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RESEARCH ARTICLE

Research Engagement and Evidence Utilization Among Undergraduate-Trained Nurses in Kenyan National Referral Hospitals: A Mixed-Methods Investigation

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ABSTRACT

While Kenya's Bachelor of Science in Nursing (BScN) policy framework positions graduate nurses as research-engaged change agents, rigorous multi-institutional empirical characterization of actual research involvement and evidence utilization patterns among BScN nurses in Kenyan tertiary settings is absent from the published literature. This study assessed the level of undergraduate-trained nurses' involvement in conducting and utilizing research in clinical practice at two national referral hospitals in Kenya. A concurrent embedded mixed-methods design combined a descriptive cross-sectional survey (n = 136; 92.5% response rate) with in-depth interviews of 20 purposively selected nurse managers at Moi Teaching and Referral Hospital and Nakuru County Teaching and Referral Hospital. Only 39.0% of nurses had conducted any research since graduation; among non-conductors, time constraints (47.0%) and resource deficits (28.9%) were the principal barriers, while motivational factors were markedly less prevalent (6.0%). Among research conductors, academic requirement (43.4%) outweighed intrinsic professional motivation (30.2%). Evidence utilization was nominally high (86.8%) but predominantly passive driven by institutional Standard Operating Procedures (76.3%) and Google (77.1%), with indexed databases accessed by only 17.0% of users. Qualitatively, an active-passive dichotomy was sustained by workload pressures, hierarchical interprofessional cultures that discounted nurse-generated evidence, and the near-total absence of journal clubs, EBP committees, or mentorship structures. BScN nurses demonstrate a consequential disconnect between formal research education and professional research engagement: evidence use is high in volume but low in rigour, and research conduct remains the domain of a motivated minority constrained by structural rather than attitudinal barriers. Hospitals should establish protected research time, seed funding for nurse-led projects, journal clubs, and EBP committees; national policy should link continuing professional development credits to documented research engagement.

Keywords: *Research Engagement; Evidence Utilization; Nursing Practice; Structural Barriers and; Mixed-Methods Study*

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INTRODUCTION

Research involvement and evidence utilization represent two interconnected pillars of professional nursing competence in contemporary healthcare systems. Together, they constitute the operational foundation of evidence-based practice (EBP)defined as the deliberate integration of the best available research evidence with clinical expertise and patient values to optimize health outcomes (Melnyk & Fineout-Overholt, 2019; Sackett et al., 1996). Research involvement encompasses a broad spectrum of activities extending from original knowledge generation including primary data collection, analysis, and dissemination to the active utilization of research findings produced by others in the context of clinical decision-making (Estabrooks, 1999; Squires et al., 2011). Both dimensions are indispensable: a nursing profession that only produces research without applying it, or that only consumes research without contributing to its generation, cannot sustain the dynamic knowledge cycle that EBP demands.

In Kenya, the significant expansion of Bachelor of Science in Nursing (BScN) degree programs since the early 2000s has been explicitly framed within national policy as a strategy for cultivating a graduate nursing workforce embedded in research culture (Ministry of Health Kenya, 2012; Nursing Council of Kenya [NCK], 2019). The Kenya Health Policy 2012-2030 identifies strengthening of health research and its application in clinical practice as a core pillar of health system transformation (Ministry of Health Kenya, 2012). Within this policy framework, BScN graduate shaving received formal undergraduate instruction in research methodology, biostatistics, critical appraisal, and EBP principles are expected to serve as research-engaged change agents within their clinical institutions, actively contributing to both the generation and utilization of nursing knowledge.

However, empirical evidence from sub-Saharan Africa presents a considerably more complex picture. Multiple studies across diverse African healthcare contexts have documented persistently low rates of post-graduation research activity, passive rather than active evidence consumption, and a substantial chasm between espoused EBP values and enacted EBP behaviors (Abubakar et al., 2020; Olade, 2004; Perez et al., 2021). A constellation of structural barriers encompassing inadequate library and database access, unreliable internet infrastructure, high patient-to-nurse ratios, chronic understaffing, absent mentorship structures, and hierarchical interprofessional cultures has been consistently identified as a determinant of low research engagement among African nurses (Forsman et al., 2012; Saunders et al., 2019). These structural barriers interact with individual-level factors including perceived research complexity, limited statistical competence, and professional role identity to create a complex, multilayered impediment to sustained research involvement and robust evidence utilization.

In Kenya's national referral hospital system characterized by high patient complexity, diverse pathological presentations, multi-specialty clinical teams, and formal training mandates the deficit in research involvement and the quality of evidence utilization among BScN-trained nurses carries direct implications for patient safety, clinical quality, health system efficiency, and the professional stature of nursing as a discipline (Njiru, 2018; Nzengya et al., 2023). Despite this significance, rigorous, multi-institutional empirical characterization of research involvement and evidence utilization patterns among Kenyan BScN nurses in tertiary settings remains limited. The extant literature is largely dominated by small convenience samples, non-validated instruments, and single-institution designs that restrict generalizability and the capacity for policy-relevant inference.

This study addresses this evidence gap through a comprehensive mixed-methods investigation of research involvement and evidence utilization among BScN-trained nurses at two nationally designated teaching and referral hospitals: Moi Teaching and Referral Hospital (MTRH) in Eldoret and Nakuru County Teaching and Referral Hospital (NCTRH) in Nakuru.

Theoretical Framework

This study draws on two established theoretical frameworks to interpret patterns of research involvement and evidence utilization: the Diffusion of Innovations (DOI) Theory (Rogers, 2003) and the Promoting Action on Research Implementation in Health Services (PARIHS) framework (Kitson et al., 1998; Rycroft-Malone et al., 2002). The DOI theory (Rogers, 2003) conceptualizes the adoption of any innovation including evidence-based clinical practices as a process determined by five perceived attributes of the innovation itself and by the social system within which diffusion occurs. These five attributes are: relative advantage (whether EBP is seen as superior to current practice), compatibility (whether EBP fits existing values and workflows), complexity (how difficult EBP is to understand and use), trialability (whether nurses can experiment with EBP on a limited basis), and observability (whether the results of EBP use are visible to others). When EBP is perceived as too

complex, insufficiently compatible with demanding clinical workflows, or offering limited observable benefit relative to the effort required, adoption rates decline and simpler, more accessible substitutes (such as SOPs or Google searches) are rationalized as pragmatic alternatives. This DOI prediction maps directly onto the adaptive pragmatism documented qualitatively in this study.

The PARIHS framework (Kitson et al., 1998; Rycroft-Malone et al., 2002) provides a complementary institutional-level lens, positing that successful evidence implementation is a function of the dynamic interaction among three core elements: evidence (the nature, quality, and credibility of the research), context (the organizational culture, leadership quality, and evaluation capacity of the healthcare setting), and facilitation (the availability of skilled agents who actively support evidence implementation). Applied to the Kenyan referral hospital setting, the PARIHS framework identifies critical deficits in all three elements: evidence may be available but inaccessible due to infrastructure constraints; context is characterized by hierarchical power structures and cultures that do not consistently support nurse-led inquiry; and facilitation mechanisms, such as journal clubs, EBP committees, and research mentors, are largely absent from most clinical departments.

Together, DOI and PARIHS provide a theoretically integrated account of why research involvement remains low and evidence utilization remains passive in this setting despite formal undergraduate education that is designed to produce research-engaged nursing professionals.

We assessed the level of undergraduate-trained nurses' involvement in conducting and utilizing research in their clinical practice at two national referral hospitals in Kenya.

METHODS

Study Design and Philosophical Orientation

This study employed a concurrent embedded mixed-methods design (Creswell & Plano Clark, 2018), characterized by the simultaneous collection and analysis of quantitative and qualitative data within a single data collection phase, with explicit assignment of primary status to one strand. The quantitative strand was designated the primary component (75% weighting) and employed a descriptive cross-sectional survey design to measure the frequency, scope, and patterns of research involvement and evidence utilization across the eligible nurse population. The qualitative strand (25% weighting) was embedded within the quantitative phase and adopted a phenomenological orientation (Polit & Beck, 2021) to explore the subjective meanings, lived experiences, and contextual determinants that explain the quantitative patterns observed.

The research was grounded in a pragmatic worldview (Morgan, 2014), which privileges the research problem over allegiance to a singular philosophical paradigm and validates the combination of methods based on their fitness for purpose. A purely quantitative approach could identify the patterns of research involvement and evidence utilization. Still, it would fail to explain why those patterns persist, especially the mechanisms by which structural barriers, cultural norms, and resource constraints translate into individual-level behaviors and adaptations. Conversely, a purely qualitative approach would generate rich, contextually dense narratives but could not establish population-level prevalence or test the distribution of behaviors and attitudes across the target population. The mixed-methods design transcends this limitation by capitalizing on the complementary strengths of both paradigms.

Integration occurred during the interpretive phase, where quantitative patterns and qualitative themes were brought into systematic dialogue through a narrative weaving approach (O'Cathain et al., 2010). Qualitative themes were used to explain, elaborate, and contextualize quantitative findings, yielding a richer and more actionable meta-inference than either strand could produce independently.

Study Setting

The study was conducted at two purposively selected national teaching and referral hospitals that together represent distinct geographic and institutional contexts within Kenya's tertiary health system. Moi Teaching and Referral Hospital (MTRH), located in Eldoret, Uasin Gishu County, is a major national referral and teaching facility serving the western region of Kenya and operating in collaboration with several medical and nursing schools. Nakuru County Teaching and Referral Hospital (NCTRH), situated in Nakuru, functions as a regional referral hub for the Rift Valley region. Both institutions carry dual mandates for specialized clinical service delivery and health professions education, and both employ substantial numbers of BScN graduates engaged in direct clinical care, nursing administration, and nurse education roles (Ministry of Health Kenya, 2012; Njiru, 2018). Their dual service-and-teaching identity makes them ideal sites for investigating how the post-graduation professional environment shapes research engagement among graduate nurses.

Population and Sampling

The study targeted BScN-trained registered nurses formally employed at either MTRH or NCTRH on permanent, contractual, or long-term engagement terms with a minimum of one year of post-qualification clinical experience. This experience threshold was established to ensure participants had adequate exposure to routine clinical decision-making, quality improvement activities, and the institutional environments in which EBP is (or is not) operationalized (Polit & Beck, 2021). Applying these criteria to the combined workforce of 844 nurses across both facilities yielded an eligible population of 238 nurses.

For the quantitative component, the National Education Association (1960) formula was applied at a 95% confidence level ($\chi^2 = 3.841$, $P = 0.5$, $d = 0.05$), yielding a required sample of 147 nurses. Stratified random sampling was employed across clinical departments and professional role strata to ensure balanced representation. A total of 136 completed questionnaires were returned, yielding a response rate of 92.5%. For the qualitative component, 20 participants were purposively recruited 10 from each institution from eligible nurses not included in the quantitative survey. Participants represented clinical nurses, nurse administrators, and nurse educators, selected based on their potential to provide information-rich perspectives on research involvement and evidence utilization. Qualitative recruitment continued until thematic data saturation was achieved (Braun & Clarke, 2006; Guest et al., 2020).

Instrumentation

Quantitative data were collected using an adapted version of the Research Utilization Questionnaire (RUQ; Champion & Leach, 1989; Estabrooks, 1999; Yoder et al., 2014). For this study, the RUQ was substantially adapted to assess three interconnected dimensions of research involvement: (a) research conduct including post-graduation research participation, purposes of research engagement, conference presentations, and peer-reviewed publications; (b) evidence utilization in practice including frequency, clinical contexts, evidence sources, and access tools; and (c) attitudinal dispositions toward research utilization, measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The instrument also included a comprehensive demographic section. Reliability was confirmed through a pilot study with 15 BScN nurses at Langa Langa Hospital, Nakuru County, yielding Cronbach's $\alpha = .84$-$.92$ across subscales, indicating good-to-excellent internal consistency.

Qualitative data were collected using an unstructured interview guide comprising open-ended questions derived directly from the study objective. Interviews lasted 40-60 minutes and were conducted face-to-face or via video-enabled Zoom with participant consent. All sessions were audio-recorded and transcribed verbatim. Field notes captured non-verbal cues and contextual observations throughout.

Data Analysis

Quantitative data were entered and analyzed using IBM SPSS Version 25.0 at a significance threshold of $\alpha = .05$. Descriptive statistics (frequencies and percentages) characterized research conduct patterns, evidence utilization behavior, and attitudinal distributions. Cross-tabulations examined the co-distribution of research involvement variables across demographic subgroups. Chi-square tests of independence (with Cramér's V effect size estimates) assessed associations between attitudinal items and subgroup variables (Kothari, 2004). Qualitative data were analyzed using the six-phase thematic analysis framework of Braun and Clarke (2006), proceeding from data familiarization through initial coding, theme development, theme review, theme definition, and report writing. Trustworthiness was ensured through Lincoln and Guba's (1985) criteria credibility, dependability, confirmability, and transferability operationalized through member checking, peer debriefing, audit trail maintenance, and reflexive journaling.

Ethical Considerations

Ethical approval was granted by the Moi Teaching and Referral Hospital Institutional Research and Ethics Committee (Ref No: IREC/2019/000090; Approval No: 0003491) and the National Commission for Science, Technology and Innovation (Ref No: NACOSTI/P/20/3063), with additional institutional approvals secured from both study hospitals. All participants provided written informed consent prior to data collection. Participants were assured of voluntary participation, the unconditional right to withdraw without penalty, and full anonymization through coded identification and secure data storage. Electronic data were password-protected; physical documents were maintained in locked filing cabinets. Audio recordings were permanently deleted following transcription verification.

RESULTS

Response Rate

Of 147 distributed questionnaires, 136 were completed and returned, yielding a quantitative response rate of 92.5%. All 20 qualitative participants completed in-depth interviews, achieving full participation for the qualitative component.

Demographic Characteristics of Participants

Table 1 presents demographic characteristics of the 136 quantitative respondents. The sample was predominantly female (75.7%), with a median age bracket of 25-30 years (37.5%). Most participants held a BScN degree (86.8%), with 12.5% holding postgraduate master's qualifications. Respondents graduated from 16 universities across Kenya, with Baraton University (25.0%), Egerton, Moi, and Pwani Universities (each 11.0%) representing the most common institutions. Experience ranged widely, with 44.1% having 2-5 years of post-qualification practice and 16.9% reporting more than 10 years. The majority were employed at NCTRH (61.0%). Clinical nursing (74.3%) constituted the predominant area of practice, and Nursing Officers (47.1%) and Primary/Staff Nurses (26.5%) formed the largest designation categories.

Table 1:

Demographic Characteristics of Study Participants (N = 136)

Characteristic	Category	n	%
Gender	Male	33	24.3
	Female	103	75.7
Age (years)	25-30	51	37.5
	31-35	27	19.8
	36-40	21	15.4
	41-50	23	16.9
	Below 25 / Above 50	14	10.3
Highest Qualification	BScN	118	86.8
	Master's	17	12.5
	Other	1	0.7
Post-Qualification Experience	<2 years	23	16.9
	2-5 years	60	44.1
	6-10 years	30	22.1
	>10 years	23	16.9
Study Facility	MTRH - Eldoret	53	39.0
	NCTRH - Nakuru	83	61.0
Area of Practice	Clinical Nursing	101	74.3
	Nurse Manager	21	15.4
	Counsellor/Educator	9	6.6
	Other	5	3.7

Note. MTRH = Moi Teaching and Referral Hospital; NCTRH = Nakuru County Teaching and Referral Hospital; BScN = Bachelor of Science in Nursing.

Research Conduct Since Graduation

Table 2 presents research conduct patterns since graduation, including barriers to research engagement, purposes for conducting research, and dissemination activities. Only 39.0% of respondents (n = 53) reported having conducted research following graduation, while the majority (61.0%; n = 83) had not engaged in any post-graduation research activity. This significant underrepresentation of research conduct relative to research education exposure highlights a fundamental disconnect between educational preparation and professional research engagement.

Among nurses who had not conducted research, lack of time or excessive workload constituted the most frequently cited barrier (47.0%), followed by insufficient resources or funding (28.9%), inadequate knowledge or skills (18.1%), and limited institutional support (14.5%). Attitudinal barriers including lack of interest (6.0%) and procrastination (4.8%)were considerably less prevalent than structural and capacity-related constraints, indicating that motivational deficits are secondary to systemic barriers in explaining low research conduct. Among research conductors (n = 53), academic requirement was the most common motivation (43.4%), followed by practice-change intent (30.2%) and research assistant roles (26.4%). The predominance of extrinsic, academically contingent motivations over intrinsic professional drivers has implications for the sustainability of research engagement beyond formal educational enrollment.

Dissemination activity was modest across both conference presentations and peer-reviewed publications. A majority of research conductors (22.6%) had never presented their findings at a conference; most who had presented had done so only once (32.1%) or twice (28.3%). Publication rates were similarly low: 66.0% reported no first-author publications, and only 7.6% had two or more. These patterns indicate that even among the minority of nurses who conduct research, the translation of findings into public scientific knowledge remains an underdeveloped competency.

Table 2:

Research Conduct, Barriers, Purposes, and Dissemination Activities (N = 136)

Characteristic	n	%
Research Conduct Status		
Conducted research since graduation (Yes)	53	39.0
Did not conduct research (No)	83	61.0
Barriers to Research Conduct (multi-response; n = 83)		
• Busy / lack of time	39	47.0
• Lack of resources / funding	24	28.9
• Lack of knowledge or skills	15	18.1
• Limited institutional support	12	14.5
• Lack of interest / motivation	5	6.0
• Procrastination	4	4.8
• Lack of mentorship / guidance	2	2.4
Purposes for Conducting Research (multi-response; n = 53)		
• Academic requirement	23	43.4
• To change clinical practices	16	30.2
• Research assistant role	14	26.4
• Contribute to scientific knowledge	12	22.6
• Contractual / employment requirement	3	5.7
Conference Presentations (n = 53)		
• None	12	22.6
• 1 presentation	17	32.1
• 2 presentations	15	28.3
• 3 or more presentations	9	17.0
First-Author Publications (n = 53)		
• 0 publications	35	66.0
• 1 publication	14	26.4
• 2 or more publications	4	7.6

Note. Multi-response items allow respondents to select more than one option; percentages may therefore exceed 100%. Barrier percentages are computed against the non-conducting sub-group (n = 83). Purpose and dissemination percentages are computed against the conducting sub-group (n = 53).

Evidence Utilization in Clinical Practice

Table 3 presents evidence utilization patterns, including clinical contexts, sources of evidence, and access tools. Evidence utilization was substantially more prevalent than research conduct: 86.8% (n = 118) reported applying research-based evidence in their clinical practice. The most common contexts of evidence application were general patient care and quality improvement (39.1%) and obstetrics/maternity care (33.3%), reflecting the clinical distribution of the sample toward high-acuity general and maternity ward environments.

The most frequently consulted evidence sources were institutional Standard Operating Procedures and policies (76.3%), nursing journals (59.3%), and general internet searches (51.7%). Personal clinical experience (46.6%) and textbooks (44.1%) were also commonly referenced. Medical journals (38.1%) and conference proceedings (33.9%) were less frequently utilized. Regarding access tools, Google dominated (77.1%), followed by general computer use (68.6%) and structured literature searches (58.5%). By contrast, structured evidence retrieval mechanisms journal clubs (28.0%),

physical library (19.5%), and indexed databases such as MEDLINE/CINAHL (17.0%)were markedly underutilized, indicating a strong preference for rapid, informal information access over systematic, rigorous evidence retrieval.

Table 3:

Evidence Utilization Patterns, Sources, and Access Tools (N = 136)

Evidence Utilization Dimension	n	%
Overall Evidence Utilization (N = 136)		
Uses research evidence in practice (Yes)	118	86.8
Does not use research evidence (No)	18	13.2
Clinical Contexts of Evidence Use (multi-response; n = 87)		
• Patient/clinical care and quality improvement	34	39.1
• Obstetrics/maternity care	29	33.3
• Burn/wound care management	11	12.6
• Drug administration and pharmacology	9	10.3
• Infection prevention and control	7	8.1
Sources of Evidence Consulted (multi-response; n = 118)		
• Institutional SOPs/policies	90	76.3
• Nursing journals	70	59.3
• Internet (general)	61	51.7
• Personal clinical experience	55	46.6
• Textbooks	52	44.1
• Medical journals	45	38.1
• Conference proceedings	40	33.9
Evidence Access Tools (multi-response; n = 118)		
• Google	91	77.1
• Computer/laptop	81	68.6
• Literature searches (structured)	69	58.5
• Journal clubs	33	28.0
• Physical library	23	19.5
• MEDLINE / CINAHL	20	17.0

Note. Multi-response items allow respondents to select more than one option; percentages may exceed 100% within sub-groups. Context percentages computed against those reporting contextual evidence use (n = 87). Sources and access tool percentages computed against all evidence users (n = 118).

Attitudes Toward Research Utilization

Table 4 presents attitudinal responses toward research utilization and associated chi-square tests. Attitudes were broadly positive across all items. A clear majority (91.9%) agreed or strongly agreed that research is needed to improve nursing practice, and 81.6% expressed willingness to change clinical practice in response to research findings reflecting strong normative endorsement of EBP as a professional value. The negatively framed item "research is not applied to my practice" was rejected by 76.5% of respondents, further reinforcing perceived personal relevance of research.

However, the item "research findings are too complex to use in practice" generated the only statistically significant chi-square result ($\chi^2 = 4.82$, df = 1, p = .028, Cramér's V = .188), indicating that perceptions of research complexity varied significantly across subgroups with less experienced nurses and those with no post-graduation research involvement more likely to endorse complexity as a barrier. Items related to effort and access showed greater ambivalence: 27.9% agreed that research application required excessive effort, while 29.4% disagreed, and access difficulty showed similarly mixed distributions. All other attitudinal items produced non-significant associations (p > .05), suggesting homogeneous positive attitudes across demographic subgroups.

Table 4:

Attitudes Toward Research Utilization and Chi-Square Tests of Association (N = 136)

Attitudinal Statement	Key Response Distribution	χ^2	df	p-value	Cramér's V	Sig.
"Research is needed to improve nursing practice."	SA: 75.0%; A: 16.9%	1.065	1	.303	.089	ns
"I would change practice based on research findings."	SA: 41.2%; A: 40.4%	0.365	1	.545	.052	ns
"Research findings are too complex to use in practice."	D/SD: 70.6%	4.820	1	.028	.188	*
"Research is not applied to my practice."	D/SD: 76.5%	0.962	1	.326	.084	ns
"It takes too much effort to apply research."	D 29.4%; A 27.9%	1.584	1	.208	.108	ns
"It is difficult to access/evaluate relevant evidence."	Mixed distribution	0.964	1	.326	.084	ns

*Note. SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree. ns = not significant ($p > .05$). *$p < .05$. Cramér's V: small < .10, medium .10-.30, large > .30.*

Qualitative Findings: The Active-Passive Dichotomy in Evidence Use

Thematic analysis of the 20 in-depth interviews generated a central organizing theme the active-passive dichotomy in evidence use encompassing the systemic preference for passive, compliance-based evidence consumption over active, inquiry-driven evidence generation. Three primary themes and six sub-themes articulated the structural, institutional, and cultural mechanisms driving this dichotomy, summarized in Table 5 and elaborated below.

Table 5:

Summary of Qualitative Themes and Sub-themes: The Active-Passive Dichotomy in Evidence Use

Theme	Sub-theme	Description	Theoretical Link
Active-Passive Dichotomy	Workload as Structural Barrier	Clinical exhaustion precludes research reading; SOPs and Google become default shortcuts.	DOI: complexity and incompatibility divert nurses to simpler evidence substitutes.
	Adaptive Pragmatism (SOP-Google Paradigm)	Rational adaptation to resource scarcity; rapid access prioritized over rigor.	PARIHS: weak context and absent facilitation undermine evidence implementation.
Hierarchical Barriers	Medical Dominance	Nurse-generated evidence dismissed unless endorsed by physicians; creates professional retreat.	PARIHS: context (leadership/culture) determines whether evidence is acted upon.
	Lack of Governance for Evidence Translation	No institutional pathway to evaluate or approve new evidence; implementation ad hoc.	PARIHS: absence of facilitation mechanisms prevents systematic evidence adoption.
Resource & Structural Deficits	Infrastructure Barriers	Slow internet, few computers, no database subscriptions; structured access infeasible.	DOI: trialability and observability of rigorous EBP severely limited by resource gaps.
	Absent EBP Structures	No journal clubs, EBP committees, or peer mentorship; evidence culture not institutionalized.	PARIHS: facilitation element absent; evidence implementation left to individual initiative.

Note. DOI = Diffusion of Innovations Theory (Rogers, 2003); PARIHS = Promoting Action on Research Implementation in Health Services (Kitson et al., 1998; Rycroft-Malone et al., 2002).

Theme 1: Workload as the Preeminent Structural Barrier

The most pervasive and consistently articulated theme across participants at both institutions was the role of clinical workload and systematic understaffing in precluding meaningful research involvement. Participants described an operational environment in which the volume, complexity, and pace of patient care comprehensively consumed all available cognitive and temporal resources, leaving no practical capacity for research-related activities: "We are always rushing… You can barely finish your patient care duties, let alone sit and read research." The temporal barrier was compounded by emotional exhaustion: nurses described the cumulative demands of caring for severely ill patients in resource-constrained, inadequately staffed environments as depleting the mental energy required for research engagement. One respondent mentioned "By the time you finish the shift, you are drained… You just want to go home and rest. Thinking about research is a luxury." From a DOI perspective, when the demands of rigorous EBP database searching, critical appraisal, guideline adaptation are perceived as incompatible with the pace and resource profile of clinical work, nurses rationally substitute more accessible, less demanding alternatives.

Theme 2: Adaptive Pragmatism and the SOP-Google Paradigm

Participants did not describe their reliance on SOPs and Google as laziness or indifference to evidence quality but as a rational, contextually adaptive response to an environment that demanded evidence compliance without enabling evidence engagement. "You just follow the SOP or do a quick Google search," one nurse explained not apologetically, but matter-of-factly. This SOP-Google paradigm represents a pragmatic rationalization of minimal-effort evidence access in a context where institutional database subscriptions are absent, internet connectivity is unreliable, and research databases are perceived as difficult to navigate without adequate training. From an Estabrooks (1999) taxonomy perspective, this behavior approximates symbolic utilization using the appearance of evidence engagement to satisfy institutional expectations rather than instrumental utilization, which would constitute authentic EBP. The PARIHS framework identifies this as a context-facilitation failure: the organizational context does not support rigorous evidence use, and no facilitation infrastructure exists to redirect nurses toward higher-quality evidence pathways.

Theme 3: Hierarchical Cultures and the Marginalization of Nurse-Led Evidence

A prominent and theoretically significant theme concerned the role of hierarchical interprofessional dynamics in systematically undermining nurse-generated research and evidence utilization. Participants consistently described clinical environments in which medical dominance the disproportionate and culturally reinforced decision-making authority of physicians functioned as a structural disincentive to nurses proposing evidence-based changes to clinical practice: one participant lamented "Even when we find good evidence, doctors or managers rarely listen, it has to come from above to be accepted." This experience of professional marginalization was not incidental but systemic nurses had learned through repeated professional encounters that evidence-based recommendations would be dismissed unless endorsed by senior medical staff or hospital administrators, irrespective of the quality of the evidence. The consequence was a rational professional retreat from active research engagement: "You can do all the research, but it doesn't change anything for your career… So, you reach a point you stop trying." Another participant expressed her/his frustrations.

This finding is directly predicted by the PARIHS framework's context element: organizational cultures characterized by hierarchical leadership, weak evaluation systems, and low interprofessional respect for nursing expertise consistently produce passive evidence cultures. The DOI framework complements this by noting that when the "relative advantage" of evidence engagement is perceived as negligible because evidence-based recommendations are not acted upon the innovation adoption process stalls.

Theme 4: Absence of Institutional Evidence Translation Infrastructure

Participants across both institutions described the near-total absence of formal institutional mechanisms for evaluating, approving, or disseminating new research evidence. There were no journal clubs, no EBP committees, and no peer mentorship structures in most clinical departments to support the interpretation and application of emerging evidence: "Our hospital doesn't have any journal clubs or committees to guide us on using new research." Without such facilitation structures, evidence implementation was ad hoc, dependent on the initiative of individual nurses rather than institutionalized processes.

Furthermore, participants noted the absence of national-level governance frameworks for evidence translation: some respondent verbalized "There's no system to approve or adopt new evidence, and even the national bodies don't guide us on how to use research in practice." Another respondent mentioned “there is no guidance on appraisal of research findings for utilization as evidence in practice” This structural void meant that even nurses motivated to implement evidence lacked a legitimate institutional pathway to do so.

DISCUSSION

This study documents a striking and consequential paradox within the nursing workforce of Kenya's national referral hospitals: a pronounced active-passive dichotomy in which high self-reported evidence utilization (86.8%) coexists with low post-graduation research involvement (39.0%), and in which the predominant mode of evidence use is reactive compliance with institutional SOPs rather than proactive, critically appraised EBP. This finding challenges simplistic interpretations of EBP engagement as a binary present-or-absent phenomenon and instead reveals a nuanced landscape in which formal evidence use occurs within structural and cultural constraints that systematically limit its quality, depth, and professional sustainability.

The finding that 61.0% of BScN nurses had not conducted any research since graduation despite universal undergraduate research educationist striking and yet theoretically predictable within both the DOI and PARIHS frameworks. Low post-graduation research conduct is not idiosyncratic to Kenya but is documented across comparable African nursing contexts, with rates ranging from 30% to 50% in the existing literature (Abubakar et al., 2020; Olade, 2004). The prominence of time constraints (47.0%) and resource deficits (28.9%) as leading barriers rather than motivational factors such as lack of interest (6.0%)is of critical importance for intervention design. It establishes that the barriers to research engagement are primarily structural rather than attitudinal, meaning that interventions targeting individual motivation or attitude change alone are unlikely to be effective without simultaneous addressing of the institutional and systemic conditions that create and perpetuate these structural barriers.

The finding that academically motivated research (43.4%) substantially outpaced practice-change motivated research (30.2%) among those who did engage reveals that research activity among Kenya's graduate nurses is currently more strongly coupled to formal educational enrollment than to intrinsic professional identity. This pattern has important implications for sustainability: when the extrinsic academic motivational dissertation requirement, a postgraduate course, a supervisory expectation is removed, research activity ceases. Building an intrinsically motivated, professionally embedded research culture requires that research engagement be woven into the ongoing fabric of clinical work through protected time, institutional recognition, and career-linked incentives none of which are currently systematically available in the study hospitals (Forsman et al., 2012; Squires et al., 2011).

While the high evidence utilization rate (86.8%) is superficially encouraging, the nature of that utilization heavily reliant on SOPs (76.3%) and Google (77.1%), with only 17.0% accessing indexed databases signals a fundamentally passive, compliance-oriented mode of evidence engagement rather than the active, critically appraised EBP that international guidelines and nursing education frameworks aspire to produce (Melnyk & Fineout-Overholt, 2019; WHO, 2020). This SOP-Google paradigm, while pragmatically rational in high-workload, infrastructure-constrained environments, represents a systematic downgrade in the rigor and currency of evidence guiding clinical decisions with direct consequences for care quality and patient safety in complex referral hospital environments.

Estabrooks's (1999) taxonomy of research utilization illuminates this distinction: the evidence use documented quantitatively in this study most closely approximates symbolic utilization the use of evidence (or its institutional surrogates) to justify and legitimize pre-existing clinical decisions rather than instrumental utilization, which would entail the direct, specific application of research findings to clinical decision-making. The PARIHS framework explains this transition from the ideal (instrumental EBP) to the actual (symbolic compliance) as a predictable consequence of weak context and absent facilitation: where the organizational environment does not actively support rigorous evidence use, practitioners adapt by engaging the minimum level of evidence-related behavior that satisfies institutional expectations.

The qualitative finding that hierarchical interprofessional dynamics function as a systemic disqualifier of nurse-generated evidence extends beyond individual experience to a collective professional phenomenon with structural implications. When nurses learn through repeated professional encounters that evidence-based recommendations will not be acted upon without physician endorsement, the rational professional response is to disinvest from the cognitive and

temporal demands of evidence engagement. This is not a failure of professional commitment but a rational adaptation to an institutional environment that does not reward nurse-led inquiry. Rycroft-Malone et al. (2002) identify organizational culture as the strongest predictor of EBP implementation success within the PARIHS framework, and the present findings confirm that hierarchical cultures that position nurses as protocol-followers rather than knowledge-generators represent a fundamental contextual barrier to advancing EBP in Kenyan tertiary hospitals.

Addressing this barrier requires not merely building nurses' research capacity but fundamentally restructuring the interprofessional governance of evidence use creating participatory decision-making structures, interprofessional EBP committees, and leadership cultures that recognize and reward evidence-based contributions from nursing staff.

The findings generate several concrete implications. First, BScN curricula should be restructured to embed research conduct across the full training trajectory rather than concentrating it in terminal dissertation requirements. Exposure to data collection, analysis practicum, and journal club participation during undergraduate training would normalize research as an ongoing professional activity rather than a graduation ritual (Benner et al., 2010). Second, national referral hospitals should establish protected research time policies, seed funding mechanisms for clinical research, and structured EBP committees and journal clubs evidence-based institutional structures proven to improve evidence culture in resource-limited settings (Fink et al., 2005; Forsman et al., 2012). Third, interprofessional education programs should explicitly address power dynamics between nursing and medicine, cultivating shared governance models for evidence-based clinical decision-making. Fourth, the Nursing Council of Kenya and the Ministry of Health should develop national guidelines linking continuing professional development credits to research conduct and evidence utilization activities, providing career-linked incentives that sustain research engagement beyond formal educational enrollment.

This study has several important limitations. The cross-sectional design precludes causal inference regarding the determinants of research involvement and evidence utilization; longitudinal tracking of nurses from graduation through clinical practice would strengthen causal attribution. Self-report data are susceptible to social desirability bias, potentially inflating evidence utilization rates and underreporting barriers. The restriction to two national referral hospitals limits transferability to county, sub-county, or community health settings where workforce demographics, resource environments, and institutional cultures differ substantially. While thematic saturation was achieved within the qualitative sub-sample of 20 participants, the experiences of nurses in less commonly represented departments or specializations may not be fully captured.

Conclusion

This study reveals a significant and consequential active-passive dichotomy in the evidence engagement of BScN nurses at two Kenyan national referral hospitals: most nurses report utilizing evidence in practice, yet the quality and depth of this utilization is systematically constrained by structural barriers, hierarchical organizational cultures, and infrastructural deficits that channel nurses toward compliance-based rather than inquiry-driven evidence use. Research conduct following graduation remains the exclusive domain of a minority (39%), driven primarily by academic compulsion rather than professional identity, and sustained by neither institutional resources nor career incentives. Closing this gap requires coordinated, multi-level action: undergraduate curriculum reform that embeds full-cycle research conduct; institutional investment in evidence infrastructure including journal clubs, EBP committees, and mentorship programs; interprofessional governance restructuring that empowers nurse-led evidence initiatives; and national policy frameworks that link professional recognition to research engagement. Without such systemic transformation, Kenya's growing BScN-trained nursing workforce risks remaining passive consumers of pre-digested institutional evidence rather than active contributors to the knowledge base that underpins high-quality, equitable, and sustainable patient care.

Conflict of Interest

The authors declare no conflict of interest.

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