

## **Social Media Use for Health Information Dissemination to the Public: A Survey of Extent of Use, Age and Gender Influences Among Doctors in Cross River State, Nigeria**

**Ntongha Eni Ikpi<sup>1</sup>, Veronica Akwenabuaye Undelikwo<sup>2</sup> & Eteng Ikpi Etobe<sup>3</sup>**

<sup>1,2,3</sup>Department of Sociology, Faculty of Social Sciences, University of Calabar- Nigeria

<sup>1</sup>ORCID: <https://orcid.org/0000-0002-6951-9033>, <sup>2</sup>ORCID: <https://orcid.org/0000-0002-6737-0335>

### **Abstract**

*Social media use by people from different walks of life is common place, and its adoption by health practitioners in healthcare is expanding globally. This cross-sectional survey study aimed to evaluate the utilization of social media among doctors for disseminating health information to the public, while investigating potential differences in use, based on age and sex of respondents. A total of 173 doctors, both male and female, were purposively sampled from 11 secondary and 1 tertiary hospitals in Cross River State, Nigeria. Data collection employed a close-ended, self-administered questionnaire, and analysis involved descriptive and inferential statistics including simple percentages, ANOVA, and independent t-tests, all done with the aid of SPSS version 20. Findings revealed a substantial use of social media by doctors for health information dissemination to the public. Moreover, statistical analysis indicated no significant difference in social media utilization for this purpose based on either age ( $F(3,170) = 0.072, p = 0.975$ ) or sex ( $t(171) = -0.924, p = 0.357$ ) of respondents. The study recommended that doctors and other health practitioners need to be encouraged to continue the use of social media for health information dissemination to enhance public health literacy. However, the study suggested that further research needs to be done to explore potential factors influencing social media usage among doctors, beyond demographic characteristics, to optimize information dissemination strategies.*

**Key Words:** *Social media, health information, dissemination, public*

### **Introduction**

In society today, social media has become a critical platform in the health sector (Ventola, 2014; Chen & Wang, 2021; Ikpi et al, 2022), and its use among healthcare practitioners has become seemingly inevitable (Shekar & Aravantagi, 2022; Lutton & Shryock, 2023; Goobie, 2020). However, despite its numerous gains, many health practitioners still seem to have doubts about its use in healthcare delivery due to its potential for misuse, abuse and privacy concerns (Ventola, 2014; Alsughayr, 2015;) The concept social media is often used to refer to technology which is facilitated by computer enabling the exchange and dissemination of thoughts, information, opinions, and other data through online platforms and digital forums. Through web-based applications or soft wares, users engage the social media with computers, smartphones, tablets etc., and these enable them to communicate and share content in the form of personal information, documents, photos, videos, etc. (Dollarhide, 2021)

The emergence of social media technology is a major breakthrough within the scientific community that has completely transformed communication and information dissemination in society. Before the advent of social media technology, traditional methods such as the print and electronic media were used for communication and information dissemination. During that period, rapid communication and information dissemination were done through text and instant messaging (Tsui et al., 2020), including radio and television jingles. These methods had inherent defects including

their inability to rapidly reach widespread audience at the same time without any barriers. However, the advent of social media in the late 90s, and its popularity in the early 2000s removed the defects. Following the prominence and popularity of some social media sites, like Myspace and LinkedIn in the early 2000s, with the emergence of YouTube, Facebook and WhatsApp in 2005, 2006, and 2009 respectively, social media created a completely novel way in which people communicate and share with one another across geographical locations (Choi & Moletta, 2013). Thus, because of its ease of access and great capacity for swift sharing/dissemination of information, there is hardly any sector or unit in modern society within which individuals and groups do not use the social media (Osatuyi, 2013; Abbas et al., 2022; Stieglitz & Dang-Xuan, 2013; Shu et al., 2017; and Cinelli et al., 2020).

Utilization of the social media within the health sector, for instance, has increased tremendously in the past years in virtually all countries of the world. Chen & Wang (2021) reported that health professionals and healthcare organizations utilize social media in very many beneficial ways, and several scholars have corroborated this in their studies. Some of the beneficial ways include: raising public awareness about health-related issues (Paul et al., 2022; Al-Dmour, et al, 2020); healthy living, immunization, and smoking (Yang, 2017); combating misinformation (Nunziato, 2022; Mourali & Drake, 2022); communicating during a crisis or disease outbreak (Yu, et al, 2022; Jin, et al, 2019; Vandormael et al, 2020); patient care and management (Ikpi, et al, 2022; Nguyen et al., 2020); knowledge acquisition, expanding the reach of latest resources and best practices (Beveridge, 2023; Khan et al., 2021; Folaranmi et al., 2022); health promotion (Stellefson, Paige, Chaney, & Chaney 2020), surveillance and peer support (Gupta & Katarya, 2020; Rayland & Andrew, 2023).

One very critical area in which social media has added great value to the global community is in the area of dissemination of health information to the public (Beveridge, 2023; Vandormael et al, 2020;). Prior to the advent of social media, health information dissemination was done through scholarly publications (Dlima, 2021) and that of the World Health Organization (W.H.O.). This made health information dissemination to the public very slow and inadequate, resulting to lack of correct, timely, and reliable health information for majority of people, especially those outside the medical community. However, in modern times, the social media has bridged that gap as it has become the fastest means of disseminating health information to the public in general and other specific audiences (Jin, Austin, Vijaykumar, Jun, & Nowak, 2019). Online platforms such as X (formally Twitter), WhatsApp, Facebook, YouTube, Telegram, LinkedIn, TikTok, etc., now serve as global platforms through which governments, health institutions, and practitioners rapidly share health information to the general public (Beveridge, 2023; Chen & Wang, 2021).

Studies have reported that access to timely and reliable sources of health information is essential for the development of solid foundation of health knowledge among the public, and for taking informed health decisions (Anyaku & Nwosu, 2017; Alduraywish, Altamimi, Aldhuwayhi, Alzamil, Alzaghayer, Alsaleh, Aldakheel, & Tharker, 2020). This realization must have prompted the adoption of social media in healthcare delivery by governments, NGOs, health institutions/organizations, and health practitioners. Among health practitioners, for instance, social media offers ready tools with which they share information, discuss matters related to healthcare policy and practice; promote health behaviours; engage with colleagues; educate students, patients and caregivers; and interact with the public (Bernhardt et al., 2014; Fogelson et al., 2013; Ventola, 2014; and Moorhead et al., (2013) noted, social media provides healthcare practitioners with opportunities for improving health outcomes, developing professional networks, increasing individual's awareness of news and discoveries, inspiring patients, and providing the community with health information.

However, despite the enormous prospects inherent in the social media for use in healthcare delivery, literature review shows scanty evidence of the actual engagement of the social media by health practitioners for the circulation of health-related information to the public. Rather, significant proportion of literature shows that the disseminating health-based information to the larger communities or the public, via social media is predominantly done by health institutions (Chen & Wang, 2021;). Interestingly, healthcare practitioners are the closest to the people as they not only live among the people but also belong to several family, friendship, and community social media platforms, as it is in Nigeria and other developed and developing countries. Thus, their provision of reliable, exact, and time-bound health information to the larger communities/public, via their social media platforms has the potential to result in better health outcomes for members of the public. The essence of the study therefore was to investigate social media use for health information dissemination to the public by healthcare practitioners (Doctors) in Cross River State, Nigeria. Thus, the study was designed to answer the following questions: (1) To what extent do doctors utilize social media for dissemination of health-based health information to the public in Cross River State, Nigeria? (ii) Is there any statistical difference in social media use for the dissemination of health-based information to the public between the ages of doctors in Cross River State, Nigeria? (iii) Is there any difference in social media use for health information dissemination to the public between the sex of doctors in Cross River State, Nigeria?

## **Method**

The study employed a cross-sectional survey design and utilized a total of 173 respondents made basically of male and female doctors drawn purposively from selected secondary and tertiary health facilities in Cross River State. The Health Research Ethics Committee of Cross River State Ministry of Health granted the ethical approval with Reference No. CRSMOH/RP/REC/2017/708. This facilitated access to 11 secondary and 1 tertiary health facilities across the state where the respondents were met and issued questionnaire. Eligibility criteria for recruitment of respondents included: work experience in hospital setting for a period of five years and above, use of social media platforms for interaction with people within and outside the medical industry, and willingness to be a part of the study. Those who fell short of the criteria were not allowed to take part in the study. Data was collected by using a questionnaire segmented into two parts: the demographic section with 5 items and the phenomenal section with 10 items. The later section was further designed in a 4-point Likert scale order namely: Often (O); Sometimes (S); Rarely (R); and Not at all (NA). Data collection was carried out between January to May 2018 and was done by the Principal Investigator (PI) and a Research Assistant through physical visits to each of the facilities and issuing questionnaire directly to the respondents. Data obtained were analyzed with SPSS version 20, using descriptive statistics (simple percentages and frequencies) and inferential statistics (One-way ANOVA and Independent T-test).

## **Results**

### **Extent of social media use for health information dissemination to the public**

Ten items were used to measure the extent of social media use by health practitioners for health information dissemination to the public as displayed in Table 1.

**Table 1: Responses on social media use for health information dissemination to the public**

S/N	Statements	Often		Sometimes		Rarely		Not at all	
		N	%	N	%	N	%	N	%
1	I post issues of lifestyle modification on social media for public viewership	55	31.8	69	39.9	25	14.5	24	13.9
2	During epidemic outbreak, I provide correct health information to the public through social media	33	19.1	74	42.8	39	22.5	27	15.6
3	I debunk health misconceptions and misinformation using social media	36	20.8	64	37.0	37	21.4	36	20.8
4	I use social media to prompt family and friends on healthy living	120	69.4	43	29.9	7	4.0	3	1.7
5	I answer health-related questions from family and friends on social media	107	61.8	46	26.6	12	6.9	8	4.6
6	I post issues on disease awareness and prevention on social media for public viewership	105	60.7	42	24.3	21	12.1	5	2.9
7	When health policy reforms/changes occur, I use social media to inform my network.	108	62.4	44	25.4	13	7.5	8	4.6
8	I engage the social media to remind people about the dangers of drug abuse and misuse	92	53.2	42	24.3	22	12.7	17	9.8
9	Social media helps me to notify family and friends on the dangers of spiritualizing health issues	77	44.5	59	34.1	19	11.0	18	10.4
10	I share general health and wellness tips on social media for public viewership	47	27.2	48	27.7	38	22.0	40	23.1

Responses to each item were considered and re-labelled into two broad categories-‘large extent’ and ‘little extent’ for easy analysis and interpretation. Response options labelled as ‘often’ and ‘sometimes’ were merged and re-labelled as ‘large extent’, while response options labelled as ‘rarely’ and ‘not at all’ were merged and re-labelled as ‘little extent’

The first item considered “use of social media to post issues of lifestyle modification for public viewership.” Here, majority of respondent [n=124; 71.7%] claimed they did that to a large extent, while less than half [n=49; 28.3%] claimed they did it to a little extent. The second item considered “use of social media to provide correct health information to the public during epidemic outbreaks.” Here, majority of respondents [n=109; 61.9%] claimed they did it to a large extent, while less than half of respondents [n=66; 38.1%] reported that they did it to a little extent. The third item considered “use of social media to debunk health misconceptions and misinformation.” Here, majority of respondents [n=100; 58%] reported that they did it to a large extent, while less than half [n=73; 42%] reported that they did it to a little extent. The fourth item considered “use of social media to prompt family and friends on healthy living.” Here, majority of respondents [n=164; 94%] reported that they did it to a large extent, while less than half [n=10; 6%] held that they did it to a little extent. The fifth item measured “use of social media to answer health-related questions from family and friends.” Here, majority of respondents [n=153; 88%] reported that they did it to a large extent, while few [n=20; 12%] reported that they did it to a little extent. The sixth item measured “use of social media to post issues on disease awareness and prevention for public viewership.” Here, majority of respondents [n=147; 85%] reported that they did it to a large extent while a few [n=26; 15%] reported

that they did it to a little extent. The seventh item considered “use of social media to inform the public about health policy changes or reforms.” Majority of respondent [n=152; 88%] reported that they did it to a large extent, whereas less than half [n=21; 12%] reported that they did it to a little extent. Item eight considered “use of social media to remind people about the dangers of drug abuse and misuse.” On this item, majority of respondents [n=134; 77.5%] reported that they did it to a large extent, while a few [n=39; 22.5%] reported that they did it to a little extent. Item nine measured “use of social media to notify family and friends on the dangers of spiritualizing health issues.” Majority of respondents [n=136; 78.6%] reported that they did it to a large extent, while less than half [n=37; 21.4%] reported that they used it to a little extent. Item ten considered “use of social media to share general health and wellness tips for public viewership,” and majority of respondents [n=95; 54.9%] reported that they did it to a large extent, while less than half [n=78; 45.1%] reported that they did it to a little extent. Overall, the result shows that a substantial proportion of respondents engaged the social media for dissemination of health information to the public to a large extent on the items used to measure it.

### **Age and social media use for dissemination of health information to the public**

The study was also meant to find out whether there exists statistically significant difference in social media use for disseminating health information to the public between the ages of respondents. A one-way ANOVA test was done with SPSS version 20, and the result is shown in tables 2 and 3. Table 2 displays the One-way ANOVA showing outcome of responses between and within groups. Results from the table indicates that there exists no statistically significant difference between respondents’ age vis-a-vis their utilization of social networks for disseminating health information to the public [F(3, 170) = 0.072, p = 0.975]. This implies that the mean age across the four age groups displayed in Table 3 (M1 = 20.11; M2 = 19.67; M3 = 19.89; M4 = 19.63 does not significantly differ, as indicated by the non-significant p-value. Thus, age does not seem to influence the use of social media for health information dissemination to the public.

**Table 2: One-way ANOVA table showing outcome of responses between and within groups**

	Sum of Squares	Df	Mean Squares	F	Sig
Between groups	6.499	3	2.166	.072	.975
Within Groups	5106.946	169	30.219		
Total	5113.445	172			

**Table 3: Descriptive statistics showing the mean age and standard deviation of respondents in each of the age groups**

Age groups	N	Mean	Std Dev	Std Error	95% confidence interval for Mean		Min	Max
					Lower boundary	Upper boundary		
18-27	44	20.11	4.790	.722	11.66	21.57	7	28
28-37	67	19.67	5.014	.604	18.46	20.87	7	28
38-47	36	19.89	5.691	.948	17.96	21.81	7	28
48 +	24	19.63	7.453	1.521	16.48	22.77	7	28
Total	173	19.82	5.452	.415	19.00	20.64	7	28

### **Sex and social media use for dissemination of health information to the public**

The study also assessed whether there is statistically significant difference in social media use for health information dissemination to the public between the sexes of respondents. The sample consists

of 103 male respondents (categorized as group one) and 70 female respondents (categorized as group two). An Independent T-Test was done with SPSS version 20, and the result is shown in tables 4 and 5. Results from the tables indicate that there is no statistically significant difference in the use of social media for health information dissemination to the public between males (M = 19.50, SD = 5.448) and Females (M = 20.29, SD = 5.464); [t(171) = - 0.924, p = 0.357]. This is because the p-value is greater than the conventional threshold of 0.05, even as the variability within the groups (0.845) is larger than the mean difference in social media use for health information dissemination between male and female doctors

**Table 4: Group statistics for evaluation of difference in social media use between sex of respondents (1=male, 2=female)**

	Sex	N	Mean	Std Deviation	Std Error Mean
Social Media Use for Health information dissemination	1	103	19.50	5.448	.537
	2	70	20.29	5.464	.653

**Table 5: Independent Sample Test result**

	Levene's test for equality of variances		t-test for Equality of Means						
	F	Sig	T	Df	Sig. (2 tailed)	Mean Diff	Std Error Diff	95% confidence Interval of diff	
								Lower	Upper
Equal Variance Assumed	.022	.881	-.924	171	.357	-.781	.845	-2.449	.887
Equal variances not assumed			-.924	148.024	.357	-.781	.845	-2.452	.890

## Discussion

This study was set out to investigate social media use for health information dissemination to the public by doctors in Cross River State, Nigeria. The study's focus was two-fold: to evaluate the level to which social media is utilized by doctors for disseminating health information to members of the public; and to find out whether there is statistically significant difference in utilization of social media for disseminating health information to members of the public between the ages and sex of doctors who were studied. The result showed that for each of the ten items measured, a greater proportion of the respondents affirmed that they circulate health-related information to members of the public by means of the social media to a very large extent. Although there is paucity of studies that specifically explore social media use by doctors for health information dissemination to the public, this result is agreement with some studies (George et al., 2013; Beveridge, 2023; Nesbit., 2020) that have reported that social media use provides healthcare practitioners with opportunities for providing or sharing health information to the general public the community.

The result also revealed the absence of statistically significant difference in social media utilization for health information dissemination to the public between the age and gender of respondents. This may be caused by the widespread engagement of social media by health workers in all age and sex categories in the last few decades, owing to the wide recognition of its numerous benefits in the healthcare industry. However, some studies that evaluated social media use among health care

providers have found age and sex as factors influencing differences in social media use by health practitioners. For instance, Surani et al., (2017) found that healthcare workers who are less than 40 years were found to be more engaged in social media relative to those older than 40 ( $p < 0.05$ ). Also, Woitowitch et al. (2021) study that evaluated gender differences in physicians' social media utilization for career progression found that there is statistically significant difference in various areas of social media utilization for professional advancement along gender lines. For instance, the study found that female physicians had a lower propensity compared to males to report that utilization of social media extended their body of research, but that female physicians had a greater propensity to report the building of support networks with the aid of social media.

### **Limitations**

The study has a few limitations. First, the study does not include social media use by doctors for other purposes such as patient care, health promotion, professional interaction, and so on. This leaves room for further research into those areas. Second, this study focused only on doctors and excluded other health practitioners. Further research may be required to evaluate social media use for health information dissemination to the public by other practitioners. However, the study contributes to knowledge by identifying the various areas of health which doctors and other practitioners can pay attention to in a bid to get the public more informed about health issues.

### **Conclusion**

The study assessed social media use for health information dissemination to the public by doctors. Findings show that doctors utilize social media very substantially to publicize information concerning health to the public. Thus, given the widespread ignorance and misconceptions about health in communities, and the need for proper health information to be available for community members, utilization of social media to circulate correct health-related information to the public by doctors and other health practitioners, needs to be encouraged to enhance health literacy among community members. However, the study recommends that further research could be carried out to evaluate whether health information from social media by doctors and other practitioners have any significant influence on community members, and to explore potential factors influencing social media usage among doctors, beyond demographic characteristics, to optimize information dissemination strategies.

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