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Research Article

Perceived Influence of Misinformation on HPV Vaccine Uptake among Undergraduate Facebook Users in Southeast Nigeria

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About Article

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ABSTRACT

Cervical cancer remains a major cause of preventable morbidity and mortality among Nigerian women, and the Human Papillomavirus (HPV) vaccine, introduced into Nigeria's national immunisation schedule in October 2023, offers a proven means of primary prevention. Yet vaccine uptake among young adults remains low, partly due to the rapid circulation of misinformation on social media platforms such as Facebook. This study examined the perceived influence of misinformation on HPV vaccine uptake among undergraduate Facebook users in Southeast Nigeria. Anchored on the Health Belief Model, the Theory of Planned Behaviour, and the Social Amplification of Risk Framework, the study adopted a survey research design. A sample of 383 respondents was drawn from nine state-owned tertiary institutions across Anambra, Enugu, and Abia States using Cochran's (1963) formula with a finite population correction, following a five-stage multistage sampling procedure. Of the questionnaires distributed, 379 were retrieved and valid for analysis (98.96% return rate). Data were analysed using descriptive statistics and Pearson's Chi-square test of association at the 0.05 level of significance. Findings showed that 79.4% of respondents had at least moderate awareness of the HPV vaccine, though comprehensive knowledge remained shallow. The most prevalent misinformation narratives concerned infertility (41.2%), promiscuity (27.4%), and vaccine safety (21.9%). A majority (58.8%) reported that misinformation strongly influenced their vaccination decisions, and frequent daily Facebook users showed markedly higher susceptibility to misinformation (67.6%) than occasional users (26.4%). All three null hypotheses were rejected: perceived misinformation, Facebook usage patterns, and exposure to misinformation were each significantly associated with vaccination decisions and willingness to uptake the vaccine. The study concludes that misinformation on Facebook constitutes a significant, empirically demonstrable barrier to HPV vaccine uptake among Southeast Nigerian undergraduates and recommends coordinated digital health literacy, institutional, and platform-level interventions.

INTRODUCTION

Human papillomavirus (HPV) is a principal cause of cervical cancer, a largely preventable disease that nonetheless remains a significant cause of morbidity and mortality among women in low- and middle-income countries, including Nigeria (World Health Organisation [WHO], 2024). Globally, cervical cancer ranks as the fourth most common cancer among women, with an estimated 600,000 new cases and approximately 340,000 deaths annually (WHO, 2024), and nearly 90% of cervical cancer-related deaths occur in low- and middle-income countries (Talabi et al., 2023). Nigeria records approximately 12,075 new cervical cancer cases and nearly 8,000 deaths annually, making it one of the highest contributors to cervical cancer mortality in Africa (WHO, 2024).

In October 2023, the Federal Government of Nigeria, with support from Gavi, the Vaccine Alliance, introduced the HPV vaccine into the national immunisation schedule, targeting approximately 7.7 million girls in one of the most significant immunisation initiatives in Africa (Gavi, 2023; Johns Hopkins IVAC, 2024). Yet the pathway from vaccine availability to sustained high coverage depends critically on demand-side factors, particularly the information environment in which young people form vaccination decisions. Facebook, with more than 30 million active users in Nigeria, serves as both an information hub and a fertile ground for misinformation, since its interactivity, low barriers to participation, and rapid spread of emotionally charged content make it especially susceptible to false or misleading health narratives (DataReportal, 2024; Vosoughi et al., 2018).

Common misinformation narratives about the HPV vaccine include claims that it causes infertility, encourages promiscuity among young girls, or produces severe adverse health effects, none of which are supported by scientific evidence but which nonetheless resonate strongly in cultures where fertility and sexual morality are closely tied to social identity (Erim et al., 2025; McKenzie et al., 2024). While a substantial literature documents the spread of such misinformation, fewer studies examine its perceived influence on actual health behaviour among a specific, digitally active population. This study addresses that gap by examining undergraduate Facebook users in Southeast Nigeria, a population within the vaccine's target demographic reach who are simultaneously among the platform's heaviest users.

Statement of the Problem

Cervical cancer poses a serious threat to women's health in Nigeria, even though it is largely preventable through timely HPV vaccination. Despite the vaccine's availability, acceptance and uptake among young women remain critically low. Female undergraduates, who fall within or near the target age group for vaccination, often face barriers such as limited awareness, misconceptions about the vaccine, and conflicting information from peers, families, and online platforms. While Facebook provides opportunities for health education, it is also a channel for spreading misinformation that fuels vaccine hesitancy. Without empirically examining the factors influencing undergraduates' willingness to uptake the vaccine, including the prevalence and perceived influence of misinformation, the national effort to reduce Nigeria's cervical cancer burden may fall short of its goals.

Objectives of the Study

The primary objective of this study was to examine the perceived influence of misinformation on HPV vaccine uptake among undergraduate Facebook users in Southeast Nigeria. Specifically, the study sought to:

1. Examine the level of awareness of the HPV vaccine among undergraduate Facebook users in Southeast Nigeria.
2. Ascertain the types of misinformation about the HPV vaccine encountered by undergraduate Facebook users.
3. Determine the perceived influence of misinformation on HPV vaccination decisions among undergraduate Facebook users.
4. Ascertain the influence of Facebook usage patterns on perceptions of HPV vaccine misinformation.
5. Investigate the relationship between exposure to misinformation on Facebook and willingness to uptake the HPV vaccine.

Research Hypotheses

$H0_1$: The perceived influence of misinformation does not significantly influence HPV vaccination decisions among undergraduate Facebook users in Southeast Nigeria.

$H0_2$: Facebook usage patterns do not significantly influence perceptions of misinformation about the HPV vaccine among undergraduate Facebook users in Southeast Nigeria.

$H0_3$: There is no significant relationship between exposure to misinformation on Facebook and willingness to uptake the HPV vaccine among undergraduate Facebook users in Southeast Nigeria.

Significance of the Study

This study contributes empirical, survey-based evidence on the effect of social media misinformation on a specific, demonstrable health behaviour in an under-studied Nigerian population. For public health authorities and the National Primary Health Care Development Agency, the findings offer an evidence base for designing targeted digital health communication that directly addresses the specific misinformation narratives shown to circulate most widely. For communication scholars, the study extends the Health Belief Model, the Theory of Planned Behaviour, and the Social Amplification of Risk Framework into the understudied context of Facebook-mediated HPV vaccine decision-making in Southeast Nigeria.

Literature Review

HPV Vaccine Uptake among Undergraduates

The uptake of the HPV vaccine among young adults and undergraduates has emerged as an important area of public health inquiry, especially in countries where the burden of cervical cancer remains high. Several Nigerian studies report a consistent pattern: relatively high awareness combined with strikingly low actual uptake. Onasoga et al. (2025) found that while 70% of female undergraduates in North-Central Nigeria had heard of the HPV vaccine, only 15% had received it, with knowledge gaps concentrated on the vaccine's benefits and availability. Similarly, Akande (2024) reported that although half of the students sampled were aware of the vaccine, only 5% had received it, despite 30% expressing willingness to pay for it, pointing to affordability and accessibility, rather than awareness alone, as compounding barriers.

Okoka et al. (2023) found comparable patterns among female undergraduates in Lagos State, where 60% had heard of the vaccine but only 10% had been vaccinated, with cultural beliefs and misinformation cited as principal barriers. Across these studies, a recurring gap is the lack of attention to the specific role of digital media and peer networks, particularly Facebook, in shaping undergraduates' perceptions and decisions, a gap this study directly addresses.

Socio-Cultural Dimensions of Vaccine Hesitancy

Vaccine uptake in Nigeria does not occur in a socio-cultural vacuum. In many Nigerian communities, discussions about sexual health remain sensitive, and vaccines associated with sexually transmitted infections are often framed within moral or religious terms (Adejumo & Olagoke, 2023). Fertility, closely tied to cultural identity, lineage, and social status, is a particularly potent axis around which misinformation coalesces; claims linking the HPV vaccine to infertility resonate powerfully because they threaten a core social value rather than merely presenting a disputed medical claim (Erim et al., 2025). These dynamics compound the purely informational barriers documented in awareness-focused studies, suggesting that corrective communication must address cultural and moral framing as much as factual accuracy.

Misinformation and Vaccine Hesitancy on Social Media

Misinformation is typically defined as false or inaccurate information shared without intent to deceive, while disinformation involves the deliberate dissemination of false content (Wardle & Derakhshan, 2017). On platforms like Facebook, misinformation about vaccines often takes the form of exaggerated claims about side effects, anecdotal stories, or conspiracy-laden narratives, deliberately or inadvertently designed to evoke fear, distrust, or moral outrage that increases the likelihood of engagement and sharing (Suarez-Lledo & Alvarez-Galvez, 2021). Vosoughi et al. (2018) demonstrated more broadly that false information tends to spread faster and wider on social media than accurate information, particularly when it appeals to emotion, a pattern with direct relevance to HPV vaccine misinformation narratives concerning infertility and morality.

Empirical evidence links such exposure directly to reduced vaccination intention. Loomba et al. (2021) found that individuals exposed to vaccine misinformation were significantly less likely to express willingness to be vaccinated, a pattern subsequently echoed in Nigerian HPV-specific research: Agha et al. (2025) found that caregiver exposure to HPV vaccine messaging on social media was strongly associated with vaccination uptake among adolescent girls, underscoring that social media exposure, in either direction, carries substantial explanatory weight for vaccination behaviour. Adegboyega et al. (2025), evaluating a Facebook-based intervention (#HPVVaxTalks), found that a structured, corrective Facebook campaign significantly improved knowledge and attitudes toward HPV vaccination among Nigerian users, demonstrating that the same platform responsible for spreading misinformation can, when deliberately used, correct it.

Theoretical Framework

This study is anchored on three complementary frameworks. The Health Belief Model (HBM), developed by Rosenstock (1966) and elaborated by Janz and

Becker (1984), proposes that health behaviour is a function of perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. Misinformation operates directly on these constructs by inflating perceived barriers (e.g., false claims of infertility or severe side effects) while undermining perceived benefits of vaccination.

The Theory of Planned Behaviour (TPB), formulated by Ajzen (1991), holds that behavioural intention is shaped by attitude toward the behaviour, subjective norm, and perceived behavioural control. Applied here, misinformation shared and endorsed by peers on Facebook shapes both attitudes toward the vaccine and subjective norms, since peer approval or disapproval, signalled through likes, comments, and shares, communicates powerful normative cues.

The Social Amplification of Risk Framework (SARF), developed by Kasperson et al. (1988), proposes that risk is not experienced solely through objective hazard characteristics but is socially constructed and amplified through communication processes, media reporting, and cultural practices. Facebook functions as a contemporary amplification station through which HPV vaccine misinformation, once introduced, is magnified through algorithmic prioritisation of emotionally engaging content and through peer sharing, producing perceptions of risk disproportionate to actual clinical evidence.

Research Methodology

Research Design

This study adopted a quantitative survey

Table 1

Theoretical Framework and Application to the Study

Theory	Core Proposition	Application in This Study
Health Belief Model (Rosenstock, 1966; Janz & Becker, 1984)	Health action depends on perceived susceptibility, severity, benefits, and barriers	Misinformation inflates perceived barriers and undermines perceived benefits of HPV vaccination
Theory of Planned Behaviour (Ajzen, 1991)	Behavioural intention is shaped by attitude, subjective norm, and perceived behavioural control	Misinformation shared by peers on Facebook shapes attitudes and subjective norms toward vaccination
Social Amplification of Risk Framework (Kasperson et al., 1988)	Risk perception is socially constructed and amplified through communication channels	Facebook functions as an amplification station through which HPV vaccine risk claims are magnified

research design, using structured questionnaires to gather data from undergraduate Facebook users across nine selected tertiary institutions. This design was appropriate because it allowed the researcher to evaluate students' self-reported perceptions and experiences regarding HPV vaccine misinformation and uptake through statistically analysable, generalisable data.

Population and Sample Size

The study population comprised undergraduates enrolled in the 2025 academic session across nine state-owned tertiary institutions, purposively drawn from Anambra, Enugu, and Abia States: one state university, one state polytechnic, and one state college of education per state. The total population across the nine institutions was 101,430 students. Sample size was determined using Cochran's (1963) formula for estimating proportions in cross-sectional surveys, appropriate given the binary nature of the primary outcome (vaccinated versus not vaccinated):

$$n_0 = Z^2 \times p \times q / e^2$$

where Z = 1.96 (95% confidence level), p = 0.5 (maximum variability), q = 1 - p = 0.5, and e = 0.05 (margin of error), yielding $n_0 \approx 384$. Applying the finite population correction for the known population of 101,430 yielded a final sample size of approximately 383, proportionately distributed across the nine institutions based on their respective student populations. Of the 383 questionnaires distributed, 379 were retrieved and valid for analysis, a return rate of 98.96%.

Sampling Technique

A five-stage multistage sampling technique was employed. In the first stage, the three states (Anambra, Enugu, Abia) were purposively selected for their concentration of state-owned tertiary institutions and socio-cultural diversity. In the second stage, one state university, one state polytechnic, and one state college of education were selected from each state, yielding nine institutions in total. In the third stage, three faculties or schools were selected from each institution using stratified random sampling to ensure representation from both health-related and non-health-related disciplines. In the fourth stage, two departments were randomly selected from each chosen faculty or school by balloting. In the final stage, proportionate sampling allocated respondents according to each institution's student population.

Research Instrument, Validity, and Reliability

Data were collected using a structured, self-administered questionnaire covering socio-demographic information, Facebook usage patterns, exposure to HPV vaccine information and misinformation, perceived influence of misinformation, HPV knowledge items, and vaccine uptake/intention items. Content and face validity were established through expert review by a health-communication specialist, a public-health/vaccine expert, and a social-research methodologist, with an item-level Content Validity Index (I-CVI) computed and items scoring below 0.78 revised; the overall scale-level CVI exceeded the accepted 0.80 threshold. Construct validity was assessed via exploratory factor analysis on pilot data (n = 50), supporting the intended dimensionality of the exposure, perceived influence, and attitude/perception scales. Internal consistency reliability, assessed using Cronbach's alpha, yielded 0.81 (exposure to misinformation), 0.86 (perceived influence),

and 0.83 (attitude/perception), with an overall instrument alpha of 0.84. Test-retest reliability over a two-week interval yielded intraclass correlation coefficients between 0.72 and 0.80, indicating adequate temporal stability.

Method of Data Analysis

Descriptive statistics (frequencies and percentages) were used to summarise demographic characteristics, awareness levels, misinformation types encountered, Facebook usage patterns, and willingness to uptake the vaccine. Pearson's Chi-square (χ^2) test of independence was used to examine the association between the study's key variables and each of the three hypothesised relationships, at the 0.05 level of significance.

Results and Data Presentation

Demographic Characteristics of Respondents

Table 2 presents the demographic distribution of the 379 valid respondents. A greater proportion were female (58.8%), consistent with the gendered relevance of HPV vaccination discussions given HPV's role in cervical cancer. The dominant age bracket was 21-25 years (46.2%), reflecting the typical undergraduate demographic in Nigeria. Most respondents were drawn from state universities (68.3%), followed by polytechnics (22.2%) and colleges of education (9.5%), ensuring balanced institutional representation.

Table 2

Demographic Distribution of Respondents (N = 379)

Variable / Category	Frequency (n)	Percentage (%)
Sex		
Female	223	58.8
Male	156	41.2
Dominant Age Bracket		
21 - 25 years	175	46.2
Other age brackets (combined)	204	53.8
Institution Type		
State university	259	68.3
State polytechnic	84	22.2
State college of education	36	9.5
Total	**379**	**100.0**

Level of Awareness of the HPV Vaccine

As shown in Figure 1, 21.6% of respondents had very high awareness and 25.9% had high awareness of the HPV vaccine, while 31.9% reported moderate awareness. Only 15.0% and 5.5% reported low or no awareness, respectively. This implies that the majority (79.4%) of respondents had at least some awareness of the vaccine, largely attributable to social media exposure, although the remaining 20.5% with low or no awareness points to persistent gaps in targeted health communication.

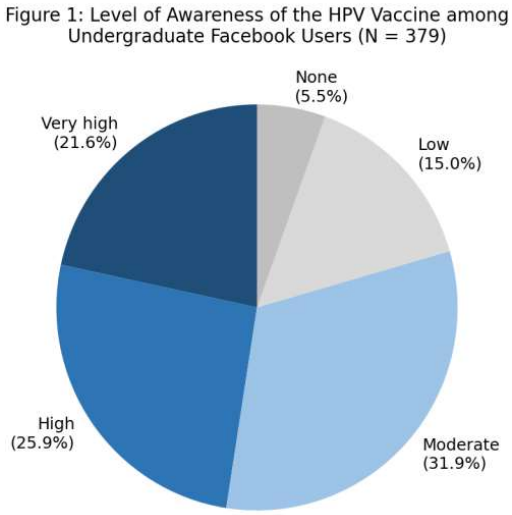

Figure 1. Level of awareness of the HPV vaccine among undergraduate Facebook users (N = 379).

Types of Misinformation Encountered

As shown in Figure 2, the most prevalent misinformation narrative (41.2%) was the belief that the HPV vaccine causes infertility, followed by the perception that it encourages promiscuity (27.4%). About 21.9% of respondents also encountered claims that the vaccine was unsafe, with the remainder encountering other miscellaneous claims. These narratives reflect the persistence of conspiracy theories and socio-cultural misconceptions circulating on Facebook, which collectively undermine vaccine confidence.

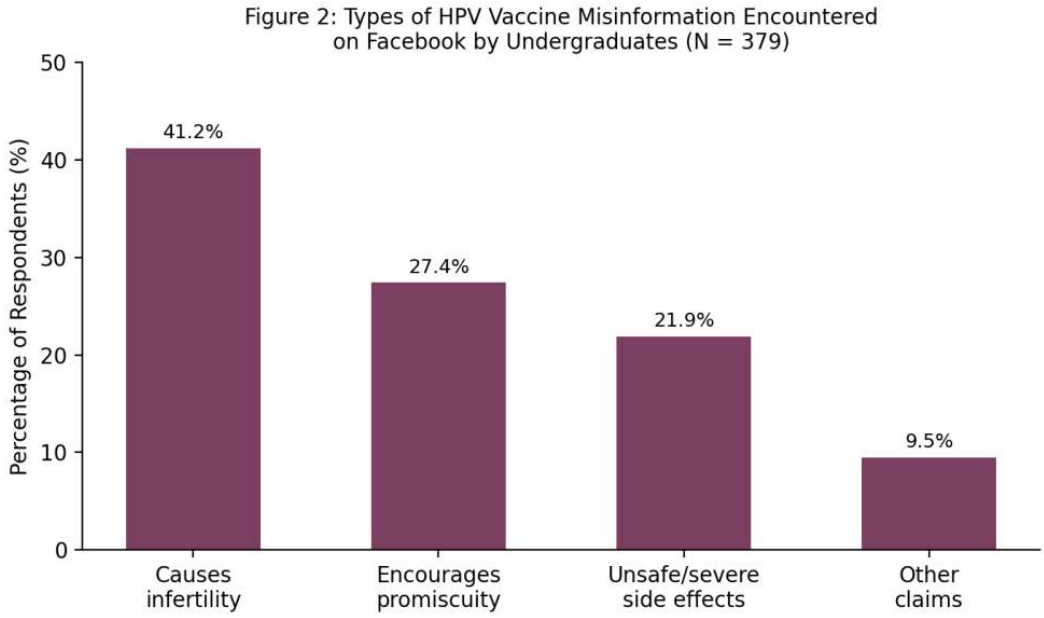

Figure 2. Types of HPV vaccine misinformation encountered on Facebook by undergraduates (N = 379).

Perceived Influence of Misinformation on Vaccination Decisions

A majority of respondents (58.8%, combining 'very strong' and 'strong' responses) felt that misinformation strongly influenced their decision-making about the HPV vaccine. This underscores that misinformation on Facebook significantly affects vaccine acceptance, possibly owing to emotional appeal, message repetition, and greater trust in peer-shared content than in verified health sources.

Facebook Usage Patterns and Perceptions of Misinformation

Table 3 shows that the frequency of Facebook use is strongly associated with perceived susceptibility to misinformation. The largest share of respondents (41.9%) were moderate users spending 2-4 hours daily on Facebook, while 37.5% were frequent daily users and 20.6% were occasional users. Among frequent daily users, 67.6% exhibited high susceptibility to misinformation, compared with 45.2% among moderate users and only 26.4% among occasional users. Conversely, low susceptibility was most common among occasional users (31.8%), suggesting that limited exposure to social media may reduce the likelihood of encountering or internalising false health narratives.

Table 3

Influence of Facebook Usage Patterns on Perceptions of HPV Vaccine Misinformation (N = 379)

Facebook Usage Category	% of Sample	% with High Susceptibility to Misinformation	% with Low Susceptibility to Misinformation
Frequent daily users	37.5	67.6	-
Moderate users (2-4 hrs/day)	41.9	45.2	-
Occasional users	20.6	26.4	31.8

Exposure to Misinformation and Willingness to Uptake the Vaccine

As shown in Figure 3, a clear negative relationship emerged between exposure to misinformation and willingness to vaccinate: among respondents with high exposure to misinformation, 56.1% expressed low or no willingness to receive the HPV vaccine, compared with only 20.1% among those with low exposure. This demonstrates the detrimental effect of misinformation on preventive health behaviour and reinforces the need for culturally and contextually appropriate counter-narratives.

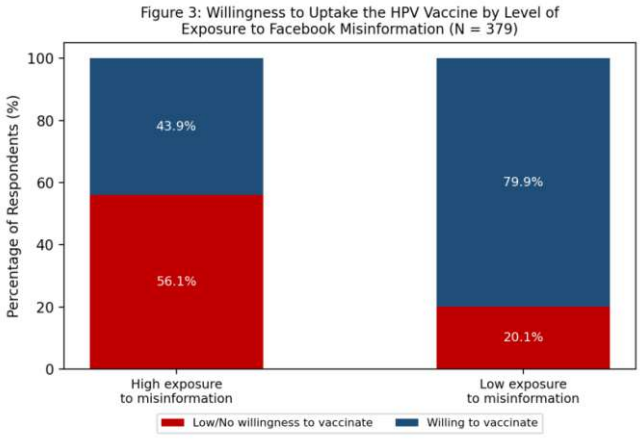

Figure 3. Willingness to uptake the HPV vaccine by level of exposure to Facebook misinformation (N = 379).

Hypothesis Testing

Table 4 summarises the results of the three Chi-square tests conducted. In each case, the calculated χ^2 value substantially exceeded the critical value of 3.84 at 1 degree of freedom and the 0.05 level of significance, resulting in the rejection of all three null hypotheses. This indicates statistically significant associations between perceived misinformation and vaccination decisions, between Facebook usage patterns and perceptions of misinformation, and between exposure to misinformation and willingness to uptake the vaccine.

Table 4

Summary of Chi-Square Hypothesis Testing (0.05 significance level)

Hypothesis	χ^2 calc.	χ^2 crit.	df	Decision
$H0_1$: Perceived misinformation x vaccination decisions	59.41	3.84	1	Rejected
$H0_2$: Facebook usage patterns x perceptions of misinformation	38.57	3.84	1	Rejected
$H0_3$: Exposure to misinformation x willingness to uptake vaccine	34.59	3.84	1	Rejected

Institutional and Disciplinary Patterns

Because the sampling design deliberately stratified respondents across health-related and non-health-related faculties and across university, polytechnic, and college-of-education institution types, the data allow some reflection on whether institutional context shaped the patterns observed. Respondents drawn from state universities constituted the largest share of the sample (68.3%) and, consistent with their concentration in the sampling frame, contributed proportionately to both the awareness and misinformation-exposure patterns reported above. While the study did not set out to formally test institution-type as a moderating variable, the deliberate inclusion of both health-related and non-health-related faculties within each institution was intended to capture the possibility that exposure to, and evaluation of, health misinformation might vary by academic discipline, since students in health-related fields may bring somewhat different baseline knowledge to their interpretation of Facebook content than their non-health peers.

Discussion of Findings

The finding that awareness of the HPV vaccine was moderate (79.4% reporting at least some awareness) but comprehensive knowledge remained shallow aligns with previous Nigerian research showing that while information about HPV vaccination has become more widespread through school programmes and social media, detailed understanding remains limited (Akande, 2024). Read through the Health Belief Model, awareness alone does not translate into vaccination behaviour unless individuals also perceive themselves as susceptible to cervical cancer, believe in the vaccine's benefits, and perceive minimal barriers (Rosenstock, 1974); Facebook has therefore served as only a partial channel for awareness, with its potential as a platform for comprehensive health education yet to be fully realised.

The prevalence of infertility (41.2%) and promiscuity (27.4%) narratives is consistent with global and Nigerian evidence that rumours about fertility and moral decay have proven particularly damaging to HPV vaccination campaigns (Agha, 2025; Erim et al., 2025). The persistence of these narratives is well explained by the Social Amplification of Risk Framework, which holds that risk information passing through social and cultural filters can be amplified emotionally and symbolically (Kasperson et al., 1988); in the Nigerian context, this amplification thrives in the relative absence of trust in formal health communication channels.

The finding that 58.8% of respondents perceived misinformation as strongly influencing their vaccination decisions is consistent with the Theory of Planned Behaviour, which holds that behavioural intentions are shaped by attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). Misinformation alters attitudes by exaggerating risks, shapes subjective norms when peers share anti-vaccine views, and weakens perceived behavioural control when individuals doubt their own ability to evaluate health information critically. This is consistent with earlier Nigerian findings that misinformation reduces willingness to vaccinate and can persist even after exposure to corrective information (Adegboyega, 2025).

The strong association between Facebook usage intensity and susceptibility to misinformation (67.6% among frequent users versus 26.4% among occasional users) supports the view that higher exposure increases both the likelihood of encountering misinformation and the probability of internalising it (Guess et al., 2020). The Social Amplification of Risk Framework further clarifies that repeated exposure to similar messages reinforces fear and heightens perceived danger even in the absence of supporting evidence (Kasperson et al., 1988), while the Theory of Planned Behaviour suggests that prolonged exposure to harmful content can shift perceived social norms within online communities, normalising misinformation over time.

Finally, the clear negative relationship between exposure to misinformation and willingness to uptake the vaccine (56.1% low/no willingness among highly exposed respondents versus 20.1% among those with low exposure) directly corroborates the study's rejection of all three null hypotheses and aligns with prior research indicating that misinformation directly undermines vaccine confidence (Agha, 2025). Collectively, these findings demonstrate a complex interaction between awareness, misinformation, socio-cultural context, and social media use: while Facebook serves as a key source of health information for undergraduates, it simultaneously operates as a significant conduit for the misinformation that erodes confidence in the very vaccination programme it could otherwise support.

Integrating the Three Theoretical Perspectives

Considered jointly, the three theoretical frameworks provide a more complete account of the findings than any single theory could offer alone. The Health Belief Model explains the cognitive endpoint of the process: how misinformation-inflated barriers and undermined benefits translate into reduced perceived net advantage of vaccination. The

Theory of Planned Behaviour explains the intervening social-psychological mechanism: how misinformation shifts attitudes and, crucially, subjective norms within tightly connected undergraduate peer networks on Facebook. The Social Amplification of Risk Framework explains the upstream communicative process: how a piece of misinformation, once introduced, is amplified through algorithmic prioritisation and peer sharing until it reaches a scale sufficient to shift population-level perceptions. Read together, these frameworks depict a pipeline running from communicative amplification (SARF) through attitude and normative change (TPB) to final health-belief calculus (HBM), a pipeline this study's three rejected null hypotheses trace empirically from Facebook usage intensity, to perceived influence, to reduced willingness to vaccinate.

Limitations of the Study

As with any cross-sectional survey, several limitations bear on the interpretation of these findings. First, reliance on self-reported data on exposure to misinformation, perceived influence, and willingness to vaccinate introduces the possibility of recall bias and social desirability bias, notwithstanding the anonymity and confidentiality measures built into the questionnaire design. Second, the cross-sectional design captures perceptions and behaviour at a single point in time and cannot establish the temporal or causal order between misinformation exposure and vaccination attitudes; it remains possible that pre-existing scepticism toward vaccination increases receptivity to misinformation, rather than misinformation exposure alone driving hesitancy. Third, the study measured perceived influence and willingness to uptake rather than verified vaccination status, meaning the behavioural endpoint is a self-reported proxy rather than a clinically confirmed outcome. These limitations, explicitly acknowledged in the study's original scope, point toward longitudinal and mixed-methods designs as valuable directions for future research capable of establishing clearer causal pathways and verifying self-reported uptake against actual vaccination records.

Conclusion

This study examined the perceived influence of misinformation on HPV vaccine uptake among 379 undergraduate Facebook users across nine tertiary institutions in Anambra, Enugu, and Abia States. Findings revealed that while a majority of respondents had at least moderate awareness of the HPV vaccine, prevalent Facebook-circulated misinformation, particularly claims linking the vaccine to infertility and promiscuity, significantly shaped vaccination attitudes and decisions. Frequent Facebook users demonstrated markedly higher susceptibility to misinformation than occasional users, and exposure to misinformation was strongly and negatively associated with willingness to uptake the vaccine. All three null hypotheses were rejected, confirming that perceived misinformation, Facebook usage patterns, and exposure to misinformation each significantly influence HPV vaccine-related decisions among this population. The study concludes that misinformation on Facebook constitutes a significant, empirically demonstrable barrier to HPV vaccination among Southeast Nigerian undergraduates, one that awareness campaigns alone are unlikely to overcome without deliberate attention to the digital information ecosystem in which vaccine decisions are increasingly made.

Recommendations

Based on the findings, the following recommendations are made:

1. Health authorities should intensify digital health literacy campaigns to help undergraduates identify and critically evaluate misinformation encountered on Facebook.
2. Universities should integrate health communication and media literacy content into general studies curricula to strengthen students' capacity to evaluate online health content.
3. Public health agencies should collaborate with credible social media influencers to promote accurate, culturally resonant HPV vaccine information in relatable formats.
4. Given the strong association between usage intensity and susceptibility, targeted corrective messaging should specifically reach heavy daily Facebook users rather than relying on generic, undifferentiated campaigns.
5. Student unions and peer health clubs should be empowered and resourced to organise campus-based awareness campaigns addressing the specific misinformation narratives, infertility, promiscuity, and safety, identified in this study.
6. Future research should explore the longitudinal effects of sustained online misinformation exposure on vaccination behaviour, and should extend this survey approach to comparative platforms beyond Facebook.

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