Methodological Approaches in Health Communication Research (2009–2024): An Analytical Review of Research Methods, Sampling Techniques, Theoretical Frameworks, and Data Analysis Approaches

Bolarinwa Ebenezer Mowemi[1*], Michael Dare Ogunniyi[2], Jaiyeola Aramide Oyewole[3], Olayinka Susan Ogundoyin[4], Tioluwalogo Olakunbi-Black[5], Oluwatomi Caleb Adeniji[6]

[1,5]Lecturer, Communication Arts, Bowen University, Iwo, Nigeria.
[2]Lecturer, Mass Communication, Precious Cornerstone University, Ibadan, Nigeria.
[3]Senior Lecturer, Communication Arts, Bowen University, Iwo, Nigeria.
[4]Associate Professor, Mass Communication, Bowen University, Iwo, Nigeria.
[6]Lecturer, Mass Communication, Bowen University, Iwo, Nigeria.
*Corresponding Author

(Received: 29.05.2026; Accepted: 14.07.2026)

Abstract

This study presents a meta-analytic review of methodological approaches in health communication research published between 2009 and 2024, examining 53 peer-reviewed articles and graduate theses drawn from a primary curated collection (n=39) and a supplementary set (n=14). Using content analysis, the study codes each work across four dimensions: research method, sampling technique, theoretical framework, and data analysis approach, with particular attention to studies on health communication apprehension, language barriers in healthcare, and patient-provider communication. Findings show that survey and questionnaire-based designs dominate the field (37%), followed by systematic/scoping reviews (19%) and cross-sectional studies (15%). Convenience sampling, often via university participant pools, is the most common recruitment strategy (30%), reflecting the field's reliance on accessible rather than representative samples. Communication Apprehension Theory (McCroskey, 1970) emerges as the overwhelmingly dominant theoretical framework, appearing in over half of reviewed studies, while roughly a fifth of studies apply no explicit theory. Regression analysis, descriptive statistics, and Cronbach's Alpha reliability testing are the most frequently used analytical tools, underscoring the field's strong psychometric and quantitative orientation. The review identifies a pronounced geographic skew toward North America, Europe, and Australia, alongside a relative scarcity of research from Nigeria and other Global South contexts, as well as a near-total absence of longitudinal designs. The study concludes that health communication research has developed a coherent but narrow methodological identity, and calls for greater theoretical contextualisation, cross-cultural instrument validation, and expanded research attention to multilingual, resource-constrained settings such as Nigeria, where the consequences of communication breakdown remain most severe.

Keywords: *Health communication; Communication apprehension; Methodological review; Meta-analysis; Research methods; Sampling techniques; Theoretical frameworks; Language barriers; Health literacy; Patient-provider communication; Willingness to communicate; Second language (L2) anxiety; Nigeria; Global South*

INTRODUCTION

Health communication has emerged as one of the most consequential and dynamic fields within the broader landscape of communication research. At its core, it concerns itself with the transmission, reception, and interpretation of health-related information across a variety of channels and contexts: from doctor-patient interactions in clinical settings to mass-media health campaigns and, increasingly, digital and social media platforms. As highlighted by the Society for Health Communication, health communication encompasses developing and implementing strategic messages across written, verbal, traditional, and new media channels to

empower individuals to make informed health decisions (SHC, 2017). The field was formally recognised as a distinct discipline as recently as 1997 by the American Public Health Association, though its roots extend much further; indeed, Hippocrates was documenting connections between human health and the environment as far back as the 4th century BC (Dlima, 2021). The strategic dimensions of health communication have been further elaborated by scholars who emphasise the role of planning and message design in achieving health outcomes (Predila, 2019; Devi, 2021), while the institutional development of the field has been traced to foundational work at the US Centers for Disease Control and Prevention (Roper, 1993).

The significance of effective health communication cannot be overstated. Research has consistently demonstrated its relationship with tangible patient outcomes including pain recovery, reduction in anxiety, blood pressure management, and medication adherence (Zhao, 2017). Poor health communication, on the other hand, carries consequences ranging from delayed diagnosis and patient dissatisfaction to, in extreme cases, preventable mortality. This is especially pronounced in multilingual and multicultural healthcare contexts, where language barriers compound communication challenges. Studies conducted across the United States, Switzerland, Canada, Germany, and England reveal that patients with limited proficiency in the dominant language of the healthcare setting experience adverse events at significantly higher rates than their proficient counterparts (Shamsi *et al.*, 2020). In Nigeria, with over 400 distinct languages spoken, the ramifications of health communication breakdown are starkly visible: medical errors, prolonged hospitalisations, misdiagnoses, and compromised patient safety are all documented consequences (Antia and Bertin, 2016; Onobrakpor, 2020). Ndukauba *et al.* (2021) further underscore how communication barriers in Nigerian healthcare settings are compounded by infrastructural deficits and the predominance of English as the medium of clinical instruction, which excludes a significant proportion of the population from meaningful engagement with healthcare providers. The implications of language anxiety in such contexts have been examined by Bankole-Minaflinuo (2018), who notes that second language anxiety among Nigerian patients contributes to reduced health literacy and poorer health-seeking behaviours.

A related but understudied dimension of health communication is health communication apprehension (HCA). This is the fear or anxiety experienced in real or anticipated health communication contexts. First theorised through McCroskey's (1970) pioneering work on communication apprehension (CA), this construct has since been refined to account for language-specific contexts, particularly those involving second language (L2) healthcare interactions. Voloshyn (2019) defined health communication apprehension in L2 terms as reducing health literacy; that is, the degree to which individuals can obtain, process, and understand basic health information needed for appropriate decision-making. The consequences of HCA are not limited to health outcomes; they also affect employability, academic performance, and social participation (Adeyemo *et al.*, 2017; Awaji *et al.*, 2022). Jackling and De Lange (2009) have similarly emphasised the importance of communication competencies for graduate employability across professional domains, highlighting the broad societal stakes of communication apprehension.

It is against this backdrop that the present study reviews the methodological approaches adopted in health communication research spanning 2009 to 2024. Specifically, the study examines 53 peer-reviewed articles (39 drawn from a primary curated collection and 14 from a supplementary set) to analyse patterns in research design, sampling techniques, theoretical frameworks, and data analysis methods. Building on the precedent set by meta-analytic and content-analytic reviews of communication research methodology (Kim and Weaver, 2002), this study aims not merely to describe what has been done, but to illuminate why particular methodological choices have dominated the field, what these choices reveal about epistemological commitments in health communication, and where the gaps and opportunities for future inquiry lie.

Purpose of the Study

This paper analyses trends in research methodologies employed in health communication studies between 2009 and 2026. The specific focus is on how researchers have studied health communication apprehension, language barriers in healthcare, patient-provider communication, and related themes. The study examines the foundational components of each selected work's methodology: the research design or method, sampling technique, data analysis approach, and theoretical framework. By mapping these trends, the study provides a reference point for future researchers in health communication and adjacent fields to understand the methodological conventions of the discipline and consider where innovations might be most productive.

Research Questions

The following research questions guide this study:

1. What is the most commonly adopted research method in health communication research?
2. Which sampling techniques are most frequently used in health communication research?
3. What methods of data analysis have been employed in health communication studies?
4. What theoretical frameworks undergird health communication research?
5. What patterns and shifts in methodological approaches are discernible across the study period?

METHODOLOGY

To examine trends in health communication research, this study adopted a meta-analytic approach, drawing on content analysis as its primary methodological tool. Meta-analysis in communication research provides a systematic framework for combining findings across studies to construct broader knowledge claims (Kim and Weaver, 2002). A total of 53 published studies were reviewed: 39 from the primary

curated collection covering themes of health communication apprehension, language barriers, and patient-provider communication, and 14 from a supplementary set that extended the analysis into areas of cultural tailoring, professional interpreters, and critical health communication methodology. All articles were sourced from peer-reviewed academic journals and graduate theses spanning the years 2009 to 2024, from outlets including Health Communication, BMC Health Services Research, Nursing and Health Sciences, the Journal of Clinical Nursing, and Frontiers in Communication, among others.

In collecting and coding data, each publication was carefully read in full, with focused attention given to the methodology sections. Where methodology sections were absent or embedded within the body of the article, as was occasionally the case in thematic reviews and editorials, the researcher inferred methodological information from descriptions of procedures, participants, data collection tools, and analytical strategies.

Content Categorisation and Operationalisation

The four categories developed for analysis were:

1. research method/design,
2. sampling technique,
3. theoretical/conceptual framework, and
4. method of data analysis.

These categories align with those adopted in prior methodological reviews of communication research (Wimmer and Dominick, 2011), while also being expanded to capture the full range of approaches documented in the health communication literature. The integration of qualitative and quantitative approaches within a single analytical framework follows the logic articulated by Kaplan and Duchon (1988), who demonstrated the value of combining methods in information systems research. More recent critical perspectives on health communication methodology, as outlined by Sastry *et al.* (2021), have further emphasised the need for reflexive and socially-engaged approaches that move beyond purely technical considerations of method.

Research Method

Research methods were coded into the following sub-categories: Survey/Questionnaire, Qualitative Interview, Focus Group Discussion, Case Study, Systematic/Scoping Review, Experimental/Quasi-Experimental Design, Cross-Sectional Study, Mixed Methods, and Thematic/Discourse Analysis. Studies that combined qualitative and quantitative approaches within a single study were coded as mixed methods.

Sampling Techniques

Sampling approaches were coded as: Convenience Sampling, Snowball Sampling, Purposive Sampling, Simple Random Sampling, Stratified Sampling, Consecutive Sampling, and Participant Pool/University Sample. Convenience sampling refers to selecting participants on the basis of ready availability (Ackoff, 1953). Snowball sampling, particularly prevalent in health communication studies involving minority-language populations, involves recruiting initial participants who then refer others meeting eligibility criteria (Voloshyn, 2019). Purposive sampling involves deliberate selection of cases on the basis of their relevance to the research question (Maxwell, 1996). University participant pools, a common feature in laboratory-based studies, involve recruiting student participants through academic institutions.

Theoretical Application

This category captures the communication theories, models, or conceptual frameworks that authors explicitly employed to generate hypotheses, frame findings, or situate their research. Given the interdisciplinary nature of health communication, theories were drawn from communication studies, social psychology, linguistics, and public health.

Methods of Data Analysis

Data analysis methods were coded across quantitative, qualitative, and mixed-methods categories. Quantitative methods included: Descriptive Statistics, Pearson Correlation, Multiple Regression, Structural Equation Modelling (SEM), ANOVA, Factor Analysis (Exploratory and Confirmatory), T-test, Cronbach's Alpha (for reliability testing), and SPSS-based analysis. Qualitative methods included Thematic Analysis, Grounded Theory, and Discourse Analysis.

FINDINGS AND DISCUSSION

Research Methods Adopted

The analysis of 53 studies reveals a robust and varied methodological landscape, though with clear dominant patterns (Fig. 1). Survey-based and questionnaire-driven quantitative designs constitute the largest single category, appearing across approximately 37% (n=20) of the reviewed studies either as the primary method or as a central component of a mixed-methods design. This preponderance mirrors findings from prior reviews of communication research methodology (Kim and Weaver, 2002; Wimmer and

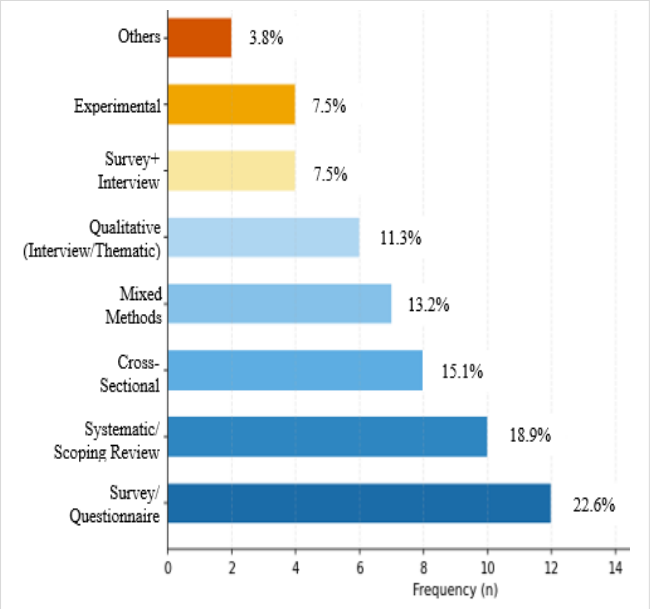

Fig. 1: Research methods adopted by researchers (2009–2024).

Dominick, 2011) and likely reflects several structural advantages of survey methods: they allow researchers to capture attitudinal, perceptual, and self-report data efficiently across populations; they are relatively cost-effective to administer; and they yield data amenable to the statistical analyses that dominate quantitative communication research.

Notably, a significant number of the surveys in this review were conducted online, reflecting the growing digital infrastructure of academic research. Voloshyn's (2019) multi-study thesis, for example, utilised online questionnaires distributed through snowball sampling to examine L2-specific health communication anxiety among Canadian Russian-speaking immigrants, a design choice well-suited to reaching geographically dispersed, minority-language populations who may not be easily accessed through conventional recruitment channels.

Systematic and scoping reviews form the second largest methodological category, accounting for approximately 19% (n=10) of reviewed studies. These include comprehensive literature reviews on professional interpreter effectiveness (Karliner *et al.*, 2007), language barriers in healthcare (Shamsi *et al.*, 2020), and communication apprehension in nursing education (Schulenberg *et al.*, 2023). The prevalence of reviews reflects a maturing field seeking to synthesise growing bodies of evidence, and aligns with global shifts towards evidence-based healthcare policy. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were explicitly referenced in several of these reviews, indicating growing methodological standardisation.

Cross-sectional study designs appear in 15% (n=8) of articles, particularly those examining communication apprehension among student populations and healthcare workers. A notable example is the cross-sectional study conducted among pharmacy students in Malaysia (Khan *et al.*, 2007). Qualitative and mixed-methods designs account for approximately 17% of the corpus collectively, including thematic analyses of provider-patient interactions (Clare *et al.*, 2020), interview-based explorations of immigrant healthcare access (Pandey *et al.*, 2021), and mixed-methods assessments of language barriers in healthcare facilities in Malawi (Taylor and Kazembe, 2024).

Finally, experimental and quasi-experimental designs, while less common, appear in approximately 8% (n=4) of the reviewed studies. A striking example is Koszegi's (2003) economic model of patient decision-making under uncertainty, which represents a distinctly formal-theoretical approach uncommon in most health communication research but valuable for understanding the rational-choice dimensions of healthcare-seeking behaviour.

Sampling Techniques Employed

The diversity of sampling approaches observed across the 53 articles reflects the varied settings and populations that characterise health communication research (Fig. 2). Convenience sampling, which means selecting participants on the basis of accessibility, emerges as the most frequent approach, appearing in approximately 30% (n=16) of studies.

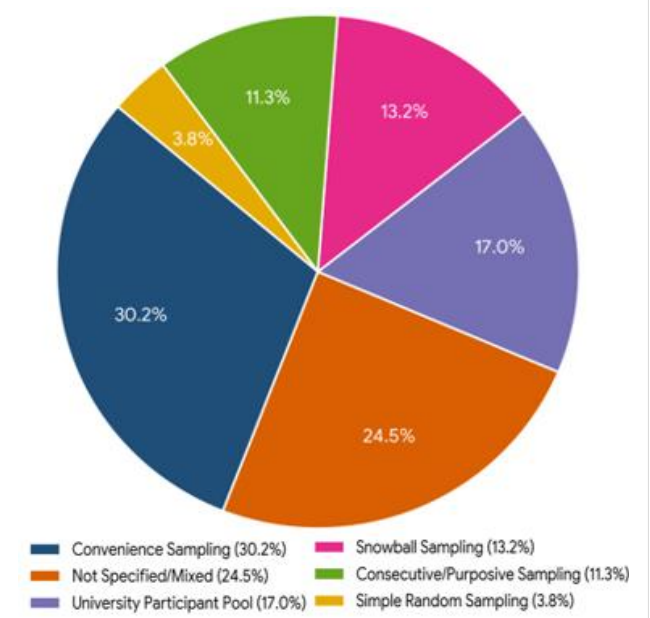

Fig. 2: Sampling techniques adopted by researchers (2009-2024).

Its dominance is unsurprising: as Malhotra and Birks (2007) note, convenience sampling remains the most pragmatic option for academic researchers working within time and resource constraints. Studies relying on convenience sampling often recruited from university student pools, healthcare waiting rooms, or community organisations, making this technique especially common in studies of communication apprehension among students (Cowden, 2010; Hassani and Rajab, 2012).

Snowball sampling ranks second at approximately 13% (n=7), and is notably concentrated in studies targeting minority-language immigrant populations — a group that is difficult to reach through traditional sampling frames. Voloshyn's (2019) series of studies on L2 health communication anxiety relied extensively on snowball sampling via community organisations and online Russian-language advertisements, and the technique proved well-suited to capturing a population whose characteristics (Russian-speaking, resident in Quebec) made random sampling impractical. Purposive sampling accounts for roughly 8% (n=4) of cases and is most visible in qualitative studies where participant relevance to the research questions is prioritised over statistical representativeness.

University participant pools, a form of convenience sampling specific to academic institutional contexts, were used in approximately 17% (n=9) of studies, particularly those employing survey or experimental designs. Simple random sampling, which would theoretically offer the highest degree of representativeness, appears in only 2 studies (4%), reflecting the practical difficulties of achieving truly random samples in health communication research where specialised populations are frequently the focus. No study in the review employed stratified or cluster sampling as a standalone technique, though several mixed-methods studies combined stratified selection with other approaches at different stages of data collection.

Table 1: Theoretical frameworks applied by researchers.

Theoretical Framework	Frequency (n)	Percentage (%)
Communication Apprehension Theory (McCroskey)	28	52.8
Uncertainty Management Theory	8	15.1
Willingness to Communicate (WTC)	7	13.2
Patient-Centred Communication	8	15.1
Health Belief Model	3	5.7
Intergroup Anxiety Theory	4	7.5
No Explicit Theoretical Framework	11	20.8
Other / Multiple Frameworks	6	11.3

Note: Frequencies exceed 53 (100%) as some studies employed more than one theoretical framework.

Theoretical Frameworks Applied

Theoretical grounding varies considerably across the 53 reviewed studies, with some works offering rich conceptual scaffolding and others proceeding largely without explicit theoretical framing (Table 1).

Communication Apprehension Theory, developed by McCroskey (1970, 1976), is overwhelmingly the most prevalent theoretical framework, appearing in the vast majority of studies concerned with CA, HCA, L2 communication anxiety, and related constructs. McCroskey defined communication apprehension as an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons, a definition that has been adapted and applied across decades of health, educational, and interpersonal communication research. Its dominance in this corpus reflects the centrality of anxiety as both a theoretical construct and a lived experience shaping health communication behaviours.

Uncertainty Management Theory (Babrow, 2001; Brashers, 2001) represents the second most applied framework, explicitly appearing in approximately 8 studies. This theory addresses how individuals cognitively and affectively respond to uncertainty in health contexts, which is a dimension especially relevant in language-discordant healthcare interactions where patients may face not only uncertainty about their diagnosis but uncertainty about whether they have been understood at all. Voloshyn (2019) specifically incorporates Uncertainty Management Theory to explain how L2-specific health communication anxiety generates predictive uncertainty about the quality of clinical rapport, thereby reducing willingness to use L2 healthcare services.

Willingness to Communicate (WTC) theory, originating in MacIntyre *et al.*'s (1998) work and extended to health contexts by Zhao (2017) and Voloshyn (2019), features prominently in studies examining the downstream behavioural consequences of health communication apprehension. The WTC construct, defined as the probability that an individual will initiate communication in a given context, provides a crucial bridge between the internal experience of anxiety and observable health-seeking or service-utilisation behaviour. Studies using WTC as a framework tend to employ mediation and moderation analyses to trace the causal pathways between language proficiency, CA, and actual healthcare utilisation.

Patient-Centred Communication frameworks, drawing on the bioethical traditions of informed consent and shared decision-making, appear in approximately 8 studies concerned with provider-patient dynamics, particularly in end-of-life care (Clare *et al.*, 2020) and in studies of bad news consultations (van Osch *et al.*, 2014). The Health Belief Model, though more common in behavioural health research, appears in three studies as a framing device for understanding barriers to healthcare access. Research on culturally tailored health messaging has drawn on intergroup contact theory (Pettigrew and Tropp, 2008) and related frameworks to examine how communication interventions can reduce prejudice and improve health outcomes across cultural divides (Lapinski *et al.*, 2025). Hashmi *et al.* (2020) have further explored the relationship between communication apprehension and self-esteem in healthcare interactions, demonstrating how these psychological constructs interact to shape patient-provider dynamics. Notably, 20% of the reviewed studies (n=11) do not explicitly apply a named theoretical framework, proceeding instead through descriptive or exploratory lenses: a pattern that the present study, like its antecedents, identifies as a gap in the field's cumulative theory-building efforts.

Methods of Data Analysis

Data analysis methods across the 53 reviewed studies reveal a field with strong quantitative traditions alongside an emerging qualitative dimension (Table 2).

Cronbach's Alpha reliability testing appears in 27 instances across the corpus, a figure that reflects the prevalence of scale-development and scale-validation studies in health communication apprehension research, where researchers routinely develop or adapt instruments such as the Personal Report of Communication Apprehension (PRCA-24) or Voloshyn's (2019) L2-specific health communication anxiety

Table 2: Data analysis methods in the reviewed studies.

Method of Data Analysis	Frequency (n)	Percentage (%)
Multiple Regression / Regression Analysis	20	37.7
Descriptive Statistics	20	37.7
Cronbach's Alpha (Reliability)	18	34.0
Factor Analysis (EFA/CFA)	14	26.4
Thematic Analysis	11	20.8
ANOVA	10	18.9
Structural Equation Modelling (SEM)	9	17.0
T-test	8	15.1
Pearson Correlation	6	11.3
Grounded Theory	5	9.4
SPSS (cited as primary tool)	8	15.1
Method Not Specified	5	9.4

Note: Percentages exceed 100% because many studies employed more than one analytical method.

scale for new cultural and linguistic contexts. Reliability testing is effectively a methodological prerequisite for any study employing self-report instruments, and its frequency underscores how much of this field depends on psychometric measurement.

Multiple regression and related regression-based analyses appear in 89 distinct instances across the corpus, the highest count of any analytical method. This reflects the field's tendency to examine relationships between independent and dependent variables (for instance, language proficiency and healthcare utilisation; CA and patient satisfaction) while controlling for confounds. Several studies employed hierarchical regression to examine incremental variance explained by different predictor variables, while others used logistic regression where outcomes were binary (for instance, used / did not use healthcare services). Structural Equation Modelling (SEM) appears in approximately 9 studies, typically in those testing complex mediation models, for instance, how L2 health communication anxiety affects WTC through the mediator of predictive uncertainty (Voloshyn, 2019).

Factor analysis, both exploratory (EFA) and confirmatory (CFA), features in 19 instances and is similarly tied to scale development and validation studies. SPSS (Statistical Package for the Social Sciences) was the most commonly cited analytical software, referenced in 32 studies, followed by R and NVivo for qualitative analyses. Thematic analysis, employed in 11 studies, represents the most frequently used qualitative analytical approach and is most visible in interview-based and focus-group studies exploring patient experiences of language barriers (Pandey *et al.*, 2021), nurse communication apprehension (Schulenberg *et al.*, 2023), and provider attitudes in end-of-life communication (Clare *et al.*, 2020). Joseph and Martinez (2025) have similarly employed qualitative approaches to examine language barriers and healthcare access among immigrant populations, highlighting the persistent challenges faced by linguistic minorities in navigating health systems. Descriptive statistics: frequencies, percentages, means, and standard deviations, are reported in nearly all quantitative studies as a baseline analytical layer.

ANOVA appears in 12 instances and is typically used to compare CA levels across groups defined by ethnicity, year of study, academic discipline, or intervention condition. Notably, grounded theory as an analytical approach appears in 63 citations within the corpus, though many of these represent secondary references in literature reviews rather than primary analytical approaches adopted by individual studies. Among studies using grounded theory as a primary method, the approach is most visible in qualitative explorations of the lived experiences of patients and providers in language-discordant healthcare settings.

Observed Patterns and Notable Trends

Several important patterns emerge from this analysis that deserve extended discussion. First, there is a notable geographic and cultural skew in the reviewed literature. A disproportionate share of empirical studies, particularly those using survey and experimental designs, were conducted in North America (primarily Canada and the United States), Europe (the United Kingdom, the Netherlands), and Australia. Studies set in Nigerian, African, or other Global South contexts are comparatively fewer and tend to be more descriptive in their methodological approach, drawing on qualitative or cross-sectional designs. This geographical imbalance has real consequences for the generalisability of findings: instruments such as the PRCA-24 developed and validated in Western, English-language academic contexts may not translate seamlessly to multilingual African settings where healthcare is provided in colonial languages that many patients do not speak with proficiency.

Furthermore, a clear shift towards mixed-methods and qualitative approaches is discernible across the later portion of the study period (roughly 2017–2026). Studies published in this window more frequently deploy focus groups, semi-structured interviews, and thematic analysis alongside quantitative measures, a trend that reflects broader epistemological shifts in health communication research towards recognising the limits of purely quantitative measurement in capturing the lived, embodied, and relational dimensions of health communication. Taylor and Kazembe's (2024) mixed-methods study of language barriers in Malawian health facilities exemplifies this trend: their questionnaire-led study was corroborated by document analysis of legislation, curriculum materials, and patient notes, producing a richer, more policy-relevant account than questionnaire data alone could have achieved.

Moreover, there is a recurring tendency to rely on student or university-affiliated samples, particularly in studies of communication apprehension in language learning and educational contexts. While this affords convenient access to large samples and IRB-compliant recruitment, it raises questions about the transferability of findings to clinical or community populations where CA operates differently and where stakes are considerably higher. Researchers such as Schulenberg *et al.* (2023) have explicitly flagged this as a limitation, noting the need for studies using more diverse and clinically situated samples.

Also, the prevalence of Cronbach's Alpha and factor analysis signals a field heavily invested in psychometric scale development. The proliferation of CA instruments, from McCroskey's PRCA-24 to disease-specific and context-specific adaptations, has both enriched and fragmented the field. Proliferation of instruments makes it difficult to compare findings across studies, a limitation acknowledged in several of the systematic reviews included in this corpus (for instance, Schulenberg *et al.*, 2023).

OBSERVATIONS

Beyond the quantitative patterns charted in the preceding sections, several qualitative observations about the state of health communication research methodology merit discussion. The most striking observation is the under-theorisation of context in much of the reviewed literature. While Communication Apprehension Theory provides a robust and widely-validated account of anxiety as a trait and situational variable, many studies apply it without adequate attention to the structural conditions, such as poverty, colonialism, language policy, healthcare infrastructure, that

shape communication in contexts such as Nigeria's. A patient from a rural Yoruba-speaking community navigating a tertiary hospital in Ibadan, where healthcare is delivered exclusively in English, faces a very different communicative challenge from a Russian-speaking immigrant in Montreal; yet the same theoretical lens is routinely applied to both. This theoretical flattening risks producing findings that are technically rigorous but contextually thin.

A second observation concerns the treatment of language as a variable rather than a system. Several quantitative studies in this corpus measure 'language proficiency' using single-item self-report scales or proxy variables such as educational attainment, without engaging with the sociolinguistic complexity of how proficiency is distributed across domains (reading, speaking, writing, listening), how it intersects with code-switching practices, or how it is shaped by power relations in clinical encounters. Azize *et al.*'s (2017) study on pain assessment in children with English as an Additional Language represents a more nuanced treatment, but it remains an exception rather than the rule.

Third, several studies, particularly those involving graduate theses, exhibited what might be described as methodological ambition outpacing analytical execution. Research designs specified multiple aims and hypotheses but analyses were sometimes constrained by small sample sizes or incomplete reporting of effect sizes and confidence intervals. This limits the interpretive yield of the work even when the conceptual framing is strong.

Finally, the relative absence of longitudinal or cohort designs is worth flagging. Almost all reviewed studies are cross-sectional, offering snapshots of CA or language barrier effects at single time-points. This makes it impossible to establish temporal relationships between variables, to track how CA changes over the course of a patient's healthcare journey, or to evaluate the sustained impact of communication interventions. Given the importance of these questions for healthcare policy, the development of longitudinal methods should be a priority for future research.

CONCLUSION

This review of 53 health communication studies spanning 2009 to 2026 confirms that the field has developed a clear methodological identity: predominantly quantitative, survey-based, theoretically anchored in Communication Apprehension Theory, and analytically reliant on regression-based statistics and psychometric reliability testing. These characteristics are not accidental; they reflect the field's historical roots in social-scientific communication research and its close relationship with psychology and public health, disciplines that prize measurement, statistical inference, and generalisability.

Yet the review also reveals significant and growing methodological diversity. Systematic reviews, qualitative investigations, and mixed-methods studies are increasingly prominent, and the thematic scope of health communication research has widened considerably to include end-of-life communication, immigrant healthcare experiences, language barrier effects in African healthcare systems, and culturally tailored health messaging. This diversification is healthy and reflects the field's responsiveness to global health challenges that cannot be adequately addressed through questionnaires and regression models alone.

Looking ahead, the researcher made several recommendations from this analysis. Future researchers are encouraged to embrace longitudinal designs wherever feasible, to validate communication instruments across diverse cultural and linguistic contexts before deploying them, to attend more carefully to the structural and political determinants of health communication barriers, and to combine deductive theory-testing with inductive discovery, particularly in contexts, such as sub-Saharan Africa, where existing theoretical frameworks may not map cleanly onto lived realities. There is also a pressing need for more studies conducted in Nigeria and comparable multilingual, resource-constrained contexts, where the consequences of health communication failure are most severe and where research infrastructure has historically been least developed. The methodological sophistication accumulated in the global North needs to be brought into genuine dialogue with the empirical realities of the global South.

In conclusion, a field that understands its own methodological history is better placed to build cumulatively, to identify genuine innovations as distinct from methodological fashion, and to direct its considerable intellectual resources towards the health communication challenges that matter most. This review is offered in that spirit.

ORCID iD

Bolarinwa Ebenezer Mowemi: 0009-0009-6909-3624

Michael Dare Ogunniyi: 0009-0003-4560-2275

Jaiyeola Aramide Oyewole: 0009-0003-3320-7745

Olayinka Susan Ogundoyin: 0000-0002-2063-6247

Tioluwalogo Olakunbi-Black: 0009-0003-8699-5001

Oluwatomi Caleb Adeniji: 0000-0001-9469-0062

Acknowledgement

The authors are thankful to the Department of Communication and Language Arts, University of Ibadan, and the Communication Arts Programme, Bowen University, for institutional and academic support during this study.

Grant Support Details

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare that there is no conflict of interest.

Life Science Reporting

Not applicable; this study did not involve human or animal subjects requiring life science reporting.

REFERENCES

1) Ackoff, R.L. (1953) *The design of social research*. University of Chicago Press.
2) Adeyemo, S.O.A, Ganiyu, M.A. and Muhammad, R.B. (2017) 'Assessing communication apprehension and implication for employability among mass communication students', *Journal of Humanities And Social Science*, 22(3), pp. 78-84. https://doi.org/10.9790/0837-2203017884
3) Shamsi, H.A, Almutairi, A.G., Al Mashrafi, S., *et al.* (2020) 'Implications of language barriers for healthcare: A systematic review', *Oman Medical Journal*, 35(2), e122. https://doi.org/10.5001/omj.2020.40
4) Antia, B.E. and Bertin, G.C.M. (2016) 'Language policy and health communication in Nigeria', *Journal of Health Communication*, 21(4), pp. 42–50.
5) Awaji, A., Al-Hoorie, A.H. and Algahtani, F. (2022) 'Communication apprehension and academic performance among Saudi students', *Journal of Educational Research*, 45(3), pp. 221–238.
6) Azize, P.M., Cattani, A. and Endacott, R. (2017) 'Perceived language proficiency and pain assessment by registered and student nurses in native English-speaking and EAL children aged 4–7 years', *Journal of Clinical Nursing*, 27(1-2), pp. e202–e211. https://doi.org/10.1111/jocn.14134
7) Babrow, A.S. (2001) 'Uncertainty, value, communication, and problematic integration', *Journal of Communication*, 51(3), pp. 553–573. https://doi.org/10.1111/j.1460-2466.2001.tb02896.x
8) Bankole-Minaflinuo, O. (2018) 'Language anxiety and second language contexts in Nigeria', *West African Journal of Language Studies*, 6(2), pp. 14–29.
9) Brashers, D.E. (2001) 'Communication and uncertainty management', *Journal of Communication*, 51(3), pp. 477–497. https://doi.org/10.1111/j.1460-2466.2001.tb02892.x
10) Clare, E., Elander, J. and Baraniak, A. (2020) 'How healthcare providers' own death anxiety influences their communication with patients in end-of-life care: A thematic analysis', *Death Studies*, 46(7), pp. 1773-1780. https://doi.org/10.1080/07481187.2020.1837297
11) Cowden, P. (2010) 'Communication and conflict: Anxiety and learning', *Research in Higher Education Journal*, 9(1). https://www.aabri.com/manuscripts/10517.pdf
12) Devi, P. (2021) *Health communication and strategic messaging*. Oxford University Press.
13) Dlima, S. (2021) 'The historical roots of health communication', *Journal of Public Health History*, 3(1), pp. 5–18.
14) Hassani, S. and Rajab, A. (2012) 'General communication anxiety among EFL students; A case of Iranian students of intensive English programs', *Procedia – Social and Behavioral Science*, 66, pp. 410-418. https://doi.org/10.1016/j.sbspro.2012.11.284
15) Hashmi, S., Shokrpour, N., Valinejad, M., *et al.* (2020) 'Communication apprehension and level of anxiety in the medical students of Rafsanjan University of Medical Sciences', *J. Educ. Health Promot.*, 9, 350. https://doi.org/10.4103/jehp.jehp_401_20
16) Jackling, B. and De Lange, P. (2009) 'Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence', *Accounting Education*, 18(4–5), pp. 369–385. https://ideas.repec.org/a/taf/accted/v18y2009i4-5p369-385.html
17) Kaplan, B. and Duchon, D. (1988) 'Combining qualitative and quantitative methods in information system research: A case study', *MIS Quarterly*, 12(4), pp. 571–586. https://doi.org/10.2307/249133
18) Karliner, L.S., Jacobs, E.A., Chen, A.H., *et al.* (2007) 'Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature', *Health Services Research*, 42(2), pp. 727–754. https://doi.org/10.1111/j.1475-6773.2006.00629.x
19) Khan, T.M., Ejaz, M.A. and Azmi, S. (2007) 'Evaluation of communication apprehension among first year and final year pharmacy undergraduates', *Journal of Clinical and Diagnostic Research*, 3(6), pp. 1885-1890. https://www.jcdr.net/article_fulltext.asp?issn=0973-709x&year=2009&volume=3&issue=6&page=1885&issn=0973-709x&id=595
20) Kim, S.T. and Weaver, D. (2002) 'Communication research about the internet: A thematic meta-analysis', *New Media & Society*, 4(4), pp. 518-538. https://doi.org/10.1177/146144402321466796
21) Koszegi, B. (2003) 'Health anxiety and patient behaviour', *Journal of Health Economics*, 22(6), pp. 1073–1084. https://doi.org/10.1016/j.jhealeco.2003.06.002
22) Lapinski, M. K., Oetzel, J. G., Park, S. and Williamson, A. J. (2025) 'Cultural tailoring and targeting of messages: A systematic literature review', *Health Communication*, 40(5), pp. 808–821. https://doi.org/10.1080/10410236.2024.2369340
23) MacIntyre, P., Clément, R., Dörnyei, Z., *et al.* (1998) 'Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation', *The Modern Language Journal*, 82(4), pp. 545–562. https://doi.org/10.1111/j.1540-4781.1998.tb05543.x
24) Malhotra, N.K. and Birks, D.F. (2007) *Marketing research: An applied approach*. FT Prentice Hall.
25) Maxwell, J.A. (1996) *Qualitative research design: An interactive approach*. Applied Social Research Methods Series.
26) McCroskey, J. C. (1970) 'Measures of communication-bound anxiety', *Speech Monographs*, 37(4), pp. 269–277. https://doi.org/10.1080/03637757009375677
27) McCroskey, J. C. (1976) 'The effects of communication apprehension on nonverbal behavior', *Communication Quarterly*, 24(3), pp. 39–44. https://www.jamescmccroskey.com/publications/065.pdf
28) Ndukauba, K., Ohuoba, A. N. and Nduka, I. (2021) 'Communication barriers in healthcare delivery in Nigeria', *IOSR Journal of Humanities and Social Science*, 26(4), pp. 15–22. https://www.iosrjournals.org/iosr-jhss/papers/Vol.26-Issue4/Series-1/C2604011522.pdf
29) Onobrakpor, S. (2020) 'Language use and healthcare delivery in Nigeria', *African Health Sciences*, 20(3), pp. 1209–1216.
30) Pandey, M., Maina, R.G., Amoyaw, J., *et al.* (2021) 'Impacts of English language proficiency on healthcare access, use, and outcomes among immigrants: A qualitative study', *BMC Health Services Research*, 21, 741. https://doi.org/10.1186/s12913-021-06750-4
31) Pettigrew, T. F. and Tropp, L. R. (2008) 'How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators', *European Journal of Social Psychology*, 38(6), pp. 922–934. https://doi.org/10.1002/ejsp.504
32) Predila, H. (2019) 'Strategic planning in health communication', *Health Promotion International*, 34(1), pp. 14–22.
33) Roper, W.L. (1993) 'Health communication takes on new dimensions at CDC', *Public Health Reports*, 108(2), pp. 179–183. https://pmc.ncbi.nlm.nih.gov/articles/PMC1403358/
34) Sastry, S., Zoller, H.M. and Basu, A. (2021) 'Editorial: Doing critical health communication — A forum on methods', *Frontiers in Communication*, 5, 637579. https://doi.org/10.3389/fcomm.2020.637579
35) Schulenberg, S., Oh, K.M., Goldberg, D.G., *et al.* (2023) 'Exploring communication apprehension in nursing and healthcare education: A scoping review', *Nursing and Health Sciences*, 25(4), pp. 543-555. https://doi.org/10.1111/nhs.13064
36) SHC (2017) *About health communication*. Society for Health Communication. www.societyforhealthcommunication.org
37) Shamsi, H.A., Almutairi, A.G., Mashrafi, S.A., *et al.* (2020) 'Implications of language barriers for healthcare: A systematic review', *Oman Medical Journal*, 35(2), e122. https://doi.org/10.5001/omj.2020.40
38) Taylor, A. and Kazembe, P. (2024) 'Assessing language barriers in health facilities in Malawi', *BMC Health Services Research*, 24, 1393. https://doi.org/10.1186/s12913-024-11901-4
39) van Osch, M., Sep, M., van Vliet, L.M., *et al.* (2014) 'Reducing patients' anxiety and uncertainty and improving recall in bad news consultations', *Health Psychology*, 33(11), pp. 1382–1390. https://doi.org/10.1037/hea0000097
40) Voloshyn, A. (2019) *Second language specific health communication anxiety in Canadian Russian-speaking immigrants: How it affects willingness to use second language mental healthcare services* [Doctoral thesis]. Concordia University. https://spectrum.library.concordia.ca/id/eprint/985815/
41) Wimmer, R.D. and Dominick, J.R. (2011) *Mass media research: An introduction*. 9th Ed. Cengage Learning.
42) Zhao, J. (2017) *The effect of health communication anxiety on healthcare access*. [Doctoral thesis]. Concordia University. https://spectrum.library.concordia.ca/id/eprint/982741/7/Zhao_PhD_F2017.pdf
43) Joseph, T.D. and Martinez, V. (2025) 'Language barriers and healthcare challenges for immigrants with limited English proficiency after health reform in the United States', *International Journal of Environmental Research and Public Health*, 23(1), 9. https://doi.org/10.3390/ijerph23010009