

IMPACT OF UNSOLICITED SMS ON COVID-19 NON-PHARMACEUTICAL PROTOCOL AWARENESS AMONG CIVIL SERVANTS

Fadeyi, Isaac Olajide, * Oyinloye Oloyede, ** Ibrahim, Moses Oyewole, * Olajuwon Odunayo, * Oghuehi, Chidi Solomon, * Arisoyin Olanrewaju *

*Department of Mass Communication, Trinity University, Sabo Yaba, Lagos State

**Department of Mass Communication, Redeemer's University, Ede, Osun State

Abstract

Short Message Services (SMS) have become a viable platform that offers telecom operators and subscribers an instant communication platform. While usage of unsolicited text messages has continued to generate comments and condemnations, especially on the issue of invasion of privacy. A study in the telecom industry in Nigeria reveals that 94% of mobile subscribers use SMS and 77% of subscribers have received unsolicited text messages at one time or the other (Dakin, 2013). This study examines the influence of unsolicited text messages about Covid-19 non-pharmaceutical prevention protocols on awareness and adherence among civil servants in Kwara State. Using a sample size of 342 and descriptive survey design, the study found that unsolicited text message remains an indispensable avenue to disseminate quick information for awareness creation especially, during the pandemic. The study also reveals that unsolicited text messages influence adherence to covid 19 non-pharmaceutical prevention protocols among civil servants in Kwara State. The study recommends that despite condemnations in certain quarters on invasion of privacy through unsolicited text messages, its usage should be encouraged for awareness creation and behaviour modification given its capacity to reach the people directly particularly, during the pandemic and when the situation at hand is life threatening.

Keywords: Awareness, Adherence, Civil Servants, Covid-19 prevention protocol, Unsolicited text message

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Introduction

The world is at the moment experiencing one of its most severe health crises in human history, coronavirus or Covid-19 pandemic. The Coronavirus (Covid-19) is an infectious disease that causes respiratory infections ranging from the common cold to severe respiratory difficulties. It began in December 2019 at the Hunan seafood market in Wuhan, China, where live bats, snakes, raccoon dogs, and other wild creatures were sold (Shereen et al., 2020), and the World Health Organization designated it a pandemic on March 11, 2020. (WHO,2020). In Nigeria, everything was normal until the Italian index case forced an immediate lockdown of states like Lagos, Ogun and Federal Capital Territory, Abuja. Efforts to reduce the spread of the virus took different dimensions: massive awareness on

non-pharmaceutical prevention protocols through various platforms. Non-pharmaceutical prevention protocols include social distancing, no handshakes, observation of regular hand washing, usage of hand sanitisers, and wearing nose masks to protect ourselves from Covid-19 infection, which is an airborne disease. Global System for Mobile Telecommunication (GSM) operators' Short Messaging Services became a platform to send all manners of unsolicited messages on non-pharmaceutical prevention protocols to mobile phone subscribers across the length and breadth of Nigeria. Spamming is an unsolicited electronic message which includes, but is not limited to emails, short messaging service (SMS), Voice over IP (VoIP), instant messages from chats (Brackett and Carr, 2011).

Short Message Service (SMS) remains one of the most popular media that allows subscribers to keep abreast of information around them and it offers an instant communication avenue, which the traditional media may not guarantee. The opportunity of this medium has also distinguished it from other media to promote goods, services and ideas. Receivers could also forward such promotional messages to the other subscribers who are not initial receivers of GSM operators' promotional SMS campaigns. Ranjit (2013) avers that high response rates generated by interactive and inexpensive GSM operators' promotional SMS compared to other traditional sales promotion campaigns, like direct marketing, advertising and public relations campaigns have further encouraged marketers and promoters to send GSM operators' SMS promotional campaigns directly to prospective subscribers. Opinions and perceptions of the audience concerning the purveyor of any message often dictate whether such news will have any impact with regard to its adoption or rejection among the receivers. Given the increase in the Covid 19 infection cases and intense effort to curb the spread of the deadly virus, there have been several actions on the part of the governments, researchers, policy makers and health practitioners to deploy different strategies to ensure people across the globe embrace non-pharmaceutical Covid 19 prevention protocols. One approach is sending unsolicited Covid-19 non-pharmaceutical prevention messages through Global System for Mobile Telecommunication (GSM) short message service between millions of telecoms subscribers and Government agencies, corporate bodies, and non-governmental institutions. Several subscribers also engaged in sending unsolicited text messages on Covid 19 prevention protocols. Usage of unsolicited text messages has continued to generate comments and condemnations, especially on the issue of invasion of privacy. As part of efforts to mitigate this unhealthy development, the Nigeria Communications Commission (NCC) implemented the "Do Not Disturb policy" that allows subscribers to control the type of third-party messages they want to receive from service providers or stop receiving any unsolicited messages entirely completely. A report from the NCC showed that about 4 million telecom subscribers had activated the DND code on their lines between February and April 2017. Nonetheless, activating the DND code has solved the problem as some subscribers still receive unsolicited messages on issues ranging from health, products marketing and others. Therefore, this study would explore the perception and influence of unsolicited text messages about Covid 19 non-pharmaceutical prevention protocols on awareness and adherence among civil servants in Kwara State.

Research Questions

To achieve the objectives of this study, the following research questions were formulated:

1. To what extent does unsolicited SMS about Covid 19 non pharmaceutical protocols enhance the awareness of Covid 19 prevention messages among civil servants in Kwara?
2. What are the factors influencing adherence to unsolicited SMS about Covid 19 non pharmaceutical protocols?
3. What is the influence of unsolicited SMS about Covid 19 non pharmaceutical protocols on adherence among civil servants in Kwara?

Literature Review

Literature for this study was reviewed as shown in the subsections below.

Coronavirus

Coronaviruses (CoV) are single-stranded, positive-sense enveloped RNA viruses of the sub-family Orthocoronavirinae, family Coronaviridae, and Nidovirales (Zaki, van Boheemen, Bestebroer, Osterhaus & Fouchier, 2020). Among those, four widely distributed human coronaviruses (HCoV-229E, HCoV-OC43, HCoV-NL63, HCoVHKU1) cause the common cold. Severe Acute Respiratory Syndrome (SARS-CoV) and Coronavirus Disease (COVID-19) are zoonotic (World Health Organization, 2020). COVID-19 was discovered in 2019, and it originates from bats, with dromedary camel as the intermediate host, causes pneumonia in humans, and has a mortality rate of between 3-4%. The nosocomial spread has also been described (World Health Organization, 2020). No, generally adequate antiviral treatment has been approved, and treatment is mainly supportive and symptomatic.

The novel 2019 coronavirus (SARS-CoV-2) belongs to the Betacoronavirus genus of the Coronaviridae family. It shares more than 79% homology with SARS-CoV, 6 and causes mild to severe disease, with fatal bilateral viral pneumonia described in humans (Huang, 2019). It is referred to as a novel coronavirus because it has not been observed in humans (Zhu, 2019). Its potential reservoir is bats, with pangolins identified as the possible intermediate host. Some researchers have suggested that the virus may have been circulating previously, and the market may have been an amplification setting and not the source of the spillover (Morrison, 2016).

Corona Virus Disease 2019 (COVID-19) is an RNA virus with a typical crown-like appearance under

an electron microscope due to the presence of glycoprotein spikes on its envelope (Perlman & Netland, 2019). It is not the first time that a coronavirus causing an epidemic has been a significant global health threat: in November 2019, an outbreak of coronaviruses (CoVs) with the severe acute respiratory syndrome (SARS)-CoV started in the Chinese province of Guangdong and again, in September 2012 the Middle East respiratory syndrome (MERS)-CoV appeared (Lu, 2020). The clinical features of COVID 19 and its risk factors are highly variable, making the clinical severity range from asymptomatic to fatal (Phan, 2020).

The COVID-19 epidemic expanded in early December from Wuhan China's 7th most populous city throughout China and was then exported to a growing number of countries. The first confirmed case of COVID-19 outside China was diagnosed on January 13, 2020, in Bangkok (Thailand) (World Health Organization) March 2, 2020, 67 territories outside mainland China reported 8565 confirmed cases of COVID-19 with 132 deaths, as well as significant community transmission occurring in several countries worldwide, including Iran and Italy. It was declared a global pandemic by March 11, 2020 (Hsu, Chia & Lim, 2020). The clinical spectrum of COVID-19 varies from asymptomatic or paucisymptomatic forms to clinical conditions characterized by severe respiratory failure that necessitates mechanical ventilation and support in an intensive care unit (ICU) to multi-organ and systemic manifestations in terms of sepsis, septic shock, and multiple organ dysfunction syndromes (MODS) (Perlman & Netland, 2019). Asymptomatic infections have also been described, but their rate of occurrence is relatively unknown. Pneumonia appears to be the most severe frequent manifestation of illness, characterized primarily by fever, cough, dyspnea, and bilateral infiltrates on chest imaging. According to Yang, Peng, Wang, Guan, Jiang, Xu, Sun, and Chang (2019), no specific clinical features can yet reliably distinguish COVID-19 from other viral respiratory infections. According to the World Health Organization (2020), the onset of COVID-19 symptoms to death ranges from 6 to 41 days with 14 days. This period depends on the individual's age and the person's immune system status. It is shorter among patients greater than 70-years old compared with those under the age of 70 years. At the onset of COVID-19 illness, the most common symptoms are fever, cough, and fatigue, while other symptoms include sputum production, headache, hemoptysis, diarrhea, dyspnoea, and lymphopenia (Li & Xia, 2020). According to the World Health Organization (2020), there is an incubation period for COVID-19 between 2 and 10 days. Many studies (Han, 2020; Wu, 2020; Zhou, 2020) agree to a period of 14 days for medical observation for people

exposed to the pathogen. The severity of the clinical picture seems to be correlated with age (>70 years), comorbidities such as diabetes, chronic obstructive pulmonary disease (COPD), hypertension, obesity, and male sex. Still, no scientifically valid explanations have been developed (Lupia, Scabini, Mornese, Di Perri, De Rosa, & Corcione, 2019).

Studies conducted on SARS-CoV and MERS-CoV indicate that these viruses can persist on different surfaces for up to a few days depending on a combination of parameters such as temperature, humidity, and light (Lipsitch, Swerdlow & Finelli, 2020). Current evidence on other coronavirus strains shows that while coronaviruses appear to be stable at low and freezing temperatures for a certain period, food hygiene and good food safety practices can prevent their transmission through food (Letko, Marzi & Munster, 2020). Specifically, coronaviruses are thermolabile, which means they are susceptible to average cooking temperatures (70°C). Therefore, as a general rule, the consumption of raw or undercooked animal products should be avoided. Meat, raw milk and animal organs should be handled carefully to avoid cross-contamination with uncooked foods. SARS-CoV and MERS-CoV are susceptible to the most common cleaning and disinfection protocols, and there is no indication that COVID 19 behaves differently (Lei, Kusov & Hilgenfeld, 2018).

Unsolicited Text Message

Unsolicited text messages are similar to spam emails. They are sent without the prior knowledge of the receiver; they are often sent for commercial, financial or political purposes and are dispersed across mobile networks in bulk indiscriminately (Dixit, Gupta, & Ravishankar, 2005). Unsolicited text messages usually emanate from three major sources, which include: mobile network operators and groups that have paid the mobile network operator, groups that do not pay the mobile network operator yet send spam SMS, and user-originated messages that are sometimes creating some forms of uneasiness to the receiver (Hidalgo, Bringas, & Sáenz, 2006). Based on the spammer's intention, UTM and mobile messaging are of three major categories: SMS spam, premium rate fraud, and SMS hing (GSMA Spam Reporting Service, 2011).

- i) Unsolicited messages are indiscriminately sent to mobile phone subscribers for advertising hoax.
- ii) Premium rate frauds are unsolicited text messages that cajole telecom subscribers

to call specific numbers where they could be defrauded or are made to make expensive subscriptions that are billed from their account.

- iii) SMS phishing is the mobile form of tricking where baits are programmed into text messages to extract mobile users' personal information from the unsuspected subscriber. This personal information is used for fraudulent activities.

Unsolicited Text Message reports across the globe

Issues of unsolicited text messages are becoming increasingly prevalent across the world's nations. A Chinese mobile subscriber, it was reported, received more than 8.3 SMS spam weekly (Ji, Hyounghick & Jun, 2010). Close to 30% of daily SMS received in Asia are spam. With subscribers of close to 200 million, spammers are fully persuaded that they could reach more mobile subscribers in Nigeria. The rate at which Nigerian mobile subscribers receive unsolicited text messages is alarming. A study on consumer satisfaction in the telecom industry reveals that 94% of mobile subscribers use SMS in Nigeria and 77% of the respondents claim to have been receiving unsolicited text messages (Dakin, 2013). Mobile subscribers in Nigeria have been receiving a myriad of unsolicited SMS ranging from network operators' promotions adverts to unsolicited messages urging telecom customers to subscribe to a particular type of service. A study carried out by the security firm reveals that up to 80% of Nigerians are annoyed when they receive unsolicited on their mobile device (Osho, Ogunleke & Falaye, 2014). A study by (Pew Research centre, 2014) suggests that 79% of Americans with a mobile phone device send and receive SMS on their phones and 69% of all mobile text senders claim that they have received unsolicited and unwanted messages on their mobile device (Cloudmark, 2014).

Empirical Review

Consumers' attitudes towards mobile advertising and SMS advertising have been studied widely. Mohammed, Sulaiman and Sufyan (2018) examined the relationship between message relevance, information value, message receiving time and consumers' permission to receive advertising messages as independent variables and consumers' acceptance of mobile advertising and the subsequent effect on purchase intention of promoted products or services using mobile advertising. The study revealed that acceptance of a message is likely to be influenced by the consumers' acceptance of the mobile medium, the

relevance of the content, and the marketing communication context. Messages and information that are concise, interactive, entertaining and relevant to the target group usually achieve higher levels of success. The study further showed that evidence of consumer permission and appropriate time to deliver the message in designing mobile advertisements enhanced consumers' acceptance of mobile advertisers. Information value and privacy are essential elements that should be considered and integrated into a mobile advertising campaign to better achieve persuasion.

Akarika et al (2020) in their study on media sensitization and citizens' awareness of coronavirus aver that despite the seeming high level of awareness and citizens' satisfaction with the level of media sensitization, majority of respondents did not adhere with the prevention protocols because risk and crisis equivocal with many uncertainties that create informational needs and deficiencies. Mass media play a major role in promoting health campaigns in educating people about diseases, ailment, outbreaks, prevention, control, and treatment. Asogba (2019), citing Catalan-Matamoros (2011) avers that huge amounts are expended every year for materials and salaries that go into producing and distributing booklets, pamphlets, exhibits, and newspaper articles and radio and television programmes. These media are deployed at all levels of public health for three major objectives: (a) the learning of correct health information and knowledge, (b) the changing of health attitudes and values and (3) the establishment of new health behaviour.

Theory of Reasoned Action claims that the best predictor of behaviour is intention. Intention remains the cognitive disposition of an individual willingness to act a given behaviour and it is often interpreted to be the immediate antecedent of behaviour. This intention is determined by their attitude toward the certain behaviour, subjective norms, and perceived behavioural control. The theory of planned behaviour suggests that only specific attitudes toward the behaviour in question can be expected to predict that behaviour. In addition to measuring attitudes toward the behaviour, there is also a need to measure people's subjective norms, including their beliefs about how people they care about will view the behaviour in question. Knowing their opinions can be as important as knowing the person's attitudes to predict someone's intentions. Therefore, perceived behavioural control influences intentions and this refers to people's perceptions of their ability to perform a given behaviour. These predictors lead to intention. As general rule, the more favourable the attitude and the subjective norm, the greater the perceived control, the

stronger the person's intention to perform the behaviour in question.

Methodology

This study adopts survey method and design. Civil servants in Kwara state were chosen as the study's target population. The study's population included all of Kwara State's four thousand and forty (4040) government servants in various agencies and ministries. Purposive and simple random sampling techniques were used in a multistage sampling technique. The study used the purposive sample method, seven ministries and one agency. A total of 350 people were chosen at random. Data for the study were collected through questionnaire that was self-administered. The answer options for the questionnaire were developed using Likert scale with: SA - Strongly Agree, A - Agree, D - Disagree and SD - Strongly Disagree. The study used the descriptive analysis to achieve the mean, frequency distribution and percentage.

Data Analysis and Presentation

A total of 350 questionnaires were administered to the respondents and 342 were returned and used for the study. This gives a returned rate of 97.7%. Findings indicate that 144(42.1%) of the respondents were between the age group of 25 - 35 years, 110(32.2%) of the respondents were between the age group of 36 - 44 years, 58(17.0%) were between the age group of 45 - 55 years and 30(8.8%) of the respondents were 56 years and above. The analysis based on gender indicates that 222(64.9%) are male and 120(35.1%) of the respondents are female. In addition, 140(40.9%) of the respondents were Christian and 202(59.1%) were Muslim. Furthermore, 132 (38.5%) of the respondents were MTN subscribers, 105 (30.7%) Airtel, 85(24.8%) Glo and 20 (5.8%) Etisalat.

Analysis of Research Questions

Research Question One - To what extent does unsolicited SMS about Covid 19 non pharmaceutical protocols enhance the awareness of Covid 19 non pharmaceutical prevention messages among civil servants in Kwara?

Analysis based on how frequently civil servants in Kwara State received unsolicited text messages reveals that 120(35.1%) of the respondents received unsolicited text messages very often, 209(61.1%) of the respondents received unsolicited text messages occasionally and 13(3.8%) of the respondents hardly received unsolicited text messages. This implies that majority of the respondents received unsolicited text messages. Meanwhile, response on how frequently civil servants in Kwara State received unsolicited text

messages on Covid 19 non pharmaceutical prevention protocol shows that 133(38.9%) of the respondents reported that they frequently received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol very often; 192(56.1%) reported that they frequently received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol occasionally and 17(5.0%) reported that they hardly received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol. Significant increase in the reception of unsolicited text messages on Covid 19 non pharmaceutical prevention protocol among civil servants in Kwara State enhances their awareness on hand washing, social distancing and wearing of nose mask.

Research Question Two

What is the influence of unsolicited SMS about Covid 19 non pharmaceutical protocols on adherence among civil servants in Kwara?

Table 1. Factors influencing adherence to covid-19 non pharmaceutical prevention protocols

Option	Frequency	Percent
Source of the unsolicited text message on covid-19 non pharmaceutical prevention protocols	55	16.1
Style of presentation of the unsolicited text message covid-19 non pharmaceutical prevention protocols	82	24.0
The similarity between the UTM and current report on Covid 19	4	1.2
Familiarity with the terms used in the unsolicited text message	55	16.1
Delivery time of the UTM on covid-19 non pharmaceutical prevention protocols	110	32.2
Meaning received from UTM on covid-19 non pharmaceutical prevention protocols	28	8.2
All of the above	8	2.3
Total	342	100.0

Source: Field Survey, 2022

Table 1 reveals that 55(16.1%) of the respondents reported that the source of the unsolicited text message on covid-19 non pharmaceutical prevention protocols is a factor that influences their adherence to COVID-19 prevention, 82(24.0%) reported that style of presentation of the unsolicited text message covid-19

non pharmaceutical prevention protocols, 4(1.2%) of the respondents reported that similarity between the UTM and current report on Covid 19, 55(16.1%) reported familiarity with the terms used in the unsolicited text message, 110(32.2%) reported delivery time of the UTM on covid-19 non pharmaceutical prevention protocols, 28(8.2%) reported meaning received from UTM on covid-19 non pharmaceutical prevention protocols and 8(2.3%) all of the above as the factors that influence their adherence to COVID-19 prevention.

Items	Mean	Std. Dev.	Remark
UTM on Covid 19 non pharmaceutical preventive protocols help me remember the protocols more promptly	3.16	.535	A
I perceive UTM on Covid 19 non pharmaceutical preventive protocols as very effective	3.14	.512	A
UTM on Covid 19 non pharmaceutical preventive protocols are very influential	3.23	.542	A
The source of the unsolicited text message on covid-19 non pharmaceutical prevention protocols influences my decision to regularly wash my hands	2.77	.553	A
Style of presentation of the unsolicited text message covid-19 non pharmaceutical prevention protocols influences my decision to wash my hands regularly	3.08	.570	A
Familiarity with the terms used in the unsolicited text message influences my decision to wash my hand regularly	3.21	.605	A
Delivery time of the UTM on covid-19 non pharmaceutical prevention protocols influences my decision to wash my hands regularly	2.82	.619	A
Meaning received from UTM on covid-19 non pharmaceutical prevention protocols influences my decision to wash my hands regularly	3.03	.610	A
Grand Mean	3.06		

Source: Field survey, 2022

Table 2 presents the respondents' opinion on relationship between unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of handwashing among Kwara state civil servants. The mean scores were used to classify the respondents' opinions into strongly agreed, agreed, disagreed and strongly disagreed. Items with mean score between 3.50 - 4.0 were classified into strongly agreed category; items with mean score between 2.50 -

3.49 were classified into the agreed category; items with mean score between 1.50 - 2.49 were classified into disagreed category and items with mean score between 0 - 1.49 were classified into the strongly disagreed category. The mean score of all the items lies between the ranges between 2.77 to 3.23. This suggests that the respondents agreed with all the items. The grand mean of 3.06 indicates that the respondents agreed that there is relationship between unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of handwashing among Kwara state civil servants.

Table 3: unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of social distancing among civil servants in Kwara state

Items	Mean	Std. Dev.	Remark
The Source of the unsolicited text message on covid-19 non pharmaceutical prevention protocols influences my decision to observe social distancing regularly	2.77	.566	A
Style of presentation of the unsolicited text message covid-19 non pharmaceutical prevention protocols influences my decision to observe social distancing regularly	3.08	.567	A
Familiarity with the terms used in the unsolicited text message influences my decision to observe social distancing regularly	3.20	.602	A
Delivery time of the UTM on covid-19 non pharmaceutical prevention protocols influences my decision to observe social distancing regularly	2.84	.644	A
Meaning received from UTM on covid-19 non pharmaceutical prevention protocols influences my decision to observe social distancing regularly	3.05	.586	A
Grand Mean	2.988		

Source: Field survey, 2022

Table 3 presents the respondents opinion on the relationship between unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of social distancing among Kwara state civil servants. The mean scores were used to classify the respondents' opinion into strongly agreed, agreed, disagreed and strongly disagreed. Items with mean score between 3.50 - 4.0 were classified into strongly agreed category; items with mean score between 2.50 - 3.49 were classified into the agreed category; items

with mean score between 1.50 - 2.49 were classified into disagreed category and items with mean score between 0 - 1.49 were classified into the strongly disagreed category. It can be observed that the mean score lies within the range of 2.50 - 3.49. This suggests that the respondents agreed with all the items. The grand mean of 2.988 indicates that the respondents agreed that there is a relationship between unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of social distancing among Kwara state civil servants.

Discussion of Findings

The findings from the study revealed that 120(35.1%) of the respondents received unsolicited text messages very often, 209(61.1%) of the respondents received unsolicited text messages occasionally and 13(3.8%) of the respondents hardly received unsolicited text messages. This implies that majority of the respondents received unsolicited text messages. Also, findings show that 133(38.9%) of the respondents reported that they frequently received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol very often; 192(56.1%) reported that they frequently received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol occasionally and 17(5.0%) reported that they hardly received unsolicited text messages on COVID-19 non pharmaceutical prevention protocol. The implication of this findings is that there is a significant level of awareness created via unsolicited text messages on COVID-19 non pharmaceutical prevention protocol among civil servant in Kwara State. The findings of this study corroborate the study conducted by Dakin, 2013 which showed that 77% of the respondents claim to have received unsolicited text message. While there are misgivings around usage of UTM to promote products, services and ideas among scholars, this study further supports Akarika et al (2020) which emphasises the effectiveness of SMS medium in awareness creation. In other words, whether solicited or unsolicited, Short Message Service (SMS) remains one of the most popular media that allows subscribers to keep abreast of information around them and it offers instant communication avenues, which the traditional media may not guarantee. With regard to the influence of unsolicited text messages on adherence among civil servants in Kwara State, the findings showed that 55(16.1%) of the respondents reported that the source of the unsolicited text message on covid-19 non pharmaceutical prevention protocols is a factor that influences their adherence to COVID-19 prevention, 82(24.0%) reported that style of presentation of the unsolicited text message covid-19 non pharmaceutical prevention protocols, 4(1.2%) of the respondents

reported that similarity between the UTM and current report on Covid 19, 55(16.1%) reported familiarity with the terms used in the unsolicited text message, 110(32.2%) reported delivery time of the UTM on covid-19 non pharmaceutical prevention protocols, 28(8.2%) reported meaning received from UTM on covid-19 non pharmaceutical prevention protocols and 8(2.3%) all of the above as the factors that influence their adherence to COVID-19 prevention. Also, the grand mean of 3.06 and 2.988 indicate that the respondents agreed that there is a relationship between unsolicited text messages on covid-19 non pharmaceutical prevention protocols and observance of handwashing and social distancing among Kwara state civil servants. The outcome of this study aligns with (Al-alak & Alnawas 2010, Mohammed, Sulaiman & Sufyan (2018) that when a recipient perceives SMS ad as useful, such a recipient might be persuaded to embrace the message.

Limitation of the study

Divulging health-related information is often considered sacred and personal by many people. This study is based on the available data at the researcher's disposal because the data collection instrument could not cover more segments of the society, hence the need to exercise caution with regard to generalizability of the findings.

Conclusion and Recommendations

The study focused at investigating the influence of unsolicited text message about non-pharmaceutical prevention protocols on awareness and adherence among civil servants in Kwara State. Based on the findings of the study, it can be deduced that there is moderate awareness level among civil servants on Covid-19 prevention protocols among Kwara state civil servants via unsolicited text messages. The outcome from the study also showed that unsolicited text message about non-pharmaceutical prevention protocols influence the observance of hand washing and social distance among Civil servants in Kwara state. In the light of the findings of this study, it is recommended that Short Message Service (SMS) should be considered for awareness creation especially in the time of epidemic or pandemic given that, it is one of the most popular medium that allows for efficient dissemination of information that provides instant communication platform, which the conventional media may not guarantee. Also, it has an edge over other media channels in terms of allowing receivers to forward such message to other subscribers who may not have received the message especially when the issue is life threatening. In addition, it is recommended that Short Message Service (SMS) should be deployed for behaviour modification given its

capacity to reach the people concerned directly to take decision either for or against a particular behavioural pattern being canvassed.

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