

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/377163899>

Influence of Covid-19 Protocol Messages on Patronage of Hand Sanitisers among Undergraduate Students

Article in *Pakistan Journal of Life and Social Sciences* - January 2024

DOI: 10.57239/PJLSS-2024-22.1.003

CITATIONS

0

READS

31

9 authors, including:



Felix Talabi

Redeemer's University

119 PUBLICATIONS 394 CITATIONS

SEE PROFILE



Adelabu Omowale

Redeemer's University

96 PUBLICATIONS 144 CITATIONS

SEE PROFILE



Bernice Oluwalanu Sanusi

Redeemer's University

62 PUBLICATIONS 102 CITATIONS

SEE PROFILE

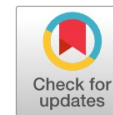
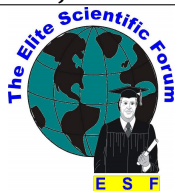


Oluwakemi Abiodun Adesina

Redeemer's University

40 PUBLICATIONS 27 CITATIONS

SEE PROFILE



RESEARCH ARTICLE

Influence of Covid-19 Protocol Messages on Patronage of Hand Sanitisers among Undergraduate Students

Adebola Adewunmi Aderibigbe¹, Felix Olajide Talabi^{2*}, Omowale Taofeek Adelabu³, Bernice Oluwalanu Sanusi⁴, Oloyede Oyinloye⁵, Oluwakemi Abiodun Adesina⁶, Samson Adedapo Bello⁷, Joseph Moyinoluwa Talabi⁸, Prosper Nunayon Zannu⁹

¹ Communication Arts Programme, Bowen University, Iwo Osun State, Nigeria

^{2,3,4,5} Department of Mass Communication, Redeemer's University, Ede, Nigeria

⁶ Department of History and International Studies, Redeemer's University, Ede, Nigeria

⁷ Department of Mass Communication, Olabisi Onabanjo University, Ago-Iwoye, Nigeria

⁸ Department of Religions and Peace Studies, Lagos State University, Ojo, Nigeria

⁹ Department of Mass Communication, Lagos State University of Science and Technology, Lagos, Nigeria

ARTICLE INFO

Received: Sep 12, 2023

Accepted: Jan 12, 2024

Keywords

COVID-19 protocol
Hand sanitisers
Messages
Patronage
Social media
Undergraduates

*Corresponding Author:

talabif@run.edu.ng

ABSTRACT

The study examined the influence of COVID-19 protocol messages on the patronage of hand sanitiser among undergraduate students to assess the effectiveness of COVID-19 messages on brands. Undergraduates in Nigerian universities are the target of advertisers for new products such as consumables, creams, and cosmetics due to their active presence on social media. The work is anchored on social marketing theory, while the study adopted a survey research method. The researchers used the Taro Yamane form to sample 386 students. The Kruskal-Wallis Rank Test and regression analysis were employed in the inferential analysis to determine the influence of the COVID-19 protocol message on the patronage of hand sanitiser. The results showed that COVID-19 protocol messages were influential in patronising hand sanitiser during the pandemic. From the findings, the mean response value "1" shows a high level of awareness of COVID-19 protocol messages on the patronage of hand sanitiser, which aided in the patronage of hand sanitiser. The standard deviation shows "25.5%," which explains that opinion on COVID-19 message protocols on hand sanitiser slightly varies among respondents. Based on the study's findings, the researchers recommended that policymakers, government agencies, and other stakeholders responsible for disseminating COVID-19 messages develop a robust framework to capture the masses and curtail COVID-19 incidence while increasing the distribution of hand sanitisers. The research outcomes suggest that using social media to reach the younger generation is highly effective in Nigeria.

INTRODUCTION

Coronavirus (COVID-19) has been seen as a worldwide pandemic that is harmful to humans daily. On

December 8th, 2019, the World Health Organisation (WHO, 2020) declared a novel human coronavirus disease outbreak. It began in Wuhan in Hubei

Province, which has a population of 11 million and is China's seventh-largest city. This city became the centre of a pneumonia outbreak of unknown causes with global implications and an ongoing impact. According to the WHO (2020), coronaviruses are a vast virus family that causes illnesses ranging from a common cold to more severe diseases, such as Middle East Respiratory Syndrome and Severe Acute Respiratory Syndrome.

The global pandemic has resulted in changes in the usual standard of living because it pushed too many businesses to change their regular routines and forced individuals to maintain some protocols, such as maintaining social distancing, using nose masks, constantly washing their hands, avoiding staying in a crowded environment when sick, staying at home, and using hand sanitisers.

These coronavirus protocol messages also stood as a barrier to many businesses due to the nationwide lockdown that seriously affected them. At the same time, most companies decided to start up products that could be of benefit and for the use of their targeted audience because it is seen as a COVID-19 protocol message that prevents anyone from coming in contact with the virus, such as the use of hand sanitiser and the wearing of a face mask. Most companies like 2Sure, Dettol, and Wind (hand sanitisers) are used to prevent people from contracting the disease, and they need the use of protocol messages that will aid in the patronage of the product in society.

At the pandemic's peak, many businesses shut down due to little or no income, leading to worldwide lockdowns. Companies found it difficult to continue their businesses, while some companies that produced hand sanitiser created opportunities by using the COVID-19 protocol messages created by WHO and using the advertisements to persuade the audience to buy their products.

One of the strategies employed by advertisers during the peak of COVID-19 was to engage undergraduate students online through social media. Undergraduate students are always advertisers' target when launching new products in fashion and consumables. Undergraduates in Nigerian universities are the target of advertisers for new products such as consumables, creams, and cosmetics due to their active presence on social media (Ogunyombo et al., 2017; Jam et al.,

2011; Ahmad et al., 2022). Since schools were shut down, the activities of students on social media increased, especially at private universities. In fact, the advent of the pandemic exposed the limitations of public universities in Nigeria in terms of online lecture delivery, while private universities leveraged the situation to consolidate their online lectures; hence, the use of Redeemer's and Bowen universities, which are private universities in Nigeria. Therefore, this study aimed to assess how the COVID-19 protocol messages were used to help undergraduate students patronise hand sanitiser companies. The study was carried out to understand the influence of COVID-19 protocol messages on the patronage of hand sanitisers.

The objectives of this study are to assess the level of awareness of COVID-19 protocol messages during the period of the pandemic, assess the effectiveness of COVID-19 protocol messages on the use of hand sanitiser during the pandemic, determine the distribution of hand sanitiser patronage across the social-demographic characteristics of undergraduate students, and examine the influence of COVID-19 message protocols on the patronage of hand sanitiser during the pandemic.

Scholars have written on COVID-19 sign promotions on hand sanitisers using field experiments (Capps et al., 2022); public perception of hand hygiene and behavioural change during COVID-19 (Dwipayanti et al., 2021); behavioural change message techniques and adherence to messages on hand sanitisers (Booker et al., 2022); and Pentecostal churches' adherence to mass media COVID-19 campaign protocols (Nwaoboli, 2022), among others. However, limited literature exists on the influence of COVID-19 protocol messages on the patronage of hand sanitisers among undergraduate students using social media to reach the target audience. However, experiencing a high level of information engagement through social media platforms raises the level of awareness of COVID-19 (Talabi et al., 2023). Therefore, there is a need to research how media messages through social media influence undergraduates during the peak of COVID-19. Booker et al. (2022) are of the opinion that the behaviour-change message technique did not increase customers' patronage of hand sanitiser adherence during the pandemic. Booker et al.

(2022) concluded that the requirements imposed on businesses to provide sanitisers to patrons were unnecessary burdens that added to the woes of the pandemic. Meanwhile, it is a known fact that mass media gained more prominence as the platform for creating awareness for COVID-19 protocols during the pandemic (Tandoc Jr and Goh, 2023).

LITERATURE REVIEW

A virus known as SARS-CoV-2 is to blame for the ongoing COVID-19 pandemic. According to the WHO (2020), coronaviruses (CoVs) are a broad family of viruses that can create respiratory infections in humans, ranging from the common cold to more unusual and deadly diseases like SARS and MERS, both of which have significant fatality rates and were first found in 2003 and 2012, respectively.

Lauren (2021) explains that, as of now, researchers know that the novel coronavirus is transferred through droplets discharged into the air when an infected person coughs or sneezes. The droplets generally do not travel more than a few feet and fall to the ground (or onto surfaces) in a few seconds, so physical distancing effectively prevents the spread.

Due to the pandemic, the WHO developed some protocol messages that would prevent individuals from having the virus and spreading it to people. The protocol messages carried out in this place are just like advertisements because they also use advertising to persuade people to follow the protocol messages. WHO (2020) advocates for protocol messages to prevent individuals from contracting the virus and limit the risk of infection. WHO advises that individuals should keep at least a one-metre barrier from each other.

In the organisation's view (WHO, 2020), to prevent the virus, everybody needs to make wearing a mask a regular routine and use appropriate storage, cleaning, or disposables to make the precaution effective. They advised that hands should be thoroughly washed to kill germs, including viruses, that may be present on hands. WHO (2020) advised that individuals should avoid touching the eyes, nose, and mouth because such activity could pick up various viruses.

Advertising hand sanitiser

Advertising is seen as an essential factor in a business or a product. Advertising brings positivity to a product

and creates awareness, especially if it is a new or upcoming product. It is the advertising of a product that attracts consumers to the product. Because some consumers are only susceptible to advertising, it fosters brand loyalty. Sometimes, consumers are attracted to the product, and individuals mostly struggle with selective distortion, but advertisements help in the precise selectivity of a product. Advertising a product is typically a call for patronage; some companies know using hand sanitiser is a protocol message that helps promote the products for the companies. Ogunyombo et al. (2017) explained that advertisers leverage the opportunities afforded by social media to capture the youth. They buttressed that advertisers attract younger people, especially undergraduate students, to launch various products online and make them visible, making product exposure easy.

According to Howes (2020), hand sanitiser sales rose in early 2020 as the novel coronavirus, SARS-CoV-2, spread. According to the WHO, people were advised to avoid touching their faces and wipe their hands after touching public surfaces such as door handles and handrails. Hand sanitisers became a preventive measure to prevent people from getting the virus. Mahmood et al. (2020) research revealed that people are the main source of SARS-CoV-2 transmission through human-to-human interactions. According to Mahmood et al., (2020) WHO recommends preventive measures and a healthy lifestyle with a robust immune system to combat COVID-19, while adaptation to effective hand hygiene is vital. One of WHO's best advice is to wash or sanitise hands often with soap or 60% alcoholic hand sanitiser, respectively.

In a study he conducted, Smolin (2020) discovered that there are media opportunities to support pandemic coverage and offer consumers much-needed entertainment, business utilities, social interactions, and education. He explains that brands could manage their reactions to the COVID-19 epidemic with the help of technology suppliers and organisations that could control proximity. Therefore, using various COVID-19 protocol messages will go a long way towards defining various brands.

However, the role of emotion in processing advertisements and emotional appeals (Taylor, 2020; Azhar et al., 2022) is always successful; hence, hand

sanitiser is effective based on emotional attachment. Bördlein (2020) study equally upholds the fact that the poster was reasonably successful in encouraging the use of hand sanitiser gel. A feedback poster, alongside the fast sign, resulted in no additional increases in hand sanitiser gel in the cafeteria. The higher usage of sanitiser gel further strengthens the evidence for the effectiveness of the intervention against the spread of COVID-19.

Prajapati et al. (2022) studied hand sanitiser as a preventive measure during the COVID-19 pandemic. They submitted that multiple experts recommend using hand sanitiser to combat the pandemic. They observe that the sale of sanitiser improved during the pandemic. Mahmood et al. (2020) observed that the misuse of hand sanitiser could become toxic to human health and the environment. They submit that a small amount of alcohol could cause poisoning for children; hence, their study was on the effect of hand sanitiser on humans and the environment. Nwaoboli (2022) believes that media messages on COVID-19 protocols were ineffective among the Pentecostal churches. The media campaigns were only able to create awareness among the church members, but the members did not objectively adhere to the COVID-19 protocol messages.

Social media and youth

Social media has been a trend among youth in Nigeria. It can make or mar the younger generation's behaviour in the era of information technology. Ahmad et al. (2022) carried out a study on the effectiveness of social media-based interventions on the propensity to reduce drug intake among youth. The outcome of their study revealed that social media-based interventions reduce drug abuse propensity among the participants. Using social media to reach youth is highly effective. Dwipayanti et al. (2021) discussed the public perception of the importance of hand hygiene and changing behaviour during the COVID-19 pandemic. They submitted that hand hygiene is sacrosanct for curtailing the spread of the pandemic. The online participants of the study agreed that hand washing was necessary to maintain hygiene during the pandemic.

Hypotheses

In achieving the research objectives, the following hypotheses were formulated to capture the research objectives:

H1: The distribution of patronage for hand sanitisers is the same across categories of respondents.

H2: The COVID-19 protocol message has a significant influence on the patronage of hand sanitiser.

Theoretical framework

The study is anchored on social marketing Theory. Social marketing theory promotes socially valuable information and socially accepted behaviours. Bajracharya (2018) tries to integrate marketing ideas, principles, tools, techniques, and socially beneficial concepts to promote communication and benefit society. Social and welfare organisations are now using the social marketing theory, which Philip Kotler and Gerald Zaltman first proposed in 1971.

According to Mueller et al. (2008), as cited in Nanda (2015), price is intangible and comes in making a behaviour change in social marketing." The product is the benefit that comes in the form of improved health or a reduction in disease. The loci of social marketing are individuals who need to change their behaviour for the well-being and welfare of themselves and society. Positivist methods influence social marketing theory. The Social Marketing Theory suggests interviewing, group discussions, information exchanges, toll-free numbers, and surveys to understand what people think, know, and want to know about an issue. To make communication effective, the knowledge and perception of the public on the subject and their motivation towards it must be determined. The message should contain precise, non-technical language appropriate to the target audience. Using graphics and other pictorial materials also helps understand the message. Visuals as far as possible, avoiding words to convey the meaning of the message, which can be done in the advertisements, and protocol messages on hand sanitiser during the pandemic could attract more consumers. (Khan et al., 2021; Nanda, 2015).

The use of hand sanitiser is part of the COVID-19 protocol messages. The hand sanitiser producers understand the social and psychological factors that bring about change in society because they understand that the pandemic is affecting the world; therefore, they use the COVID-19 message protocols to attract patronage. Social marketing theory has placed a premium on research that examines the social and psychological variables that contribute to resistance

and change in society—hand sanitiser helps increase the acceptability, response, and practice of any social idea for the public. In line with the research study, COVID-19 is a pandemic that has become a challenge in the world. Hand sanitiser producers picked up the use of social marketing theory to make the target audience get involved in a specific action while they tried to use marketing ideas such as using the COVID-19 protocol messages to tell the consumers about their products and the importance of their products. In other words, the hand sanitiser producers used the theory, which is the basic marketing and advertising principles amidst the pandemic, to promote patronage and communication among the consumers.

The social marketing theory shows that society can benefit from the importance of hand sanitiser messages, mainly when used as a preventive item for the coronavirus pandemic. Social marketing theory is used to promote tangible things that can help society, in which hand sanitiser can be seen as an actual thing that can benefit the community, especially when it is part of the COVID-19 protocol messages. During COVID-19, protocol messages on hand sanitiser helped in packaging and distributing information about the hand sanitiser products with a plan of using protocol messages to make the products reach a large audience, hence reinforcing the public's social information and belief behaviour.

METHODOLOGY

This study adopts a survey research design. The researchers recruited a sample from the population for the study. For this study, the sample was picked purposefully among the students of Redeemer's and Bowen Universities in Nigeria. Students at Redeemer's University are 6,400, while those at Bowen University are 4,600, making a total population of 11,000. Undergraduates were selected because

they were available online on social media platforms during the pandemic. First, they went online to receive lectures, and second, they used social media to seek information on the global pandemic. Advertisers usually target undergrads when launching new products in fashion, cosmetics, and consumables due to their active presence on social media (Ogunyombo et al., 2017; Ahmad et al., 2022).

The researchers used a purposive sampling method to choose the sample from the population. Using Taro Yamane's formula to determine the sample size, which is 386. The sample size was increased to 400 to account for invalid responses.

The data instrument used was the questionnaire. The questionnaire contains closed-ended questions. The close-ended question type was a Likert scale of five points (strongly agree, SA; agree, A; disagree, D; strongly disagree, SD; and undecided, U). The raw data collected in the study were organised and analysed using simple percentages and frequencies. The data were presented in table formats, and SPSS (Statistical Product and Service Solution) was used to run the data. The Kruskal-Wallis Rank Test and regression analysis were employed in the inferential analysis to determine the influence of the COVID-19 protocol message on the patronage of hand sanitiser.

RESULTS

Male respondents constitute 42.8%, while female respondents constitute 57.3% of the sample size. The age distribution of the respondents includes age 16–20, or 50.5%; age 21–24, or 42.3%; and age 25–29, or 7.3%. The three brands of hand sanitiser used for the study have the following distribution: Dettol, 38.8%; Wind, 25%; and 2Sure, 36.2%.

Awareness of COVID-19 protocol message

Table 1 consists of the statistics for the distribution of the responses of the sampled undergraduate students on whether or not they were aware of the COVID-19 protocol message during the pandemic.

Table 1: Descriptive statistic on the awareness of COVID-19 protocol message

	N	Minimum	Maximum	Mean	Std. Deviation
Are you aware of the usage of hand sanitiser as COVID-19 protocol messages?	400	1	2	1.07	0.255
Valid N (listwise)	400				

Source: Output from SPSS (2022)

The standard deviation used here measures how dispersed the data is concerning the mean. These responses were captured on a binary scale of 'Yes, 1' and 'No, 2'. The mean response value of '1' indicates that most respondents know the COVID-19 protocol

message. This can be taken as a general opinion since the standard deviation of the responses is low (25.5%), indicating that the opinion slightly varies amongst respondents.

Table 2: Descriptive statistic on the level of awareness of COVID-19 protocol message

	N	Minimum	Maximum	Mean	Std. Deviation
There is a high level of awareness of coronavirus protocol messages	400	1	5	3.87	1.34
The consumption of hand sanitiser became a necessity due to the awareness of protocol messages on COVID-19	400	1	5	4.52	0.700
Valid N (listwise)	400				

Source: Output from SPSS (2022)

The respondents' awareness level of the COVID-19 protocol message was captured on the 5-point Likert scale, ranging from 'Strongly Disagree: 1' to 'Strongly Agree: 5'. From the table, the average response value of 3.87 indicates that most respondents believe there is a high awareness of COVID-19 protocol messages. However, this belief varies significantly among the respondents, with a standard deviation of 134%. Similarly, the mean response value of 4.52

shows that most respondents strongly believe that awareness of COVID-19 protocol messages enhanced the use of hand sanitisers. However, this belief varies amongst the respondents, with a standard deviation of 70%. The results of the descriptive analysis here thus confirm a relatively high level of awareness of the COVID-19 protocol message among the sampled undergraduate students.

Table 3: Descriptive statistic on the effectiveness of COVID-19 protocol message

	N	Minimum	Maximum	Mean	Std. Deviation
The utilisation of hand sanitiser as a protocol message was difficult to adapt to during the peak of COVID-19	400	1	5	4.05	0.850
The protocol messages on hand sanitisers during the pandemic were effective	400	1	5	4.24	0.847
Hand sanitiser was more effective at the peak of the COVID-19 pandemic	400	1	5	4.20	0.857
Valid N (listwise)	400				

Source: Output from SPSS (2022)

A mean response value of 4.05 shows that most respondents believe using hand sanitiser as a protocol message was difficult to adapt to during the pandemic. This belief has a standard deviation of 85%, indicating that the position varies significantly across the respondents. In addition, the mean response value of 4.24 implies that most respondents believe the protocol messages on hand sanitisers were effective during the pandemic. However, this belief varies among the respondents, with a standard deviation of 84.7%. The average response value of 4.20 also suggests that most respondents think hand sanitisers were more effective during the pandemic. This opinion has a standard deviation of 85.7%, implying a

high variation in this position across the respondents. The summary of the descriptive statistics implies that the COVID-19 protocol message was effective during the pandemic.

Distributions of hand sanitiser patronage across social-demographic characteristics of undergraduate students

The Kruskal-Wallis rank test was used to analyse the distribution of the patronage of hand sanitiser across the social-demographic characteristics (gender, age, school, and academic level) of the sampled undergraduate students. The non-parametric test has a null hypothesis, which states that the distribution of a variable is the same across sampled groups.

Table 4: Summary of Kruskal Wallis rank test

	Hypothesis	Test	Sig.	Decision
1	The Distribution of Patronage of hand sanitisers is the same across categories of gender	Independent-Samples Kruskal-Wallis Test	0.012	Reject the null hypothesis
2	The Distribution of Patronage of Hand Sanitisers is the same across categories of age	Independent-Samples Kruskal-Wallis Test	0.27	Accept the null hypothesis
3	The Distribution of Patronage of Hand Sanitisers is the same across categories of School	Independent-Samples Kruskal-Wallis Test	0.386	Accept the null hypothesis
4	The Distribution of Patronage of Hand Sanitisers is the same across categories of Academic Level	Independent-Samples Kruskal-Wallis Test	0.018	Reject the null hypothesis

Source: Output from SPSS (2022)

Therefore, the results show that the distribution of the patronage of hand sanitiser is not the same across the gender categories of the sampled undergraduate students, the distribution of the patronage of hand sanitiser is the same across the age categories of the sampled undergraduate students, and the distribution

of the patronage of hand sanitiser is not the same across the categories of the academic level of the undergraduate students.

Influence of COVID-19 protocol message on the patronage of hand sanitiser

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.520 ^a	0.27	0.268	0.534	1.950

a. Predictors: (Constant), Covid-19 protocol messages

b. Dependent Variable: Patronage of Hand sanitisers

Source: Output from SPSS (2022)

The result from the table shows the validity of testing the influence of COVID-19 protocol messages on the patronage of hand sanitiser. The correlation coefficient ($R = 0.52$) implies a strong positive relationship between COVID-19 protocol messages and the patronage of hand sanitiser. The R-squared statistic of 0.27 suggests that the predictor

variable explained 27% of the variations in the dependent variable. Furthermore, the Durbin-Watson statistics of 1.95 are approximately 2, which indicates the absence of autocorrelation between the data representing the COVID-19 protocol messages and the patronage of hand sanitiser.

Table 6: Anova result

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.014	1	42.014	147.138	0.000b
	Residual	113.646	398	0.286		
	Total	155.660	399			

a. Dependent Variable: Patronage of Hand sanitisers

b. Predictors: (Constant), Covid-19 protocol messages

Source: Output from SPSS (2022)

The F -statistics from the ANOVA result are statistically significant at the 5% level ($p = 0.00$). With this ANOVA

result, the influence of the predictor variable on the dependent variable can be specified.

Table 7: Anova result

	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.061	0.183		11.232	0.000
	Covid-19 protocol messages	0.518	0.043	0.52	12.130	0.000

Source: Output from SPSS (2022)

This table shows the result of the influence of the COVID-19 protocol message on the patronage of hand sanitiser among the sampled undergraduate students. The test outcome implies that COVID-19 significantly influences the patronage of hand sanitisers among undergraduate students.

DISCUSSION

The analysis shows the interaction between COVID-19 protocol messages and the patronage of hand sanitiser among the sampled undergraduate students.

The descriptive analysis shows that there are more female students than males among the respondents, and the majority of the respondents fall between 16 and 20 years old (50.5%). This distribution is expected since the respondents are all undergraduate students. In addition, the average entry age for most universities in Nigeria is 18 years. Regarding awareness of COVID-19 patronage messages, the mean response value is '1', indicating that most respondents are aware of the COVID-19 protocol message. This can be taken as a general opinion since the standard deviation of the responses is low (25.5%), indicating that the opinion slightly varies amongst respondents. The results of the descriptive analysis also confirm a relatively high awareness of the COVID-19 protocol message among the sampled undergraduate students. The result supports a previous study by Smolin (2020) stating that due to the social distance COVID-19 protocol message, employees had to work from home, which shows a high level of awareness.

Regarding the effectiveness of COVID-19 protocol messages on hand sanitiser, the mean response value is '4.24' which shows that most respondents believe that the protocol messages on hand sanitiser were effective during the pandemic. The descriptive findings imply that the COVID-19 protocol message was effective during the pandemic. This result is consistent with Mahmood et al. (2020), who states that there has been an effective use of hand sanitiser during the peak of COVID-19, and the recommendation of hand sanitiser, which is a protocol message, is based on fast, effective, and broad-spectrum antimicrobial activity combined with easy availability and considered safety.

Looking at the distribution of patronage of hand sanitisers, the Kruskal-Wallis Rank Test reveals that the distribution of patronage of hand sanitisers is the same across categories of gender, and the distribution of patronage of hand sanitisers is the same across categories of academic level. The implication is that the COVID-19 protocol messages induce both genders to acquire hand sanitisers, irrespective of their level of education. However, the results reveal that the distribution of patronage of hand sanitisers is not the same across categories of age and schools. Different ages and institutions have different reactions to the distribution of hand sanitiser. Therefore, there is a need for age-based COVID-19 protocol messages across different ages and educational institutions. The finding supports the position of Bördlein (2020), who emphasised that hand hygiene occurs too infrequently, which could lead to the distribution of patronage of hand sanitiser across ages and schools not being the same.

Findings reveal that the COVID-19 protocol message significantly affects the patronage of hand sanitiser. That is, as COVID-19 protocol messages increase, the use and patronage of hand sanitisers increases. The result is consistent with Golin et al. (2020), Yip et al. (2020), and Chojnacki et al. (2021), who posit that proper dissemination of information could lead to regular usage of hand sanitisers, thereby reducing the risk of antimicrobial incidences and other infectious infections. The findings further bring to the fore the need to consistently inform members of the public on effective ways of protecting themselves from COVID-19.

The finding explains the social marketing theory by revealing how social and psychological factors, such as COVID-19, can bring resistance to change in society, like patronising hand sanitiser. The results indicated psychological factors of the pandemic that make society adjust to changes like patronage and the use of hand sanitiser as one of the protocol messages of COVID-19. The result supports the theory by saying that the pandemic is like an implementation that influenced the acceptability of social ideas by patronising hand sanitiser so as not to be affected by the virus. If members of the public use and patronise hand sanitiser, there will be a reduction in the spread of the virus among users.

CONCLUSION

The findings explain the social marketing theory by revealing how social and psychological factors, such as COVID-19, like patronising hand sanitiser, can bring resistance to change in society. The results indicated that the psychological factors of the pandemic can make society adjust to changes like the patronage of hand sanitiser as one of the protocol messages of COVID-19. Accordingly, it is revealed that the COVID-19 protocol messages on hand sanitisers aided in the patronage of hand sanitiser among undergraduate students based on the study's outcome. It also revealed that the COVID-19 protocol messages were effective during the pandemic. It made the undergraduates realise that hand sanitiser was necessary and assisted in patronising different hand sanitisers such as 2Sure, Dettol, and Wind hand sanitisers. From the findings, there was a high level of influence of COVID-19 protocol messages on the patronage of hand sanitisers.

The study concludes that, to an extent, among the students of Redeemer's and Bowen University undergraduates, COVID-19 protocol messages influenced the patronage of hand sanitisers. It established that the COVID-19 protocol message on hand sanitiser was properly circulated among them, and they were influenced to patronise hand sanitiser. However, the distribution of patronage for hand sanitiser is not the same across categories of age and school. The study also concluded that there is a consistent need to inform members of the public about effective ways of protecting themselves from COVID-19. It is recommended that policymakers, managers, government agencies, and other stakeholders responsible for the dissemination of COVID-19 messages come up with a robust framework that would capture the masses in curtailing COVID-19 incidence while increasing the campaign on the patronage of hand sanitiser. Again, there is a need for age-based COVID-19 protocol messages across different ages and institutions. The study also suggests that more campaigns should be carried out on hand sanitiser because the research suggests that using social media to reach the younger generation is highly effective in Nigeria. The study suggests a need to consistently inform members of

the public on effective ways of protecting themselves from the spread of COVID-19.

REFERENCES

- Ahmad J, Joel UC, Talabi FO, Bibian ON, Aiyesimoju AB, Adefemi VO, et al.; 2022. Impact of social media-based intervention in reducing youths' propensity to engage in drug abuse in Nigeria. *Evaluation and Program Planning*, 94:102122.
- Azhar MF, Kanwal W, Thaira K; 2022. Challenges faced by teachers and students of Islamabad postgraduate colleges during Covid-19. *Journal of Management Practices, Humanities and Social Sciences*, 6(2):31-41.
- Bajracharya S; 2018. *Social Marketing Theory*. businessstopia.
- Booker LA, Cordon EL, Pedersen HS, Fosgerau CF, Egerton S, Chan CK, et al.; 2022. Different behavior-Change messaging techniques do not increase customers' hand sanitization adherence during the COVID-19 pandemic: A natural behavioral study. *Frontiers in Psychology*, 13:876131.
- Bördlein C; 2020. Promoting hand sanitizer use in a university cafeteria. *Behavior and Social Issues*, 29(1):255-263.
- Capps KP, Updegraff JA, Foust JL, O'Brien AG, Taber JM; 2022. Field experiment of signs promoting hand hygiene during the COVID-19 pandemic. *Health Psychology*, 41(11):826.
- Chojnacki M, Dobrotka C, Osborn R, Johnson W, Young M, Meyer B, et al.; 2021. Evaluating the antimicrobial properties of commercial hand sanitizers. *MSphere*, 6(2):10-1128.
- Dwipayanti NMU, Lubis DS, Harjana NPA; 2021. Public perception and hand hygiene behavior during COVID-19 pandemic in Indonesia. *Frontiers in Public Health*, 9:543.
- Golin AP, Choi D, Ghahary A; 2020. Hand sanitizers: A review of ingredients, mechanisms of action, modes of delivery, and efficacy against coronaviruses. *American Journal of Infection Control*, 48(9):1062-1067.

- Howes L, What is hand sanitiser, and does it keep your hands germs-free?; 2020. <https://shorturl.at/rvzGI>.
- Jam FA, Khan TI, Zaidi BH, Muzaffar SM; 2011. Political skills moderates the relationship between perception of organizational politics and job outcomes. *Journal of Educational and Social Research*, 1(4):57-70.
- Khan IA, Lapure AAG, Subhani A; 2021. What's up with Whatsapp? A review of its role in students groups. *Journal of Administrative and Business Studies*, 7(4):1-7.
- Lauren MS, What is Coronavirus?; 2021. <https://shorturl.at/jwzI8>. Hopkinsmedicine.
- Mahmood A, Eqan M, Pervez S, Alghamdi HA, Tabinda AB, Yasar A, et al.; 2020. COVID-19 and frequent use of hand sanitizers; human health and environmental hazards by exposure pathways. *Science of the Total Environment*, 742:140561.
- Mueller P, Van Stel A, Storey DJ; 2008. The effects of new firm formation on regional development over time: The case of Great Britain. *Small Business Economics*, 30:59-71.
- Nanda AK; 2015. Social marketing: A literature review. *International Journal of Science and Research*, 4(9):697-702.
- Nwaoboli EP; 2022. Effectiveness of mass media campaigns on adherence to covid-19 protocols among pentecostal churches in Benin City. *International Journal of Arts, Humanities and Management Studies*, 8(12):8-19.
- Ogunyombo O, Oyero O, Azeez K; 2017. Influence of social media advertisements on purchase decisions of undergraduates in three Nigerian universities. *Journal of Communication and Media Research*, 9(2):244-255.
- Prajapati P, Desai H, Chandarana C; 2022. Hand sanitizers as a preventive measure in COVID-19 pandemic, its characteristics, and harmful effects: A review. *Journal of the Egyptian Public Health Association*, 97(1):1-9.
- Smolin P, How is COVID-19 impacting Advertising, Marketing and Media?; 2020. <https://shorturl.at/gvEJO>. Martechadvisor.
- Talabi FO, Fajoye AJ, Adelabu O, Sanusi BO, oshua Kayode Okunade, Aiyesimoju AB, et al.; 2023. COVID-19 sensitization and the media in the world of information overload. *Pakistan Journal of Life and Social Sciences (PJLSS)*. <https://api.semanticscholar.org/CorpusID:261801632>.
- Tandoc Jr EC, Goh ZH; 2023. Is facebook really depressing? Revisiting the relationships among social media use, envy, and depression. *Information, Communication & Society*, 26(3):551-567.
- Taylor CR, Advertising and COVID-19. Taylor & Francis; 2020.
- WHO, Coronavirus disease (COVID-19): Small public gatherings; 2020. <https://shorturl.at/GHX89>.
- WHO, Origin of SARS-CoV-2; 2020b. <https://shorturl.at/wANT0>.
- Yip L, Bixler D, Brooks DE, Clarke KR, Datta SD, Dudley Jr S, et al.; 2020. Serious adverse health events, including death, associated with ingesting alcohol-based hand sanitizers containing methanol—Arizona and New Mexico. *Morbidity and Mortality Weekly Report*, 69(32):1070.