AUTHENTICITY OF SOCIAL MEDIA HEALTH INFORMATION AND SAFE HEALTH PRACTICES AMONG SOCIAL MEDIA USERS IN AGBOR, NIGERIA

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ABSTRACT

Social media has emerged as a dominant conduit for health information in Nigeria, yet the authenticity of this information and its relationship to safe health practices remain understudied at the local level. This study assessed how social media users in Agbor, Delta State, evaluate the authenticity of health information encountered online and its association with safe health behaviour. A cross-sectional survey was conducted among 385 active social media users aged 18–55 years in Agbor, selected through cluster random sampling. A validated questionnaire assessed health information-seeking behaviour, authenticity evaluation practices, and safe health practice composite scores. Binary logistic regression identified independent predictors of safe health practices. Most respondents (71.4%) primarily used WhatsApp and Facebook for health information. Only 28.3% employed structured authenticity verification strategies. Respondents with high authenticity evaluation competency had significantly higher safe health practice scores (76.4 ± 9.3 vs. 52.1 ± 13.6; $p < 0.001$). Low health literacy (aOR = 0.38), high trust in social media (aOR = 0.44), and infrequent fact-checking (aOR = 0.41) were independently associated with unsafe health practices. Social media health information consumption is near-universal in Agbor, but critical authenticity evaluation is rare. Poor evaluation competency is significantly associated with unsafe health practices. The study recommends strengthening digital health literacy through integrated health education, promotion of fact-checking platforms, credibility labelling of online health information, and community-based peer ambassador training to improve the identification and dissemination of accurate health information.

Keywords: Social media, health information, infodemic, health literacy, safe health practices, Nigeria, authenticity

Introduction

The proliferation of smartphones and mobile internet access has fundamentally transformed how Nigerians access health information:

> Social media platforms — particularly WhatsApp, Facebook, Instagram, and TikTok — have superseded traditional health information sources (healthcare providers, print media, radio and television) as the primary conduits through which millions of Nigerians encounter health-related content daily (Suarez-Lledo & Alvarez-Galvez, 2021).

In semi-urban communities like Agbor — a densely populated town in Delta State — where access to qualified healthcare professionals is limited and health literacy varies substantially, social media's role as a de facto health information intermediary is particularly pronounced (Mheidly & Fares, 2020).

This transition carries profound dual implications. On one hand, social media democratises health information, enabling rapid dissemination of evidence-based guidance to populations previously reliant on costly consultation or inaccessible printed resources.

On the other hand, the absence of editorial gate keeping mechanisms means that misinformation, pseudoscience, and commercially motivated health claims circulate alongside credible public health messages with equal algorithmic amplification (Cinelli et al., 2020).

The COVID-19 pandemic crystallised this tension globally, generating what the World Health Organization termed an 'infodemic' — an excess of information, accurate and inaccurate, that impaired effective public health response (World Health Organization, 2020).

In Nigeria, the consequences of health misinformation are measurable and severe. False social media reports during the 2014 Ebola outbreak led to mass ingestion of salt water and bleach, causing multiple fatalities:

> During COVID-19, misinformation about herbal remedies, vaccine toxicity, and disease causation undermined vaccination uptake and promoted dangerous self-medication. Beyond crisis contexts, everyday misinformation about hypertension management, HIV treatment, cancer cure claims, and infant feeding practices contributes to sub-optimal health behaviour at population scale (Roozenbeek et al., 2020).

Critically, the relationship between how users evaluate the authenticity of social media health information and their subsequent health behaviour has received limited empirical attention in Nigerian contexts, and no study appears to have focused specifically on Agbor.

Statement of the Problem

Despite the exponential growth of social media as a primary health information channel in Nigeria, a critical gap exists between information consumption and the ability to evaluate its authenticity. In semi-urban communities such as Agbor, Delta State, where access to qualified healthcare professionals is constrained and health literacy varies widely, millions of residents routinely encounter and act upon health information drawn from unverified social media sources. The consequences are demonstrably harmful: misinformation-driven behaviours — including dangerous self-medication, vaccine hesitancy, and delayed care-seeking — have been documented in Nigerian communities during the Ebola and COVID-19 outbreaks and persist in everyday chronic disease management.

The core problem is not merely the presence of health misinformation online — which is well-established globally — but the absence of critical authenticity evaluation capacity among ordinary users who navigate this information environment daily. While global research has examined misinformation exposure and general digital literacy, the specific relationship between structured authenticity evaluation practices and safe

health behaviour outcomes has received insufficient empirical attention in Nigerian community-level settings.

No study has empirically examined this relationship in Agbor, leaving local public health planners without an evidence base for targeted digital health literacy interventions. This study addressed that gap by systematically examining how authenticity evaluation competency among social media users in Agbor is associated with safe health practice outcomes, and by identifying the independent predictors that can inform intervention design

Objectives of the Study

This study therefore aimed to:

i. characterise social media health information-seeking behaviour among Agbor residents;
ii. assess the prevalence and nature of authenticity evaluation practices;
iii. determine associations between authenticity evaluation competency and safe health practices; and
iv. identify independent predictors of safe health practices.

Research Questions

This study was guided by the following research questions:

RQ1: What are the predominant social media platforms and patterns of health information-seeking behaviour among active social media users in Agbor?

RQ2: What are the prevalence structured authenticity evaluation practices among social media health information consumers in Agbor?

RQ3: What is the association between authenticity evaluation competency level and safe health practice outcomes among social media users in

Agbor?

RQ4: What individual-level factors independently predict safe health practices among social media users in Agbor?

Review of Related Literature

Social media health information authenticity is a multidimensional construct encompassing source credibility assessment, cross-platform verification, identification of logical fallacies, and recognition of commercial or political motivation in health claims (Vraga & Bode, 2020). Research consistently demonstrates that most social media users apply heuristic rather than systematic processing when evaluating health information — relying on surface cues such as the number of shares, emotional resonance, and perceived social consensus rather than evidence quality indicators (Pennycook & Rand, 2019). This 'cognitive miser' tendency is exacerbated by information overload characteristic of social media environments.

Health literacy modifies the social media health information relationship. Individuals with higher health literacy are better equipped to evaluate source credibility, identify pseudoscientific claims, and seek corroborating evidence from authoritative sources (Paakkari & Okan, 2020). In low-and-middle income countries, where functional health literacy rates are substantially lower than in high-income settings, reliance on unverified social media health claims is correspondingly higher. Empirical studies from Ghana, Kenya, and South Africa demonstrate that low health literacy is independently associated with both higher social media health misinformation exposure and greater belief in misinformation content (Mheidly & Fares, 2020).

Safe health practice is a behavioural outcome domain encompassing adherence to evidence-based preventive and curative health recommendations:

> Social media misinformation influences safe health practices through several pathways: promoting ineffective or harmful self-medication; discouraging conventional healthcare utilisation; undermining vaccine uptake; and disseminating incorrect symptom recognition and management guidance (Suarez-Lledo & Alvarez-Galvez, 2021).

Interventions targeting digital health literacy have demonstrated effectiveness in improving authenticity evaluation competency and consequently safe health behaviour, particularly among young adults with high social media engagement (Roozenbeek et al., 2020).

Theoretical Framework

This study is anchored in the Elaboration Likelihood Model (ELM) of persuasion, originally proposed by Petty and Cacioppo (1986) and subsequently extended to digital health communication contexts. The ELM posits two distinct routes through which individuals process persuasive messages: the central route, characterised by careful, effortful cognitive engagement with the content and quality of a message; and the peripheral route, in which judgements are formed on the basis of superficial cues — such as the attractiveness of the source, the number of endorsements, or the emotional valence of the message — without substantive engagement with its evidential content.

The ELM is particularly apposite for studying social media health information behaviour because the design architecture of social media platforms (algorithmically amplified content, like and share metrics, emotionally engaging visuals) is structurally conducive to peripheral-route processing.

Within the ELM framework, authenticity evaluation competency operationalises the degree to which an individual engages in central-route rather than peripheral-route processing of social media health claims.

Individuals with high authenticity evaluation competency — characterised by systematic source verification, cross-platform corroboration, and evidence-based reasoning — are predicted to exhibit superior resistance to health misinformation and consequently adopt safer health behaviours.

Conversely, individuals who rely predominantly on peripheral cues (share counts, sender familiarity, emotional resonance) are theoretically more susceptible to misinformation influence and less likely to engage in safe health practices. This theoretical prediction directly generates the study's central hypotheses and contextualises the observed association between AECS scores and Safe Health Practices Composite Scores.

The ELM's application to health misinformation on social media has been supported by recent empirical work in Sub-Saharan African digital health contexts (Mheidly & Fares, 2020; Paakkari & Okan, 2020), lending further theoretical grounding to this study's conceptual architecture.

Methodology

This study adopted a descriptive cross-sectional survey design to examine the dynamics of social media health information use and its influence on health practices among residents of Agbor, Ika South Local Government Area, Delta State, Nigeria. The descriptive cross-sectional design was considered appropriate because it enables the collection of data from a defined population at a single point in time in order to describe existing conditions, behaviours, perceptions, and relationships among variables without manipulating the study environment. The design is widely used in public health and social science research because it is cost-effective, time-efficient, and suitable for assessing prevalence and patterns of phenomena within a population (Creswell & Creswell, 2018; Setia, 2016). In the context of this study, the design was particularly suitable for assessing residents' exposure to social media health information, their evaluation of information credibility, and associated health practices within the study

period.

The study was conducted in Agbor, located in Ika South Local Government Area of Delta State, Nigeria. Agbor is an urban-rural fringe settlement with an estimated population of approximately 500,000 residents according to projections from the National Population Commission (NPC, 2022). The area is characterized by moderate internet penetration, increasing smartphone usage, and limited specialist healthcare facilities, thereby making it a suitable setting for investigating social media health information dynamics and public health information-seeking behaviours.

The minimum sample size for the study was determined using the Cochran (1963) sample size determination formula for descriptive studies:

$n=Z^2p(1-p)/d^2$

Where:

- n = minimum sample size
- Z= standard normal deviate at 95% confidence level (1.96)
- p = estimated prevalence of safe health practices (55% or 0.55) obtained from previous related literature
- d = margin of error or precision level (0.05)

Substituting the values into the formula produced a minimum sample size of 381 participants. However, a 10% attrition and non-response adjustment was added to improve reliability and compensate for incomplete responses, resulting in a final minimum sample size of 385 respondents.

A cluster random sampling technique was employed for participant selection. This technique was chosen because Agbor consists of geographically dispersed residential settlements, making it difficult and costly to conduct simple random sampling across the entire population. Cluster sampling enhanced accessibility, reduced transportation and administrative costs, and ensured wider geographical representation of participants across the study area (Kothari, 2004). Ten residential clusters

were identified from the Agbor town map, after which proportionate numbers of households were selected from each cluster. Within each selected household, one eligible adult aged 18 years and above who had actively used social media within the previous 30 days was recruited for the study.

The self-administered questionnaire comprised four sections: (A) socio-demographics; (B) social media health information use (11 items); (C) Authenticity Evaluation Competency Scale (AECS — 14 items, adapted from Vraga & Bode, 2020; $\alpha = 0.84$); and (D) Safe Health Practices Composite Score (SHPCS — 18 items covering medication adherence, vaccine acceptance, healthcare-seeking behaviour, and disease prevention; $\alpha = 0.79$; range 0–100). Scores ≥60 on the SHPCS were classified as 'safe practices'.

Descriptive statistics, chi-square tests, independent t-tests, and binary logistic regression were computed in SPSS v27. Multivariate models

Data Analysis, Presentation and Interpretation

Socio-demographic and Platform Use Profile

Table 1. Socio-demographic Profile and Social Media Health Information Use (n = 371)

Variable	n (371)	%
Age 18–25 years	142	38.3
Age 26–35 years	128	34.5
Age 36–55 years	101	27.2
Female sex	193	52.0
Secondary education	158	42.6
Tertiary education	142	38.3
WhatsApp (primary health info platform)	265	71.4
Facebook use for health info	218	58.8
YouTube	162	44.2
TikTok	118	31.8
Daily social media health info access	231	62.3
Health info shared to others ≥weekly	187	50.4

Of 385 participants, 371 returned complete questionnaires (response rate: 96.4%). Mean age was 29.8 ± 8.7 years; 52.0% were female. Most had secondary (42.6%) or tertiary (38.3%) education. WhatsApp (71.4%) and Facebook (58.8%) were the most frequently used platforms for health information, followed by YouTube (44.2%) and TikTok (31.8%).

Authenticity Evaluation Practices

Table 2. Distribution of Social Media Health Information Authenticity Evaluation Practices (n = 371)

Authenticity Evaluation Practice	N	%
Checks number of shares/likes as credibility proxy	250	67.4
Considers whether sender is known/trusted	234	63.1
Searches for the same information on other platforms	178	48.0
Checks whether health professional is cited	143	38.5
Looks for publication date of information	112	30.2
Uses structured fact-checking websites (e.g., Africa Check)	49	13.2
Consults healthcare professional before acting on information	89	24.0
Employs ≥3 evaluation strategies (structured evaluator)	105	28.3

Only 28.3% (n = 105) of respondents employed structured authenticity evaluation strategies (defined as using ≥3 verification methods). The most common single strategy was checking the number of shares/likes (67.4%), while the least common was consulting professional health sources for cross-verification (24.0%). High Authenticity Evaluation Competency Scale (AECS) scores (≥60%) were recorded by 34.5% of respondents

The overwhelming reliance on social endorsement metrics (share/like counts) as credibility proxies is particularly concerning, as these metrics are algorithmically manipulable and bear no necessary relationship to information accuracy. The low rates of consultation with healthcare professionals and fact-checking websites indicate a missed opportunity for evidence-based verification that could substantially reduce misinformation-driven behaviour change.

Association between Authenticity Competency and Safe Health Practices

Table 3. Safe Health Practice Outcomes by Authenticity Evaluation Competency Level (n = 371)

Outcome Measure	High Competency (n=128)	Low Competency (n=243)	Test Stat	p-value
Mean SHPCS score (± SD)	76.4 ± 9.3	52.1 ± 13.6	t = 19.82	< 0.001
Safe practices (≥60 SHPCS), n (%)	101 (78.9%)	72 (29.6%)	$\chi^2 = 96.7$	< 0.001
Vaccine acceptance, n (%)	119 (93.0%)	149 (61.3%)	$\chi^2 = 43.5$	< 0.001
Conventional care-seeking (≥75% episodes), n (%)	108 (84.4%)	131 (53.9%)	$\chi^2 = 36.9$	< 0.001
Self-medication with unverified remedies, n (%)	18 (14.1%)	142 (58.4%)	$\chi^2 = 78.4$	< 0.001

Respondents with high authenticity evaluation competency had a mean Safe Health Practices Composite Score of 76.4 ± 9.3, compared to 52.1 ± 13.6 for those with low competency ($t(369) = 19.82$; $p < 0.001$; Cohen's $d = 2.08$). Safe practices prevalence was 78.9% vs. 29.6% across high and low competency groups respectively.

Predictors of Safe Health Practices

Table 4. Logistic Regression: Independent Predictors of Safe Health Practices (n = 371)

Predictor	aOR	95% CI	p-value
High health literacy (vs. low)	3.42	2.01–5.83	< 0.001
Tertiary education (vs. secondary/below)	2.67	1.58–4.51	0.001
Low trust in social media health info (vs. high trust)	2.27	1.38–3.73	0.001
Frequent fact-checking (vs. infrequent)	2.44	1.46–4.07	0.001
High AECS score (vs. low)	4.11	2.38–7.10	< 0.001
High trust in social media (vs. low)	0.44	0.26–0.72	0.001
Low health literacy (vs. high)	0.38	0.22–0.65	< 0.001
Sharing unverified info ≥weekly (vs. less frequent)	0.52	0.32–0.84	0.008

The logistic regression results presented in Table 4 yielded two particularly notable findings. First, high trust in social media health information emerged as an independent risk factor for unsafe health practices (aOR = 0.44; 95% CI: 0.26–0.72; p = 0.001), raising critical concerns about the public health consequences of uncritical social media engagement among citizens. Second, high health literacy was the strongest

independent protective predictor of safe health practices (aOR = 3.42; 95% CI: 2.01–5.83; $p < 0.001$), underscoring the pre-eminence of health knowledge and evidence appraisal capacity over mere awareness in driving health-protective behaviour.

Discussion of Findings

The findings of this study were discussed in line with the research questions and existing literature on social media health information behaviour. The study found that WhatsApp and Facebook were the dominant platforms through which respondents accessed health information, while daily exposure to social media health content was widespread among participants. This finding aligns with the observations of Mheidly and Fares (2020), who noted that social media platforms have become major channels for health communication in low- and middle-income countries due to increasing smartphone and internet penetration. Similarly, Suarez-Lledo and Alvarez-Galvez (2021) reported that frequent social media exposure significantly influences health decision-making behaviours.

The study revealed a low prevalence of structured authenticity evaluation practices among respondents. Most participants relied on superficial indicators such as likes, shares, and familiarity with the sender rather than evidence-based verification methods. This finding supports the work of Pennycook and Rand (2019), who argued that social media users often depend on heuristic processing rather than systematic evaluation when assessing online information credibility. The result also corroborates findings by Vraga and Bode (2020), who emphasized that low source verification practices increase vulnerability to misinformation.

The findings demonstrated a strong association between authenticity evaluation competency and safe health practices. Respondents

with higher competency scores had significantly higher vaccine acceptance, greater use of conventional healthcare services, and lower engagement in self-medication with unverified remedies. This finding is consistent with the Elaboration Likelihood Model proposed by Petty and Cacioppo (1986), which suggests that individuals who engage in central-route processing are more likely to critically evaluate persuasive messages and adopt evidence-based behaviours. The result further agrees with Paakkari and Okan (2020), who found that higher health literacy improves individuals' ability to identify misleading health information and adopt safer health behaviours.

The logistic regression analysis showed that high health literacy, tertiary education, frequent fact-checking, and high authenticity evaluation competency independently predicted safe health practices, while high trust in social media information and frequent sharing of unverified information predicted unsafe practices. This finding is supported by Roozenbeek et al. (2020), who demonstrated that digital literacy interventions significantly reduce susceptibility to misinformation. In addition, Wooldridge (2020) emphasized that behavioural outcomes are strongly influenced by both cognitive competence and information quality assessment. Overall, the study highlights the critical importance of digital health literacy and structured authenticity evaluation in promoting safe health practices among social media users.

Summary of Findings

i. WhatsApp and Facebook were the primary social media health information platforms (71.4% and 58.8% respectively).

ii. Only 28.3% of users employed structured authenticity evaluation strategies; most relied on share counts as credibility proxies.

iii. High authenticity evaluation competency was strongly associated with safe health practices ($d = 2.08$; $p < 0.001$).

iv. Health literacy, fact-checking frequency, and low social media trust were independent protective predictors.

Conclusions

Social media health information consumption is ubiquitous but critical evaluation is rare in Agbor. Authenticity evaluation competency is a powerful determinant of safe health practices. Strengthening digital health literacy is a high-priority public health strategy.

Recommendations

i. The Delta State Ministry of Health should strengthen community-based digital health literacy programmes to improve residents' ability to critically evaluate social media health information before acting on it.
ii. Healthcare institutions and public health agencies should collaborate with social media platforms such as WhatsApp and Facebook to disseminate verified and evidence-based health information to the public.
iii. Community health educators and extension workers should train residents on structured authenticity evaluation techniques, including fact-checking, source verification, and cross-platform validation of health information.
iv. Government agencies and non-governmental organisations should promote the use of accessible fact-checking platforms and encourage responsible social media behaviour to reduce the spread of health misinformation and unsafe health practices.

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