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SOCIAL MEDIA ADVERTISING AND PROMOTION OF DENTAL HEALTH IN CROSS RIVER STATE- NIGERIA

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Abstract
This work investigated the extent social media advertising promotes dental health in Cross River State, Nigeria. Social media advertising has been used in some developed countries as a social marketing tool in changing negative dental health behaviour amongst people. The pragmatic research philosophy was used in a descriptive research method. The target population were dental professionals and dental patients in Calabar Municipality, Yakurr and Ogoja Local Government Areas of Cross River State, Nigeria. The Pearson product- moment correlation coefficient was used for the analysis with SPSS version 21. The study results revealed that Facebook, YouTube, WhatsApp, Twitter and Instagram have significant relationship with promotion of positive dental health behavior in the study areas. The researchers then recommended that social marketers and dental health professionals should take advantage of the mass use of these social media platforms in the country to inform and educate the public on sound dental health habits.

Keywords: Social Media Advertising, Dental Health Attitude, Facebook, Youtube, Whatsapp, Twitter, Instagram.

1.1 Background to the Study
Social media platforms are increasingly becoming integral to healthcare delivery, including dental practice, as patients now spend significant time on these platforms for information and interaction. Consequently, dental professionals are adapting their communication and marketing strategies to leverage social media for patient engagement and outreach. The interactive nature of these platforms enhances engagement, enabling real-time communication and relationship building between providers and patients (Cox & Park, 2014; Friedman, 2015).

Popular platforms such as Facebook, Twitter, WhatsApp, YouTube, and Instagram are widely utilized in healthcare communication due to their accessibility and ability to facilitate information sharing across distances (Abu-Ghazaleh et al., 2018; Simsek et al., 2020). Social

media has thus transformed organizational communication by enabling connectivity and serving as a key medium for health information dissemination (Arnett et al., 2017; Haynes, 2020). Globally, billions of users actively engage with these platforms, including a substantial number in Nigeria, highlighting their potential as tools for public health communication (Kemp, 2021; Statista, 2023).

The burden of oral diseases remains significant worldwide, affecting billions of individuals and creating substantial public health challenges (World Health Organization [WHO], 2022). Contributing factors such as high sugar consumption, tobacco use, and poor oral hygiene practices exacerbate dental conditions, including tooth decay and infections (Bernabé et al., 2020). In this context, social media offers a valuable platform for promoting oral health awareness, preventive practices, and behavior change through targeted communication strategies (Sharma et al., 2022).

However, despite its advantages, social media also presents challenges such as misinformation, misleading advertisements, and unverified health claims, which can negatively influence public perception and behavior (Inobemhe et al., 2020). Therefore, the effectiveness of social media as a tool for dental health promotion depends on both content quality and user engagement.

1.1 Statement of the Problem

The rapid expansion of social media has transformed communication globally, making information highly accessible and difficult to control. In Nigeria, millions of individuals actively use platforms such as Facebook, WhatsApp, Twitter, Instagram, and YouTube to exchange information and opinions.

Despite this widespread usage, critical questions remain regarding the effectiveness of social media in promoting dental health awareness and behavior change. It is unclear whether users are aware that social media can serve as a reliable source for dental health information or whether dental professionals effectively utilize these platforms to reach and educate patients. Although previous studies have explored the role of social media in healthcare communication, there remains limited empirical evidence on its impact specifically within Cross River State, Nigeria. This study therefore seeks to address this gap by evaluating how social media advertising influences dental health awareness and behavioral outcomes among residents of the region.

1.3 Objectives of the Study

The main objective of this study is to examine the contribution of social media advertising to dental health promotion in Cross River State, Nigeria. Specifically, the study aims to:

i. Assess the role of Facebook in promoting dental health
ii. Evaluate the impact of YouTube in dental health awareness
iii. Determine the influence of WhatsApp in dental health communication
iv. Examine Twitter's contribution to dental health promotion
v. Investigate Instagram's role in promoting oral health

1.2 Research Questions

The study is guided by the following questions:

1. To what extent does Facebook advertising promote dental health in Cross River State?
2. How effective is YouTube in promoting dental health awareness?
3. What role does WhatsApp play in dental health promotion?
4. To what extent does Twitter contribute to dental health communication?

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5. How does Instagram influence dental health promotion?

1.5 Research Hypotheses

The following null hypotheses were formulated:
H_{01}: Facebook advertising has no significant relationship with dental health promotion.
H_{02}: YouTube advertising has no significant relationship with dental health promotion.
H_{03}: WhatsApp advertising has no significant relationship with dental health promotion.
H_{04}: Twitter advertising has no significant relationship with dental health promotion.
H_{05}: Instagram advertising has no significant relationship with dental health promotion.

2.0 Review of Literature

2.1 Theoretical Framework

This study is anchored on the Social Presence Theory (SPT), which explains how communication technologies foster a sense of closeness between individuals despite physical distance (Short et al., 1976; Tu & McIsaac, 2002). Social media platforms enhance interaction through real-time communication, content sharing, and feedback mechanisms, thereby increasing perceived social presence (Osei-Frimpong & McLean, 2018).
SPT emphasizes that different media vary in their ability to convey social cues and emotional connection, influencing user engagement and communication effectiveness (Dunlap & Lowenthal, 2014). In healthcare contexts, including dentistry, this theory explains how digital platforms can facilitate patient-provider relationships, improve trust, and support health communication (Yeboah et al., 2023).

2.1.2 Application of the Theory

Social presence theory is relevant to this study as it explains how social media enables dental professionals to interact with patients, build trust, and deliver health information remotely. Platforms such as Facebook, WhatsApp, and YouTube allow real-time engagement, enabling dental professionals to provide consultations, education, and follow-up care, thereby enhancing patient outcomes and behavioral change.

2.2 Conceptual Review

2.2.1 Health Inequalities in Dental Disease

Oral health inequalities are influenced by socioeconomic factors such as income, education, and access to healthcare services. Research shows that individuals from lower socioeconomic backgrounds are more prone to dental diseases, and these disparities often persist across the life course (Schwendicke et al., 2015; Aida & Kondo, 2020).

2.2.2 Causes of Oral Health Inequalities

Health disparities can be explained through material, behavioral, psychosocial, and life-course perspectives. These models highlight how lifestyle, stress, and access to resources influence oral health outcomes over time (Sisson, 2007).

2.2.3 Health Promotion

Health promotion refers to empowering individuals to improve control over their health through education and supportive environments (WHO, 1986). It involves coordinated efforts to influence behavior and improve public health outcomes through communication and policy interventions.

2.3 Social Media Platforms in Dental Health Promotion

Extant literature reveals that social media platforms like Facebook, WhatsApp, YouTube, Twitter and Instagram have been deployed by pharmaceutical companies in the promotion of their products. For instance, as a health promotion media, studies show that the Facebook has been widely used for patient engagement, information sharing, and marketing, enabling interaction between dental practitioners and patients (Iancu & Cîrstea, 2018). On the other hand, WhatsApp has been used to **s**upport telemedicine, consultation, and patient follow-up, making it valuable for remote dental care services in many environments (Yale et al., 2018).

Furthermore, the YouTube has been used by health promotion firms to provide visual educational contents to patients in many countries of the world. However, critics argue that this media may contain misinformation due to lack of content regulation (Madathil et al., 2015). Again, the Twitter is used to facilitate rapid dissemination of health information and professional engagement within healthcare communities in the world (Pershad et al., 2018). On its own side, the Instagram**,** is increasingly being used for visual health promotion and marketing, particularly among younger demographics (Dixon, 2020).

2.4 Empirical Review

Empirical studies indicate that social media significantly contributes to healthcare communication and dental health promotion. For instance, research shows that platforms such as YouTube and Instagram are widely used by dental professionals for education and marketing, enhancing visibility and patient engagement (Bahabri & Zaidan, 2021).

Similarly, studies have demonstrated that social media platforms facilitate knowledge sharing, patient interaction, and behavioral change in oral health practices (Chen et al., 2022). Other findings suggest that social media marketing plays a critical role in influencing consumer behavior and decision-making in healthcare contexts (Stelzner, 2013).

Additionally, platforms such as WhatsApp have been found useful in improving oral hygiene through continuous patient engagement, although outcomes may vary depending on the intervention (Al-ak'hali et al., 2020).

2.5 Research Gap

While existing studies acknowledge the role of social media in healthcare communication, there is limited empirical evidence on its effectiveness in promoting dental health behaviors in Cross River State, Nigeria. Furthermore, the extent to which social media advertising influences public awareness and behavioral change remains underexplored. This study addresses this gap by examining how social media platforms can be strategically utilized to enhance dental health promotion in the region.

3.0 Methodology

This study adopts a pragmatic, deductive orientation using a quantitative approach. A cross-sectional and descriptive research design is employed to capture population characteristics and generate primary data through structured questionnaires, enabling systematic analysis using statistical tools.

The research is conducted in Cross River State, selected for its large and diverse population of social media users. The target population comprises dental professionals, patients, and social media users; however, the exact population size is indeterminate due to the absence of reliable records.

Sample size is determined using the Topman formula, yielding 264 respondents, selected through random sampling to ensure equal representation and minimize bias. Data are sourced

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primarily through questionnaires designed to elicit responses on social media advertising and dental health promotion.

Instrument validity is ensured through content and construct validation, including expert review, while reliability testing using Cronbach's Alpha produced a coefficient of 0.883, indicating strong internal consistency.
Data analysis involves coding, tabulation, and quantitative techniques such as frequencies, percentages, and correlation analysis, conducted using SPSS (version 21) to examine relationships between the variables under study.

4.0 Data Presentation, Analysis and Discussion of Findings

Data were screened and cleaned to ensure accuracy and compliance with statistical assumptions. Out of 264 distributed questionnaires, all were correctly completed and returned, yielding a 100% response rate.

The respondents' demographic analysis showed a slightly higher proportion of male respondents (53.4%) than females (46.6%). The dominant age group was 35–45 years (32.6%), followed by 26–34 years (30.3%), indicating strong participation from economically active adults. Most respondents possessed tertiary education (79.9%), suggesting a relatively informed sample.

All participants reported active use of social media, with 70.5% indicating that they obtain dental health information through such platforms. WhatsApp emerged as the most frequently used platform (33.7%), followed by Facebook (22.0%), YouTube (20.5%), Twitter (17.0%), and Instagram (6.8%). Additionally, 59.5% of respondents reported that social media exposure facilitated interaction with dental professionals, indicating its practical relevance in health communication.

Hypotheses were tested using Pearson correlation at a 0.05 significance level. Findings revealed statistically significant positive relationships between social media advertising and dental health promotion across all platforms. For Facebook, moderate correlations ($r = 0.401–0.583$, $p < 0.05$) indicated improved awareness, behavioural change, and knowledge of dental risks. YouTube showed similar significant effects ($r = 0.433–0.750$), particularly in enhancing awareness and reducing sugar intake. WhatsApp demonstrated relatively stronger associations ($r = 0.585–0.837$), reflecting its effectiveness in influencing dietary caution and oral health practices. Twitter also exhibited significant correlations ($r = 0.643–0.787$), supporting its role in information dissemination and awareness creation.

Notably, Instagram recorded the strongest relationships ($r = 0.816–0.975$), indicating moderate-to-high influence on behavioural change, awareness, and motivation to seek professional dental care. Across all analyses ($p < 0.05$), null hypotheses were rejected, confirming that social media advertising significantly contributes to dental health promotion in Cross River State. These findings underscore the growing importance of digital platforms in health education and behavioural change.

5.0 Discussion of Findings

A total of 264 valid responses were analyzed, with a slightly higher proportion of males (53.4%) and a dominant age group of 35–45 years. The high proportion of respondents with tertiary education suggests a relatively informed population, which may enhance receptiveness to digital health information (Moorhead et al., 2013). Universal social media usage among respondents, with 70.5% accessing dental health information and 59.5%

reporting interaction with dental professionals, reinforces the growing role of digital platforms in health communication and patient engagement (Ventola, 2014). WhatsApp emerged as the most frequently used platform, followed by Facebook, YouTube, Twitter, and Instagram, consistent with evidence that mobile-based and interactive platforms dominate health information dissemination in developing contexts (Althunayan et al., 2018).

Correlation analyses revealed statistically significant positive relationships ($p < 0.05$) between social media advertising and dental health promotion across all platforms. The moderate influence of Facebook on awareness and behavioural change aligns with findings that social networking sites facilitate patient education and relationship-building between healthcare providers and users (Nobre & Szczygiel, 2019). Similarly, YouTube's impact on knowledge acquisition and behavioural modification supports studies emphasizing its effectiveness as a visual learning tool for health education (Cen et al., 2022).

The stronger effects observed for WhatsApp may be attributed to its immediacy, accessibility, and personalized communication features, which enhance message diffusion and behavioural compliance (Althunayan et al., 2018). Twitter's contribution to information access and engagement reflects its role as a real-time information-sharing platform that promotes awareness and public discourse (Moorhead et al., 2013). Notably, Instagram demonstrated the highest influence, particularly in motivating behavioural change and encouraging professional consultation, corroborating research that highlights the persuasive power of visual content in shaping health attitudes and actions (Ventola, 2014).

Overall, these findings are consistent with existing literature, which identifies social media as a critical tool for health promotion, capable of improving knowledge, influencing behaviours, and facilitating interaction between healthcare providers and the public (Moorhead et al., 2013; Ventola, 2014).

6.0 Conclusion

Results show that all five social media platforms significantly contributed to dental health promotion in Cross River State, with varying degrees of influence: moderate for Facebook, YouTube, WhatsApp, and Twitter, and relatively stronger for Instagram. Social media advertising also plays a critical role in improving dental health awareness and behaviour in Cross River State. Its interactive and wide-reaching nature makes it more effective than traditional communication methods for health education.

7.0 Recommendations

Healthcare professionals should intensify the use of social media for dental education, promote preventive practices, and reduce overreliance on face-to-face communication. Future studies should expand the scope, and incorporate additional variables to deepen understanding of digital health communication impacts amongst the populace, especially the illiterate and semi-illiterate rural populace.

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