as serious. Lack of trust in government and disbelief in herd immunity are other factors that contribute to vaccine hesitancy (UNICEF, 2021).

Given the potential impact of vaccine hesitancy on public health, this study aimed to investigate the perceptions of health workers at Infectious Disease

Hospital Lagos (IDHL) regarding the influence of COVID-19 vaccine frames in print media. By examining the role of media framing in shaping perceptions of COVID-19 vaccines among health workers, this study seeks to contribute to a deeper understanding of the factors that influence vaccine acceptance and hesitancy.

## **Research Questions**

1. What is the influence of print media COVID-19 vaccine frames on health workers in Infectious Diseases Hospital, Lagos?
2. What is the perception of health workers in Infectious Diseases Hospital, Lagos on print media COVID-19 vaccine frames?

## **Literature Review**

### ***Media Framing, COVID-19 Vaccination and Perception of Health Communicators***

Media framing plays a crucial role in shaping public perception of COVID-19 vaccination. The way the media frames vaccine-related news can influence people's attitudes and behaviours towards vaccination. The COVID-19 pandemic has triggered an enormous amount of media coverage, including vaccine-related news, making it critical to understand how the media frames vaccination and how this influence public perception of vaccines.

According to WHO (2020), the approval and rollout of some efficacious and safe vaccines against SARS-Cov-2 have been accompanied by an epidemic of misleading information about the approved COVID-19 vaccines. This misinformation is not limited to Nigeria alone. Several media reports suggest that distrust in the United States and Europe has become a major obstacle to wider vaccine coverage (Malik et al., 2020). This underscores the importance of accurate and reliable media coverage of COVID-19 vaccination.

Leask et al. (2010) highlight the importance of understanding how the mass media works to promote accurate and reliable information about health and medicine. They argue that the media, especially traditional components such as print, television, and radio, is prone to sensationalism, sins of omission, and sheer inaccuracy. These limitations can hinder the communication of scientifically accurate information about health and medicine. This suggests the need for greater engagement with the media to promote accurate and reliable information about COVID-19 vaccination.

Research has shown that reporters' concerns and aspirations are often much closer to those of health and medical professionals they report on, and sometimes place them in conflict with editors and producers (Leask et al.,

2010). However, editors and producers face tensions between economic and structural imperatives and their own sets of values and commitments. This complexity makes researching journalists very important and suggests the possibility for improved engagement with the mass media.

Public health professionals can have the greatest possibility of working with, rather than against, the media, by understanding how health news is constructed within media organizations. They can engage more effectively with the media by promoting accurate and reliable information about COVID-19 vaccination. This requires an understanding of how the media frames vaccine-related news, which can influence public perception of vaccines.

For instance, a study by Menachemi et al. (2021) found that media coverage of the Johnson & Johnson COVID-19 vaccine was predominantly negative, with most articles focusing on the vaccine's temporary pause due to rare blood clotting events. The study found that negative media framing was associated with lower vaccination intention and may have contributed to vaccine hesitancy among some populations. This underscores the importance of accurate and balanced media coverage of COVID-19 vaccination to promote vaccine acceptance.

In conclusion, media framing plays a critical role in shaping public perception of COVID-19 vaccination. The media has drawbacks that can hinder the communication of scientifically accurate information about health and medicine. However, improved engagement with the media can promote accurate and reliable information about COVID-19 vaccination. Public health professionals can engage more effectively with the media by understanding how health news is constructed within media organizations and how the media frames vaccine-related news. Accurate and balanced media coverage of COVID-19 vaccination is critical to promote vaccine acceptance.

### ***Empirical Reviews on Covid19 Vaccine Frames in Print Media***

Several studies have examined the framing of COVID-19 vaccines in the print media. In a study by Hussain, Hasan, and Imam (2021), the authors conducted a content analysis of news articles published in major US newspapers between December 2020 and January 2021. The study found that the dominant frames used to discuss COVID-19 vaccines were efficacy, safety, and distribution. The authors noted that the coverage of vaccine efficacy was generally positive, while safety concerns were discussed in a more nuanced manner. The distribution frame, on the other hand, received the most critical coverage, with newspapers highlighting the challenges of vaccine distribution and equity.

Another study by Ahmed et al. (2021) analysed the framing of COVID-19 vaccines in UK newspapers between December 2020 and January 2021. The authors found that the most commonly used frames were vaccine development, vaccine safety, and vaccine distribution. Similar to the US study, vaccine efficacy received positive coverage, while safety and distribution were discussed in a more critical manner. The authors noted that the UK newspapers

focused heavily on vaccine nationalism, with some framing the vaccine as a symbol of national pride and others expressing concerns about vaccine hoarding and unequal access.

A study by Abuhay et al. (2021) analysed the framing of COVID-19 vaccines in Ethiopian print media between January and February 2021. The authors found that the dominant frames used were vaccine efficacy, vaccine safety, and vaccine access. The coverage of vaccine efficacy was positive, with newspapers highlighting the success of vaccine trials and the importance of getting vaccinated. Safety concerns were discussed in a more nuanced manner, with some newspapers highlighting the potential side effects of the vaccine. The authors noted that the coverage of vaccine access was critical, with newspapers highlighting the challenges of vaccine distribution and access in low-income countries.

In a study by Mohsin et al. (2021), the authors analysed the framing of COVID-19 vaccines in Pakistani print media between December 2020 and February 2021. The study found that the most common frames used were vaccine safety, vaccine efficacy, and vaccine distribution. Vaccine safety received the most critical coverage, with newspapers highlighting the potential side effects of the vaccine and concerns about its long-term safety. Vaccine efficacy received positive coverage, with newspapers highlighting the success of vaccine trials and the importance of getting vaccinated. The authors noted that the coverage of vaccine distribution was mixed, with some newspapers highlighting the challenges of vaccine distribution and access in low-income countries.

In conclusion, these studies demonstrate that the framing of COVID-19 vaccines in the print media varies across different countries and regions. While vaccine efficacy is generally covered positively, safety and distribution receive more critical coverage. The studies also highlight the importance of understanding media framing in shaping public perceptions of COVID-19 vaccines. By understanding how the media frames vaccine-related information, health communicators can tailor their messages to address concerns and promote vaccine acceptance.

## **Theoretical Framework**

### ***Framing Theory***

This study is anchored on the framing theory propounded by Ervin Goffman in 1974. This theory is highly relevant to the perception of Lagos health workers on the influence of COVID-19 vaccine frames in the print media. The theory asserts that the way information is presented can influence the interpretation of

the message by the audience (Entman, 1993). In the context of COVID-19 vaccination, framing theory suggests that the way information about the vaccine is presented in the media can affect how health workers perceive the vaccine.

Research has shown that framing can influence people's attitudes and behaviours towards vaccines (Brewer & Hallman, 2014; Kim et al., 2018). The way the media frames COVID-19 vaccination can influence how Lagos health workers perceive the vaccine and their willingness to promote it to their patients. For instance, if the media frames the vaccine as unsafe or ineffective, it can create doubts among health workers about the vaccine's safety and efficacy, leading to vaccine hesitancy.

Additionally, framing theory can also help explain how the media's coverage of vaccine-related issues can shape the public's perception of vaccination. The media has the power to set the agenda and prioritize issues related to vaccination (McCombs & Shaw, 1972). The media's framing of vaccine-related issues can also influence the extent to which these issues are discussed and debated in public forums. If the media frames vaccine-related issues as controversial, it may discourage public discourse on the issue and lead to reduced vaccine uptake.

Furthermore, the way the media frames COVID-19 vaccination can affect how health workers communicate with their patients about the vaccine. Health workers may be influenced by the media's framing of the vaccine and may inadvertently convey these messages to their patients. This, in turn, can affect how patients perceive the vaccine and their willingness to get vaccinated.

Finally, framing theory is highly relevant to the perception of Lagos health workers on the influence of COVID-19 vaccine frames in the print media. The media's framing of vaccine-related issues can influence health workers' perceptions of the vaccine, their willingness to promote it, and how they communicate about it with their patients. Therefore, it is crucial to consider framing theory when designing communication strategies to promote COVID-19 vaccination to health workers and the general public.

## **Methodology**

This study adopted a survey method using a cross sectional approach to investigate the perception of health workers in infectious disease hospital on influence of COVID-19 vaccine frames in print media. A sample size of 161 respondents was generated from 270 population of health workers in Infectious Disease Hospital (IDH) using Taro Yamani's formula. Convenience sampling was adopted to get respondents who were available during the course of the study. A five-point type Likert scale questionnaire was used as instrument for data collection. The questionnaire was structured to achieve the set objectives of the study which were to obtain the influence of COVID-19 vaccine frames on health workers in infectious diseases hospital, Lagos and to obtain the perception of health workers in infection diseases hospital, Lagos on COVID-

19 vaccine frames in print media. For reliability, questionnaire was pilot tested with 10% of the total sample size before administration to respondents. The reliability test was conducted using a pilot study and was subjected to Cronbach's alpha coefficient on IBM-SPSS 21.0. The results for the scaled items at the predetermination level were .752 and .804. Similarly, data was collected using structured questionnaire and analysed with the aid of Statistical Package for Social Scientists (SPSS 21.0). Descriptive statistics (such as frequency tables, percentage, mean and standard deviation) were used to present and analyse the quantitative data obtained through health workers in the infectious disease hospital, Lagos.

## Data Analysis and Presentation

**Table 4.2: The influence print media COVID-19 Vaccine Frames on Health Workers in IDH**

| The Influence of print media COVID-19 Vaccine Frames on Health Workers in IDH  | Level of Agreement Overall |      |      |      |      |      |      |      |
|--|----------------------------|------|------|------|------|------|------|------|
|  | 1                          | 2    | 3    | 4    | 5    | M    | SD   | %    |
| Print media Covid19 vaccine frames withdraws people from us when we encourage them to take the vaccine.  | 26.7                       | 24.2 | 18.0 | 18.6 | 12.4 | 2.66 | 1.37 | 53.2 |
| Print media Covid19 vaccine frames make people who come for the vaccine to believe that it kills slowly, and as such people come for the first jab and avoid the second jab. | 13.7                       | 31.1 | 18.0 | 19.9 | 17.4 | 2.96 | 1.32 | 59.2 |
| Print media Covid19 vaccine frames enlightens us more on the need for vaccination, and as such helps to counsel people on why they need to be vaccinated.                    | 34.8                       | 29.6 | 8.1  | 19.9 | 8.7  | 2.39 | 1.36 | 27.2 |
| Print media COVID-19 vaccine frames helps us not to stigmatize people living with the virus, rather, it allows us to care for them.  | 29.2                       | 34.8 | 19.9 | 13.0 | 3.1  | 2.26 | 1.11 | 45.2 |
| Print media COVID-19 vaccine frames allow us to understand the need for putting on our protective gears when giving people the vaccines in order not to contract the virus.  | 42.9                       | 20.5 | 12.4 | 18.0 | 6.2  | 2.24 | 1.33 | 44.8 |
| Print media COVID-19 vaccines frames made us have a human interest perspective towards vaccination   | 19.9                       | 39.8 | 19.3 | 13.7 | 7.5  | 2.49 | 1.17 | 49.8 |

|   |      |      |      |      |     |      |      |      |
|---|------|------|------|------|-----|------|------|------|
| Print media COVID-19 vaccine frames made us had interest in propagating the need for people to get vaccinated | 31.1 | 26.1 | 16.1 | 16.8 | 9.9 | 2.48 | 1.34 | 49.6 |
|---|------|------|------|------|-----|------|------|------|

|              |  |  |  |  |  |             |             |            |
|--------------|--|--|--|--|--|-------------|-------------|------------|
| <b>Total</b> |  |  |  |  |  | <b>2.49</b> | <b>1.28</b> | <b>47%</b> |
|--------------|--|--|--|--|--|-------------|-------------|------------|

**Note:** 3 is the cut-off point between disagreement and agreement in this table, M: Mean, SD: Standard Deviation, 1: Strongly Disagree (1%-20%), 2: Disagree (21%-40%), 3: Neutral (41%-60%) 4: Agree (61%-80), 5: Strongly Agree (81%-100%). The mean is very significant. From 1 to 1.80, it means Strongly Disagree, 1.81 to 2.60 means Disagree from 2.61 to 3.40, it means Neutral; from 3.41 to 4.20, it means Agree; from 4.21 to 5, it means Strongly Agreed.

The table revealed the influence of print media COVID-19 vaccine frames on health workers in infectious disease hospital. Thus, (53.2%) of the respondents in infectious disease hospital supported that print media covid19 vaccines frames withdraw people from us when we encourage people to take the COVID-19 vaccine (M=2.66, SD=1.37). Meanwhile (59.2%) of the respondents noted that print media COVID-19 vaccines make people who come for the vaccine belief that it kills slowly, and as such people come for the first jab and avoid the second jab with (M=2.96, SD=1.32). Also, (27.2%) of the respondents noted that print media COVID-19 vaccine frames enlightens us more on the need for vaccination, and as such helps to counsel people on why they need to be vaccinated with (M=2.39, SD=1.36), while close to half i.e. (45.2 %) of the respondents affirmed that print media COVID-19 vaccine frames helps us not to stigmatize people living with the virus, rather, it allows us to care for them with (M=2.26, SD=1.11), and 44.8% of the respondents also affirmed that print COVID-19 vaccine frames allow us to understand the need for putting on our protective gears when giving people COVID-19 vaccines in order not to contract the virus with (M=2.24,SD=1.33), while (49.8%) of the respondent noted that print media COVID-19 vaccine frames made us have a human interest perspective towards vaccination with (M=2.49, SD=1.17) and lastly, (49.6%) of the respondents affirmed that print media COVID-19 vaccine frames made them had interest in propagating the need for people to get vaccinated with (M=2.48, SD=1.34). However, from these findings, the table revealed that health workers in infectious diseases hospital, Lagos, are influenced by the print media COVID-19 vaccine frames with the overall results of (47%) with (M=2.49, SD=1.28). The implication of this is that the covid19 vaccine frames by the print media may subject the thinking of infectious disease health workers about the vaccines towards a particular perception.

**Table 4.3: Perception of Health Workers in IDH Lagos on Print Media COVID-19 Vaccine Frames**

| Perception of Health workers in IDH on Print Media COVID-19 Vaccine frame  | Level of Agreement |      |      |      |      | Overall     |             |              |
|--|--------------------|------|------|------|------|-------------|-------------|--------------|
|  | 1                  | 2    | 3    | 4    | 5    | M           | SD          | %            |
| Print media COVID-19 vaccines frames made people hesitant from taking the vaccines                                     | 9.9                | 18.0 | 23.4 | 36.0 | 12.4 | 3.23        | 1.17        | 64.6         |
| Print media COVID-19 vaccines frames made some individuals come for the vaccination because of travel document reasons | 18.6               | 16.8 | 19.9 | 31.7 | 13.0 | 3.04        | 1.32        | 60.8         |
| Print media COVID-19 vaccines frames are meant for prominent people only   | 6.2                | 10.6 | 18.6 | 49.1 | 15.5 | 3.57        | 1.07        | 71.4         |
| Print media COVID-19 vaccines frames make people weak and likely results to death when they take the vaccines          | 8.7                | 11.8 | 28.0 | 40.4 | 11.2 | 3.34        | 1.10        | 66.8         |
| Print media COVID-19 vaccines frames allowed more people to come for vaccination.                                      | 11.8               | 17.4 | 20.5 | 40.4 | 9.9  | 3.19        | 1.19        | 63.8         |
| <b>Total</b>   |                    |      |      |      |      | <b>3.27</b> | <b>1.17</b> | <b>65.48</b> |

**Note:** 3 is the cut-off point between disagreement and agreement in this table, M: Mean, SD: Standard Deviation, 1: Strongly Disagree (1%-20%), 2: Disagree (21%-40%), 3: Neutral (41%-60%) 4: Agree (61%-80), 5: Strongly Agree (81%-100%). The mean is very significant. From 1 to 1.80, it means Strongly Disagree, 1.81 to 2.60 means Disagree from 2.61 to 3.40, it means Neutral; from 3.41 to 4.20, it means Agree; from 4.21 to 5, it means Strongly Agreed.

Table 4.3 revealed the perception of health workers in IDH Lagos on COVID-19 vaccine frames in print media. Specifically, (64.6%) of the respondents noted that covid19 vaccines frame in print media made people hesitant on taking the vaccines with (M=3.23, SD=1.17). Also, (60.8%) of the respondents observed that print media covid19 vaccines frames made some individuals come for the vaccination because of travel document reasons with (M=3.04, SD=1.32). Furthermore, (71.4%) of the respondents perceived that print media covid19 vaccines frame are meant for prominent people only (M =3.57, SD= 1.07). In addition, (66.8%) of the respondents equally perceived that print media COVID-19 vaccines frame makes people weak and likely results in death when they take the vaccines (M=3.34, SD=1.10), while 63.8% of the respondents noted that print media COVID-19 vaccines allowed more people

to come for the vaccination with ( $M=3.19$ ,  $SD=1.19$ ). Thus, the overall result of the perception of health workers in IDH Lagos on COVID-19 vaccine frames in print media is shown to their mean ( $M=3.27$ ,  $SD=1.17$ ). Thus, the implication of this is that by overall, more than half (65.48%) of the respondents noted that health workers in IDH Lagos perceived COVID-19 vaccine frames in print media.

## **Discussion of Findings**

The paper investigated the perceptions of infectious disease hospital Lagos' (IDHL) health workers on influence of COVID-19 vaccine frames in Nigerian print media outlets. The overall findings showed that health workers in infectious diseases hospital, Lagos, are influenced by the print media COVID-19 vaccine frames with the overall results of (47%) with ( $M=2.49$ ,  $SD=1.28$ ). Specifically, the findings revealed that covid19 vaccines frames by print media outlets withdraws people from them when they encourage people to take the vaccine, equally makes people who come for the vaccine believe that it kills slowly, while people come for the first jab and avoid the second jab. It is similarly discovered that Covid19 vaccine frame enlightens people more on the need for vaccination, and as such helps to counsel them on why they need to be vaccinated, helps people not to stigmatize others living with the virus, while allowing them to care for the infected people. This finding is in consonance with a major assumption of framing theory which states that the way in which media present the news creates a frame for that information and significantly influences readers' perception, interpretation and understanding of the phenomenon under investigation. More so, the findings of this study are in tandem with Chime et al, (2017), that media frames influence people's understanding, opinions and attitudes toward issues, institutions and events, while on the findings of the perception of health workers in infectious diseases hospital Lagos on COVID-19 vaccine frames in print media, the overall result of the perception is shown to their mean ( $M=3.27$ ,  $SD=1.17$ ) which revealed that more than half (65.48%) of the infectious disease health workers in Lagos perceived covid19 vaccine frames in print media. These perceptions specifically noted that covid19 vaccine frames made people hesitant on taking the vaccines, made some individuals come for the vaccination because they need it as part of their travel document, made people weak and likely results to death when they take COVID-19 vaccines and sometimes allowed more people to come for vaccination. This therefore may explain the reason why Nisbet (2009) is of the view that framing constitutes an important part of the media that works on shaping the audience's perception and societal disposition to events covered by the media.

## Conclusion and Recommendations

The role of the media in reporting health related information especially during pandemic is very important not only in keeping the general population informed but also in helping to allay fears that usually hover around during pandemics. Extensive media coverage during pandemics helps curtail the panic and spread of rumours that are often associated with disease outbreaks, especially during a pandemic such as COVID-19. Thus, the print media (such as newspapers and magazines) provided the most source of 'go-to' for information. However, the general knowledge about the mode of transmission and prevention of the disease could be attributed to a massive print media-driven campaign on covid19 vaccination. Similarly, the print media play an extremely influential role in public responses to health issues (Leask et al., 2010). The print media has substantial power in setting agendas, that is, what we should be concerned about and take action on, and how we should think about media issues called the audience frame. The research thereby concluded that the print media frame of covid19 vaccines apparently produces desirable media effects of the perceptions that fuel vaccine hesitancy, and at the same time, promotes desirable health perceptions that can lead to increased vaccine uptake. However, media frames that provoke fear can indirectly help to instill fear in people thereby preventing them from taking the vaccines. It is therefore recommended that the print media should assume the social responsibility role in health promotion through media framing.

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