

Social Media Utilization for Health Promotion: Exploring the Extent of Use by Doctors in Cross River State, Nigeria

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Abstract

Engagement of social media by health practitioners has increased over the past few decades, but the extent of its use for healthcare is still a subject of continuous enquiry. The study investigated the utilization of social media for health promotion among doctors in Cross River State. The primary objective was to determine the extent to which doctors employ social media platforms for promoting health. This cross-sectional survey included a purposive sample of 174 respondents, consisting of 103 males and 71 females, drawn from 11 secondary and 1 tertiary health facilities. Data collection was carried out using a structured questionnaire, and the analysis was conducted using descriptive statistics, including mean and standard deviation, via SPSS version 20. The findings revealed that a significant majority (77%) of doctors utilize social media for health promotion, with usage patterns ranging from moderate to high extent, but displaying minimal to high variation. The study recommends that health institutions establish policies that encourage consistent and effective use of social media among health practitioners to enhance health promotion efforts.

Keywords: Social media utilization, health promotion, doctors, usage patterns.

Introduction

Social media utilization has become indispensable in the 21st century society (Fortuna, 2023; Ashar, 2024), and its persistent influence has fundamentally reshaped communication and interaction across various sectors (Idiedo & Posigha, 2022; Abbas et al., 2022; Shu et al., 2017; and Cinelli et al., 2020), including healthcare (Ikpi, 2024; Ventola, 2014). Social media refers to web-based software or communication tool that facilitate interaction among users through the creation and exchange of user-generated content (Ashar, 2024; Idiedo & Posigha, 2022). As a potent tool in the health sector (Jeyaraman et al., 2023; Farsi, 2021; Ventola, 2014;) social media provide unparalleled opportunities for health practitioners to engage in healthcare delivery services such as health promotion (Stellefson et al., 2020; Roy & Malloy, 2023; Gharahmani et al., 2022), health education (Hale, 2021; Eastern Washington University, 2022; Kanchan & Gaidhane, 2023), patient engagement and care (Chirumamilla & Gulati, 2021; Musso et al., 2020; Ikpi, et al., 2022), dissemination of health information (Ikpi et al., 2024; Chen & Wang, 2021), etc. Thus, the integration of social media into healthcare delivery is not merely a trend but a growing necessity (Bruce et al., 2024; Jeyaraman et al., 2023), driven by the increasing transformation and digitalization of healthcare in society (Stoumpos et al., 2023; Halvorson et al., 2012; Bruce et al., 2024).

One of the areas social media has significantly impacted healthcare is in its use for health promotion (Roy & Malloy, 2023; Stellefson et al., 2020). Health promotion refers to the process of enabling individuals to increase control over, and to improve their health (World Health Organization, 2021). According to University of Georgia College of Public Health (nd), health promotion is the development of individual, group, institutional, community and systemic strategies to improve health knowledge, attitudes, skills and behaviour, and the rationale behind health promotion is to influence the health behaviour of individuals and communities, including their living and working conditions, in positive ways.

Studies have shown that social media utilization is fundamental in health promotion (Stellefson et al., 2020), and that its crucial role in health promotion manifests in various ways including increased health awareness and campaigns (Roy & Malloy, 2023; Kanchan & Gaidhane, 2023), encouragement of behaviour modification (Seiler et al., 2023; Simeon et al., 2020), facilitating community engagement (Jiang et al., 2022; Miller et al., 2019), promotion of health data generation (Chou et al., 2021, Kalf et al., 2015), and advocacy/activism (Roy & Malloy, 2023; Klassen et al., 2018). Healthcare professionals, particularly doctors, are at the forefront of social media utilization for health promotion (Roy & Malloy, 2023), and its adoption for this purpose is known to significantly impact public health outcomes (Smailhodzic et al., 2016; Ramo, et al., 2018; Roy & Malloy, 2023). By leveraging platforms such as Facebook, Twitter, Instagram, WhatsApp, and LinkedIn, etc, doctors reach a wider audience (Panahi et al., 2016; Jin et al., 2019), provide timely health information (Yang, 2017; Ikpi et al., 2024;), counter misinformation (Hofstra & Gommers, 2023; Bautista et al., 2021), and foster a community of informed individuals (Coffin & Ayyappan, 2023; Arsand et al., 2019).

However, in Nigeria, the extent of social media utilization for health promotion, among health practitioners in general and doctors in particular, remains underexplored. Literature review reveals that, in Nigeria, few studies that have delved into social media utilization in healthcare such as those of Batta & Iwokwagh (2015), Musa & Agboola (2020), Aver & Ichakpa-Ikyo (2022), paid attention to issues other than health promotion. Furthermore, the influence of factors such as age and gender on social media utilization for health promotion, remains underexplored. Understanding these dynamics is crucial for developing targeted strategies that maximize the efficacy of social media in health promotion. For instance, younger doctors, often termed "digital natives," may exhibit different usage patterns compared to their older counterparts. Similarly, gender may play a role in the preference for and engagement with various social media platforms. This study aims to fill this knowledge gap by surveying doctors in Cross River State, Nigeria to ascertain the extent of their social media use for health promotion, and examining how age and gender influence this utilization. The study is meant to answer the following research questions? (i) To what extent do doctors in Cross River State, Nigeria, utilize social media for health promotion. (ii) Is there any statistical difference in social media utilization for health promotion between the ages of doctors in Cross River State, Nigeria? (iii) Is there any difference in social media use for health promotion between the sex of doctors in Cross River State, Nigeria?

Method

This cross-sectional study surveyed 174 doctors including 103 males and 71 females who were sampled purposively from eleven secondary and one tertiary health facilities in Cross River State. Ethical approval with Reference No. CRSMOH/RP/REC/2017/708 was granted by the Health Research Ethics Committee of Cross River State Ministry of Health. Respondents were accessed in their various facilities and questionnaires were administered based on some eligibility criteria including: use of social media platforms for interface with people within and outside the health setting, readiness to take part in the study, and five years and above of working experience in the hospital environment. Doctors who failed to meet the eligibility criteria were excluded from participating in the study. Data were generated using a questionnaire divided into two sections: the demographic section with 5 items and the phenomenal section with 10 items. The phenomenal 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. Physical visits were made to each of the facilities and the questionnaires were issued directly to the respondents. Data obtained were analyzed with SPSS version 20, using descriptive statistics such as mean and standard deviation.

Results

Extent of social media use for health promotion

Doctors were asked to indicate the extent to which they utilize social media for health promotion activities listed below. Ten items were used to measure their involvement in health promotion activities via social media. For each item, a scale with 4 options (Often-4; Sometimes - 3; Rarely - 2; & Not at all- 1) was provided for them to choose one option that best represents their frequency of use. The statement was framed as follows:

I use social media to:

1. Encourage involvement in moderate but regular physical activities:
2. Encourage engagement in healthy nutritional/dietary practices
3. Encourage regular checks for blood sugar, blood pressure, cholesterol, etc.
4. Promote abstinence from tobacco and illicit drug use
5. Encourage copious intake of water and abstinence or moderate use of alcohol
6. Promote involvement in stress avoidance, stress relieving, and stress management activities.
7. Encourage the use of preventive healthcare services
8. Promote investment in health literacy among people
9. Discourage the practice of self-medication and promote visitation to hospital for healthcare services
10. Promote the maintenance of healthy environment and general personal hygiene.

Using descriptive statistics, responses to each of the ten items were collated and their Means ($\bar{x}$) and Standard Deviations (SD) were calculated to enhance the determination of participants' extent of social media utilization for health promotion. Given that there are 10 items with four response options ranked 1-4, with 1 representing the least degree and 4 representing the highest degree, respectively, of social media utilization for health promotion, the highest expected Mean value is 4.0 while the lowest expected mean value is 1.0.

Note: Mean values are categorized into three groups based on how close or how far they are from the expected mean value of 4.0. All mean values closest to the expected mean value (i.e., from 3.50 to 4.00) are grouped together and considered as high extent of use. Mean values at the middle point (i.e., from 2.50 to 3.49) are categorized together and considered as moderate extent. While Mean values that are far away from the expected mean value (i.e., 1.00 to 2.49) are considered as low extent.

Table 1. Showing Means and Standard Deviations of respondents (n=55; 31.6%) with high extent of social media utilization for health promotion. Mean values from 3.5 and above.

(Expected mean value = 4.0)															
S/n	Total score	($\bar{x}$)	Std d	S/n	Total score	($\bar{x}$)	Std d	S/n	Total score	($\bar{x}$)	Std. d	S/n	Total score	($\bar{x}$)	Std. d
1	39	3.9	0.316	15	38	3.8	0.421	29	37	3.7	0.483	43	37	3.7	0.483
2	39	3.9	0.316	16	38	3.8	0.421	30	37	3.7	0.483	44	36	3.6	0.516
3	39	3.9	0.316	17	38	3.8	0.421	31	37	3.7	0.483	45	36	3.6	0.516
4	39	3.9	0.316	18	38	3.8	0.421	32	37	3.7	0.483	46	36	3.6	0.699
5	39	3.9	0.316	19	38	3.8	0.632	33	37	3.7	0.483	47	36	3.6	0.516
6	39	3.9	0.316	20	38	3.8	0.421	34	37	3.7	0.483	48	36	3.6	0.516
7	38	3.8	0.421	21	38	3.8	0.421	35	37	3.7	0.483	49	36	3.6	0.516
8	38	3.8	0.421	22	38	3.8	0.421	36	37	3.7	0.483	50	36	3.6	0.516
9	38	3.8	0.421	23	38	3.8	0.421	37	37	3.7	0.483	51	35	3.5	0.527
10	38	3.8	0.421	24	37	3.7	0.483	38	37	3.7	0.483	52	35	3.5	0.527
11	38	3.8	0.421	25	37	3.7	0.674	39	37	3.7	0.483	53	35	3.5	0.527
12	38	3.8	0.421	26	37	3.7	0.483	40	37	3.7	0.674	54	35	3.5	0.527
13	38	3.8	0.421	27	37	3.7	0.483	41	37	3.7	0.483	55	35	3.5	0.527
14	39	3.9	0.316	28	37	3.7	0.483	42	37	3.7	0.483				

Table 1 above displays the means and standard deviation of 55 respondents (S/No. 1-55) with high mean scores close to the expected mean value of 4.0. The table reveals that out of the 174 respondents used for the study, less than half (n=55) representing 31.6 % of the sample, used social media for health promotion to a large extent. The mean values (3.9, 3.8, 3.7, 3.6, and 3.5) all show high to moderately high level of social media utilization for health promotion, with little to moderate variability. The data reveals that social media is predominantly and consistently used for health promotion with the highest means showing the most consistent usage.

Specifically, the mean values close to 4 (i.e., 3.9 and 3.8) with smaller standard deviations indicate that social media is highly and consistently utilized for health promotion by the doctors. Also, mean values from 3.7 to 3.5 indicate that social media is significantly utilized for health promotion, but with slight variability in usage patterns evident in the large standard deviation values (e.g., 0.674, 0.699). The result here shows that as mean values decrease, there is a slight increase in variability implying that while social media remains a significant tool in health promotion, the extent of its utilization can vary in certain instances depending on different factors affecting the respondents.

Table 2. Showing Means and Standard Deviation of Respondents (n=81; 46%) with moderate extent of social media utilization for health promotion. Mean values from 2.50 to 3.49. **(Expected Mean Value = 4.0)**

S/N	Total score	($\bar{x}$)	Std d	S/N	Total score	($\bar{x}$)	Std d	S/N	Total score	($\bar{x}$)	Std d	S/N	Total score	($\bar{x}$)	Std d
56	33	3.3	0.674	77	32	3.2	0.918	98	30	3	0.471	119	27	2.7	0.823
57	33	3.3	0.674	78	32	3.2	0.788	99	30	3	0.471	120	27	2.7	0.674
58	33	3.3	0.674	79	31	3.1	0.316	100	30	3	0.471	121	27	2.7	0.483
59	33	3.3	0.674	80	31	3.1	0.316	101	30	3	0.471	122	27	2.7	0.483
60	33	3.3	0.674	81	31	3.1	0.567	102	30	3	0.816	123	27	2.7	0.674
61	33	3.3	0.674	82	31	3.1	0.567	103	29	2.9	0.567	124	26	2.6	0.516
62	33	3.3	0.483	83	31	3.1	0.316	104	29	2.9	0.316	125	26	2.6	0.699
63	33	3.3	0.674	84	31	3.1	0.316	105	29	2.9	0.316	126	26	2.6	0.699
64	33	3.3	0.483	85	31	3.1	0.316	106	29	2.9	0.737	127	26	2.6	0.516
65	33	3.3	0.674	86	31	3.1	0.737	107	29	2.9	0.737	128	25	2.5	0.707
66	33	3.3	0.674	87	31	3.1	0.316	108	29	2.9	0.316	129	25	2.5	0.527
67	33	3.3	0.823	88	31	3.1	1.197	109	28	2.8	0.421	130	25	2.5	0.527
68	33	3.3	0.483	89	31	3.1	0.316	110	28	2.8	0.632	131	25	2.5	0.707
69	33	3.3	0.674	90	31	3.1	0.737	111	28	2.8	0.788	132	25	2.5	0.527
70	33	3.3	0.823	91	31	3.1	0.994	112	28	2.8	0.421	133	25	2.5	0.527
71	32	3.2	0.918	92	31	3.1	0.875	113	28	2.8	0.421	134	25	2.5	0.849
72	32	3.2	0.788	93	31	3.1	0.316	114	28	2.8	0.421	135	25	2.5	1.080
73	32	3.2	0.788	94	30	3	0.471	115	28	2.8	0.421	136	25	2.5	0.707
74	32	3.2	0.632	95	30	3	0.471	116	28	2.8	1.135				
75	32	3.2	0.632	96	30	3	0.471	117	28	2.8	0.788				
76	32	3.2	0.788	97	30	3	0.471	118	28	2.8	0.421				

Table 2 above displays the means and standard deviation of 81 respondents (S/No 56-136) whose mean scores show a moderate departure from the expected mean value of 4.0. The table reveals that out of the 174 respondents used for the study, less than half (n=81) representing 46% of the sample used social media for health promotion to a moderate extent. This conclusion is reached considering the magnitude of the mean scores and standard deviations. The mean values suggest that the utilization of social media for health promotion is generally moderate (centered around 3.0 to 3.3). However, the variation in standard deviation indicates that there is some inconsistency in how respondents perceive the utilization level.

Specifically, results in the table show that within this category of respondents who demonstrate moderate social media utilization for health promotion, there are subcategories. For instance, those with means values between 3.3 and 3.2 demonstrate high (moderate) utilization with some minimal variability indicating that while the general perception is moderate utilization, there

are differing levels of intensity among users. Those with mean values between 3.1 and 3.0 demonstrate moderate (moderate) utilization with high variability indicating differing opinions or experiences among respondents. Those with mean values between 2.9 to 2.5 demonstrated lower (moderate) utilization with higher variability suggesting that fewer respondents engage in high (moderate) utilization, while a greater number of them are very consistent in their low (moderate) utilization.

Table 3: Showing Means and Standard Deviation of Respondents (n=38; 22%) with Low extent of social media utilization for health promotion. Mean Values from 1.1 to 2.49.
(Expected Mean Value = 4.0)

S/no	Total score	($\bar{x}$)	Std Dev	S/no	Total score	($\bar{x}$)	Std Dev
137	24	2.4	0.699	156	23	2.3	0.823
138	24	2.4	0.966	157	23	2.3	0.674
139	24	2.4	0.516	158	22	2.2	0.421
140	24	2.4	0.516	159	22	2.2	0.421
141	24	2.4	0.699	160	22	2.2	0.632
142	24	2.4	0.843	161	22	2.2	0.421
143	24	2.4	1.074	162	22	2.2	1.032
144	24	2.4	0.516	163	22	2.2	0.918
145	24	2.4	0.516	164	21	2.1	0.737
146	24	2.4	0.699	165	20	2	0.666
147	24	2.4	0.699	166	20	2	1.054
148	23	2.3	1.337	167	20	2	1.054
149	23	2.3	1.159	168	19	1.9	0.994
150	23	2.3	0.823	169	16	1.6	0.516
151	23	2.3	0.483	170	16	1.6	0.843
152	23	2.3	0.483	171	16	1.6	0.843
153	23	2.3	0.483	172	15	1.5	1.080
154	23	2.3	0.483	173	12	1.2	0.421
155	23	2.3	0.483	174	11	1.1	0.316

Table 3 above displays the means and standard deviations of 38 respondents (S/No 137-174) whose mean scores show a far departure from the expected mean value of 4.0. The table reveals that out of the 174 respondents used for the study, less than half (n=38) representing 22% of the sample used social media for health promotion to a low extent. This conclusion is reached considering the magnitude of the mean scores and standard deviations. The mean values range from 1.1 to 2.4 indicating that the utilization of social media for health promotion is low. However, the variations in standard deviations indicate that there is some inconsistency in how respondents perceive the utilization level. For instance, within this category, most of the standard deviations are less than one and indicate different usage patterns ranging from very consistent to relatively consistent low usage. Also, some standard deviations are greater than one and indicate high to moderate variability which is a reflection of significant different usage patterns.

Discussion

The study examined the extent of social media use for health promotion among a sample of 174 doctors. Findings indicate that 31% of doctors use social media to a high extent, 46% to a moderate extent, and 22% to a low extent. Notably, significant variability was observed within each usage category. While some mean values exhibited consistency in their standard deviations, the majority displayed substantial variations, with the same mean values associated with two, three, four, or even five different standard deviation values. This suggests diverse usage patterns among doctors, potentially influenced by individual preferences, institutional policies, or varying levels of familiarity with social media platforms.

Result in table 1 showed that 31% of doctors studied used social media for health promotion to a large extent, with some showing consistency in usage patterns while others showed variability in usage patterns as seen in their mean values ranging from 3.9 to 3.5 (in descending order), and standard deviations. The table shows that there are 5 mean values within this subcategory, and each of them has different standard deviations that suggest the degree of consistency and variation in usage patterns. For e.g., mean value 3.9 occurred among 7 respondents, and displayed a low and consistent S.D. of 0.316. Mean value 3.8 occurred among 16 respondents and had two SDs: 0.421 (for 15 respondents) and 0.631 (for 1 respondent). Mean value 3.7 occurred among twenty respondents and had two SDs: 0.483 (for 18 respondents) and 0.674 (for 2 respondents). Mean value 3.6 occurred among seven respondents and had two SDs: 0.516 (for 6 respondents) and 0.699 (for one respondent). Mean value 3.5 had a consistent SD of 0.516 across five respondents. Thus, this subcategory shows that social media is highly and consistently utilized for health promotion among doctors in this category, with the highest means (3.9 and 3.8) showing the most consistent usage patterns. It further reveals that as the mean values decrease, there is a slight increase in variability which indicates the presence of difference in usage patterns among them.

Results in table 2 showed that 46% of doctors used social media for health promotion to a moderate extent. A cursory look at the mean values (2.50 – 3.49) in this category reveals that the utilization of social media for health promotion is generally moderate, but with noticeable degree of inconsistency in respondents' utilization patterns owing to the variations in standard deviations. For instance, this subcategory has nine mean values ranging from 3.3 to 2.5 (in descending order), and each of them shows different standard deviations. As displayed in table 2, mean value 3.3 has three SDs: 0.674 (for 10 respondents), 0.483 (for 3 respondents), and 0.823 (for 2 respondents). Mean value 3.2 has three SDs: 0.918 (for 2 respondents), 0.788 (for 4 respondents), 0.632 (for 4 respondents). Mean value 3.1 has: .316 (for 8 respondents); 0.567 (for 2 respondents); 0.737 (for 2 respondents); 1.197 (for 1 respondent); 0.994 (for 1 respondent); 0.875 (for 1 respondent). Mean value 3.0 has two SDs: 0.471 (for 8 respondents); 0.816 (for 1 respondent). Mean value 2.9 has three SDs: 0.567 (for 1 respondent); 0.316 (for 3 respondents); 0.737 (for 2 respondents). 2.8 has four SD: 0.421 (for 6 respondents); 0.632 (for 1 respondent); 0.788 (for 2 respondents); 1.135 (for 1 respondent). Mean value 2.7 has three SDs: 0.832 (for 1 respondent); 0.674 (for 2 respondents); 0.483 (for 2 respondents). Mean value 2.6 has two SDs: 0.516 (for 2 respondents); 0.699 (for 2 respondents). Mean value 2.5 has four SDs: 0.707 (for 3 respondents); 0.527 (for 4 respondents); 0.849 (for 1 respondent), and 1.080 (for 1 respondent). This suggests that while doctors in this category use social media moderately for health promotion, their patterns of use are highly varied and inconsistent.

Results in table 3 showed that 22% of doctors used social media for health promotion to a low extent. A close look at the mean values 2.4 to 1.1 (in descending order) in this category reveals that the utilization of social media for health promotion is generally low, and with conspicuous degree of inconsistency in usage patterns revealed by the disparities in standard deviations. For

instance, this subcategory has ten mean values ranging from 2.4 to 1.1 (in descending order), and each of them displays different standard deviations. As seen in table 3, mean value 2.4 has four SDs: 0.699 (for five respondents); 0.516 (for four respondents); 0.843 (for one respondent); 1.074 (for one respondent). Mean value 2.3 has five SDs: 1.337 (for one respondent); 1.159 (for one respondent); 0.823 (for two respondents); 0.483 (for five respondents); 0.674 (for one respondent). Mean value 2.2 has five SDs: 0.421 (for 3 respondents); 0.632 (for one respondents); 0.421 (for one respondent); 1.032 (for one respondent); 0.918 (for one respondent). Mean value 2.1 has one SD: 0.737. Mean value 2.0 has two SDs: 0.666 (for one respondents); 1.054 (for two respondents). Mean value 1.9 has one SD 0.994. Mean value 1.6 has two SDs: 0.516 (for one respondent); 0.843 (for two respondents). Mean value 1.5 has one SD: 1.080. Mean value 1.2 has one SD - 0.421. Mean value 1.1 has one SD - 0.316. from the fore going, it stands that social media use for health promotion among this category is low. However, this pattern of usage is not uniform across the subcategory due to observable differences in standard deviations. For instance, low standard deviation values such as 0.316, 0.421, and 0.483 denote consistent low use of social media for health promotion which has very minimal variation from the mean. On the other hand, high SD values such as 1.074, 1.159, 1.337, indicate that the social media utilization is highly variable, with significant differences in usage among the respondents.

Generally, the distribution of social media use indicates that a substantial proportion of doctors are utilizing social media for health promotion, with the majority (77%) falling into the moderate to high extent categories. This indicates a recognition of the value of social media in health promotion among doctors, and the finding is in line with that of previous studies. For instance, Roy & Malloy, (2023) opined that healthcare professionals, particularly doctors, are at the forefront of social media utilization for health promotion and its adoption for this purpose is known to significantly impact public health outcomes (Smailhodzic et al., 2016; Ramo, et al., 2018; Roy & Malloy, 2023). Other studies also held that doctors utilize the social media for health promotion to: reach a wider audience (Panahi et al., 2016; Jin et al., 2019), provide timely health information (Yang, 2017; Ikpi et al., 2024;), counter misinformation (Hofstra & Gommers, 2023; Bautista et al., 2021), and foster a community of informed individuals (Coffin & Ayyappan, 2023; Arsand et al., 2019).

Limitation

The study has a few limitations. First is the fact that it does not evaluate the factors contributing to the observed variabilities in patterns of social media utilization for health promotion. Such factors may include individual preferences, demographic characteristics, professional experience, or specific barriers to social media use. Secondly the study limited it focus to only doctors and didn't extent to other health practitioners of institutions that also do health promotion via social media. These limitations actually expose another gap in research begging for further exploration.

Conclusion

The study explored social media utilization for health promotion by doctors in Cross River State, Nigeria. Findings show that a substantial proportion of doctors utilize social media for health promotion, and that majority use it from moderate to very high extent, with minimal to high variations in usage patterns. However, owing to the important role that health promotion plays in the health outcomes of people and populations, the observed variability underscores the need for tailored interventions to enhance social media utilization for health promotion. Thus, the study recommends that healthcare institutions need to consider developing policies that encourage consistent and

effective use of social media amongst health practitioners, while addressing barriers that lead to diverse usage patterns. Also, further studies are necessary to explore the factors that promote variability in usage patterns of social media use for health promotion.

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