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Exchange and Retention Practices of Tacit Knowledge among Kenyan and Cuban Doctors in Selected Hospitals in Kenya

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Abstract

The importance of tacit knowledge exchange and retention among doctors cannot be overstated, as it involves the transfer of skills, experiences, and insights that are often difficult to formalize or document. Tacit knowledge is crucial for clinical decision-making, mentorship, and collaborative learning, fostering innovation, enhancing teamwork, and supporting continuous professional development. Its retention ensures that critical experiential know-how is not lost when senior doctors retire or move on, contributing to long-term capacity building in healthcare systems. In response to the brain-drain of physicians from developing to developed nations, Kenya and Cuba established a collaboration to revitalize the exchange and retention of tacit knowledge between their medical professionals. This study aimed to investigate exchange and retention of tacit knowledge among Kenyan and Cuban doctors in selected hospitals while examining the tools used for exchange and retention; Employing a qualitative case-study design with snowball sampling, in-depth interviews captured the contextual factors, behaviours, and interactions shaping knowledge practices. Findings revealed that face-to-face communication, storytelling, and mentorship were the most utilized tools, whereas technological platforms like intranets and social media were less leveraged. By highlighting best practices and challenges, this study offers actionable insights to inform policies and strengthen international medical collaborations for sustainable healthcare capacity building.

Keywords: *Tacit knowledge, Knowledge exchange, Knowledge retention, Cuban doctors, Kenyan doctors*

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1. Introduction

The exchange and retention of tacit knowledge, defined as the unarticulated, experience-based knowledge inherent to individuals, play a critical role in capacity building within healthcare systems (Nonaka & Takeuchi, 1995; Chugh, 2021). In the context of global health, collaborations between medical professionals from different cultural and institutional backgrounds offer unique opportunities for the transfer of valuable insights and practices. Kenyan and Cuban doctors, through their partnership in selected hospitals in Kenya, exemplify

such knowledge exchange efforts, fostering skill enhancement and sustainable healthcare improvement.

Globally, the exchange and retention of tacit knowledge is widely recognized as a critical driver of capacity building in healthcare systems worldwide. Tacit knowledge forms the foundation for effective medical decision-making, mentorship, and practice, particularly in complex and evolving fields like medicine (Nonaka & von Krogh, 2009). For example, initiatives such as the Global Health Workforce Alliance have emphasized knowledge sharing to address skill shortages and improve healthcare delivery globally (World Health Organization, 2020). Collaborative frameworks like the Cuban Medical Brigade Program have demonstrated the transformative potential of cross-border knowledge exchange, particularly in countries like Brazil, where Cuban doctors significantly improved healthcare outcomes in underserved regions (Bustamante & Hidalgo, 2020). Recent studies underline the importance of creating structures to support tacit knowledge retention. For instance, Chugh (2021) emphasizes that tacit knowledge is often lost due to inadequate documentation and transfer processes, calling for robust mentorship systems in healthcare.

In sub-Saharan Africa, tacit knowledge exchange is increasingly viewed as a solution to address healthcare challenges such as limited skilled personnel, resource constraints, and high disease burdens. Collaborative partnerships, such as those between African countries and international donors, have focused on capacity-building programs that transfer critical medical knowledge. For example, the Medical Education Partnership Initiative (MEPI) facilitated tacit knowledge sharing among African medical institutions, significantly enhancing the training of healthcare workers in the region (Frenk et al., 2010). Moreover, South-South collaborations have emerged as an alternative model, with Cuba's partnerships in Africa being a prominent example. Cuban doctors have supported healthcare delivery in Angola, Mozambique, and Zimbabwe, introducing preventive healthcare practices that have led to measurable improvements in patient outcomes (Harris et al., 2020). A study by Gidebo et al. (2022) highlights the value of tacit knowledge sharing in such collaborations, particularly in maternal health programs where experiential knowledge from Cuban doctors significantly reduced maternal mortality in Ethiopia. Despite these successes, regional challenges remain. Research by Moyo and Mutyapeko (2021) illustrates that tacit knowledge retention strategies are often undermined by poor infrastructure and inadequate investment in human resource development. Addressing these gaps is crucial to ensuring the sustainability of tacit knowledge transfer in Africa.

In Kenya, the healthcare system has greatly benefited from partnerships with Cuban doctors, particularly under the 2018 Kenya-Cuba medical collaboration program. This partnership facilitated the deployment of Cuban doctors to Kenyan counties, where they brought expertise in preventive medicine and community healthcare (Ministry of Health, Kenya, 2019). For instance, in Kisumu County, Cuban doctors introduced innovative approaches to managing chronic diseases, significantly improving patient outcomes (Daily Nation, 2021). Studies within Kenya emphasize the importance of tacit knowledge retention in these collaborations. Muthee et al. (2022) found that mentorship and joint training sessions between Kenyan and Cuban doctors were critical in transferring advanced surgical and diagnostic techniques. Similarly, Wanjala et al. (2020) observed that experiential learning programs in Nairobi hospitals enhanced the skill sets of Kenyan medical practitioners, contributing to better healthcare delivery. However, challenges such as language barriers and cultural differences

have limited the full potential of these collaborations. Ramirez and Suarez (2021) point out that without structured knowledge retention frameworks, much of the expertise brought by Cuban doctor's risks being lost once their tenure ends. This underscores the need for Kenya to invest in knowledge management systems and policies that ensure the sustainability of these initiatives. This study thus examines tacit knowledge exchange and retention practices among Kenyan and Cuban doctors in selected hospitals, exploring how these strategies contribute to capacity building within the Kenyan healthcare system. By identifying best practices and addressing existing gaps, the research aims to provide actionable insights for enhancing the sustainability and impact of international medical collaborations

1.1 Problem Statement

Healthcare systems in developing countries, including Kenya, face persistent challenges such as inadequate human resources, limited access to specialized care, and an increasing burden of non-communicable diseases. These issues are exacerbated in rural and underserved areas, where the patient-to-doctor ratio is critically low (Ministry of Health, Kenya, 2019). To address these gaps, Kenya entered a collaboration with Cuba in 2018, deploying Cuban doctors to Kenyan counties to enhance healthcare delivery and capacity building through tacit knowledge exchange and retention.

Despite the recognized potential of this partnership, the exchange and retention of tacit knowledge, unspoken, experience-based expertise that is critical for effective healthcare practice, remain underexplored. Tacit knowledge, being deeply embedded in personal experience, is inherently challenging to document and transfer systematically (Nonaka & Takeuchi, 1995; Chugh, 2021). While Cuban doctors bring extensive expertise in preventive and community health, much of this knowledge risks being lost due to inadequate retention frameworks, cultural differences, and language barriers (Ramirez & Suarez, 2021). For example, collaborative initiatives in Kisumu County have demonstrated improvements in chronic disease management, yet the lack of structured knowledge management systems raises concerns about the sustainability of these gains (Muthee et al., 2022).

Previous studies have highlighted the importance of tacit knowledge in capacity building and the need for structured mechanisms to facilitate its transfer and retention (Kane & Ryu, 2023). However, research specific to the Kenyan Cuban collaboration remains limited, particularly in understanding the practices and challenges of knowledge exchange within this context. Without deliberate efforts to retain this tacit knowledge, Kenya risks losing critical insights that are essential for long-term healthcare improvement and capacity building in its healthcare system.

Therefore, this study sought to address this gap by examining the practices of tacit knowledge exchange and retention between Kenyan and Cuban doctors in selected hospitals. By identifying the challenges, best practices, and potential solutions, the research aims to contribute actionable insights to enhance the effectiveness and sustainability of international medical collaborations, ultimately strengthening Kenya's healthcare system.

1.2 Research Objective

The study sought to examine tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors in selected hospitals in Kenya.

2. Literature Review

This chapter is a discussion of the literature for the study. It reviews the Tools for tacit knowledge exchange and retention, the theoretical framework, the conceptual framework, and research Gaps.

2.1 Theoretical Review

2.1.1 Social Exchange Theory (SET)

Social Exchange Theory (SET) was originally proposed by George Homans in 1958 and later expanded by Peter Blau in 1964. Homans' framework emphasized that human interactions are motivated by a cost-benefit analysis, where individuals aim to maximize rewards and minimize costs (Homans, 1958). Blau extended the theory to incorporate sociological elements, emphasizing trust and power dynamics as pivotal in transforming transactional exchanges into enduring social relationships (Blau, 1964). These foundational ideas highlighted that mutual benefit and reciprocity drive sustained interactions, laying the groundwork for exploring how exchange processes operate in various social and professional contexts.

Recent Developments in SET

Contemporary adaptations of SET have refined the theory, accounting for emotional, cognitive, and contextual complexities. Cropanzano and Mitchell (2005) expanded SET by integrating justice and fairness considerations, asserting that individuals evaluate not only tangible rewards but also the fairness of exchange processes. This perspective underscores that perceived equity influences individuals' willingness to engage in and sustain exchanges.

Recent research has also emphasized the relational and structural aspects of exchange. Emerson (2015) revisited power dynamics, focusing on how resource imbalances impact reciprocity and the negotiation of benefits. This work highlights that exchanges are shaped by contextual factors, including cultural norms, organizational hierarchies, and interpersonal trust. Furthermore, developments by Cropanzano et al. (2017) introduced the concept of active versus passive exchanges, examining how varying levels of engagement and emotional investment influence exchange outcomes.

In organizational and professional settings, SET has been applied to collaborative work environments, particularly in cross-cultural and multidisciplinary contexts. Wang et al. (2022) explored SET in knowledge-sharing environments, demonstrating that trust and perceived organizational support significantly enhance the willingness of individuals to share expertise. Similarly, Rahman et al. (2021) highlighted that in multicultural workplaces, reciprocity and perceived fairness mitigate challenges posed by cultural differences, fostering stronger professional relationships.

Application to Tacit Knowledge Exchange among Medical Doctors

The contemporary versions of SET are particularly relevant in analysing knowledge exchange among Kenyan and Cuban doctors, who come from distinct cultural and professional paradigms. The theory posits that doctors are more likely to engage in sharing tacit knowledge when they perceive mutual benefits, such as professional recognition, enhanced clinical expertise, or career advancement (Wang et al., 2022). Additionally, trust, equity, and the perceived quality of knowledge exchanged are critical determinants of sustained interactions.

The incorporation of psychological and cultural dimensions in modern SET is vital for understanding cross-cultural collaborations. For example, Cuban doctors, who often bring extensive experience from resource-constrained settings, may actively engage in knowledge sharing if they perceive Kenyan counterparts as receptive and capable of applying shared knowledge effectively. On the other hand, Kenyan doctors are more likely to reciprocate when the knowledge offered addresses practical challenges and enhances patient outcomes, fostering a sense of mutual benefit and fairness (Rahman et al., 2021).

SET's contemporary iterations emphasize that fostering trust, ensuring equity in exchanges, and addressing cultural and power dynamics are essential for successful knowledge exchange. By highlighting these elements, SET provides a robust framework for examining how Kenyan and Cuban doctors navigate and sustain knowledge-sharing interactions in their collaborative healthcare efforts.

Criticism of Social Exchange Theory in Tacit Knowledge Exchange and Retention

While SET provides valuable insights into the motivations behind knowledge exchange, it has limitations when applied to healthcare settings. First, it assumes that individuals act rationally in calculating costs and benefits, whereas knowledge exchange may often be driven by altruism, duty, or organizational culture rather than personal gain. In the case of Kenyan and Cuban doctors, cultural norms around knowledge exchange may not fit neatly into the transactional model proposed by SET. For example, Cuban doctors may prioritize collective benefit due to their socialist background, while Kenyan doctors might emphasize professional advancement.

Additionally, SET tends to overlook structural and systemic barriers to knowledge exchange, such as a lack of resources, institutional support, or technology. In the Kenyan healthcare system, for instance, resource constraints and limited access to knowledge repositories can hinder the exchange of tacit knowledge, irrespective of personal motivations. Thus, while SET helps understand individual-level motivations, it may not fully account for the organizational and contextual factors that affect knowledge exchange and retention among doctors.

While Social Exchange Theory provides a useful lens for understanding how individual motivations influence knowledge Exchange among Kenyan and Cuban doctors, its applicability is limited by its focus on transactional relationships and neglect of structural barriers. Further analysis may require integrating other theories or frameworks that address the broader organizational and cultural context of knowledge exchange in healthcare.

2.2 Empirical Review

Although there is limited literature specifically focusing on tacit knowledge transfer between Kenyan and Cuban doctors, several studies provide valuable insights into tacit knowledge management across various sectors in Kenya. Murumba et al. (2020) examined tacit knowledge practices in Kenyan universities, identifying human, innovation, and relational capital as key drivers of institutional development. Mungai (2014) found that while both tacit and explicit knowledge existed at KIPPRA, there was a lack of structured management practices due to challenges like hierarchical barriers and limited ICT support. Otundo (2023) emphasized the strategic importance of tacit knowledge both technical and cognitive as a competitive asset that is difficult to codify but essential for performance. Kijugu and Moronge (2021) explored knowledge management in Nairobi's public hospitals, highlighting the significance of

acquisition, sharing, and storage in enhancing service delivery. Additionally, Murumba and Kwanya (2016) discussed the use of mentorship, storytelling, and communities of practice in academic institutions, noting the importance of leadership and organizational culture in facilitating tacit knowledge exchange, while also identifying barriers such as inadequate incentives and recognition of human capital. These studies collectively offer a foundational understanding of tacit knowledge exchange relevant to the Kenyan context.

2.3 Conceptual Framework

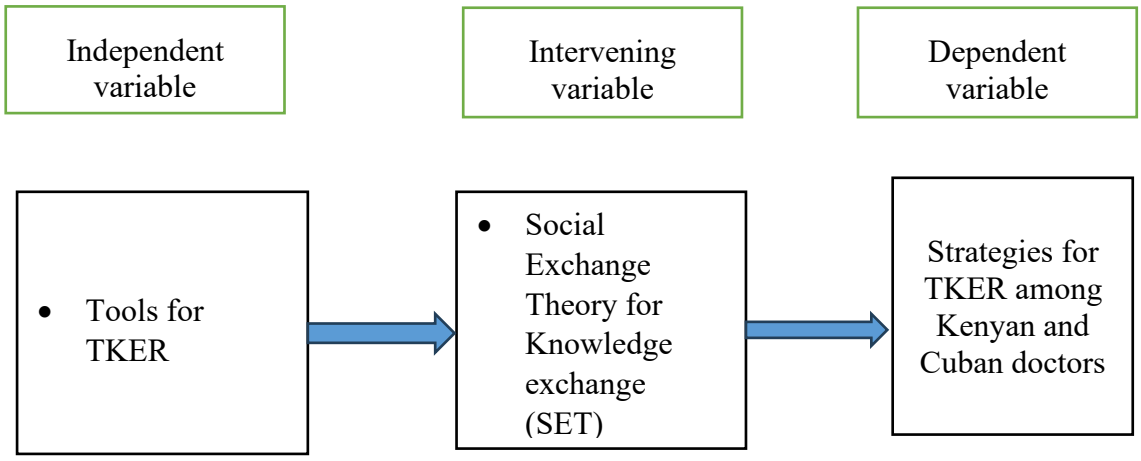

Figure 1: Conceptual framework

3. Methodology

The study adopted a qualitative case study methodology to explore tacit knowledge transfer and retention practices among Kenyan and Cuban doctors stationed at the Kenya School of Government before deployment to local hospitals. This approach enabled in-depth understanding of knowledge exchange strategies, structures, and indicators used to enhance capacity in selected Kenyan hospitals. The researcher followed an interpretivist philosophical worldview, emphasizing the participants' subjective experiences and perspectives. A total of 40 doctors (20 Kenyan and 20 Cuban) participated in the study, selected through purposive and exponential discriminative snowball sampling until data saturation was achieved.

Data was collected through unstructured, one-on-one interviews using an interview guide with open-ended questions. Interviews were conducted in English, Kiswahili, and Spanish, with a trilingual assistant facilitating communication where needed. Thematic analysis was conducted using ATLAS.ti version 24, ensuring systematic and objective interpretation of qualitative data. The researcher upheld ethical standards, securing approvals from relevant bodies (Technical University of Kenya and NACOSTI), ensuring participant consent, confidentiality, and the right to withdraw. All sources were acknowledged, and contributions were properly cited throughout the research process.

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4. Results and Discussion

4.1 Response rate

The study achieved a 100% response rate, engaging all 40 targeted participants: 20 Cuban and 20 Kenyan doctors. Conducting a response rate analysis in research is crucial as it provides insight into the level of engagement and representation of the survey results. A high response rate generally indicates that the sample is more representative of the target population, which enhances the validity and reliability of the findings.

4.2 Tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors in selected hospitals in Kenya

The first objective was to examine the tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors in selected hospitals in Kenya. This objective aimed at identifying the methods and systems employed to facilitate effective knowledge sharing and retention in the healthcare context.

4.2.1 Tools for tacit knowledge exchange

To fully examine tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors, the researcher first sought to understand the tools used in knowledge exchange by Kenyan and Cuban doctors.

Figure 2 illustrates the network view depicting 5 codes that emerged in the theme on tools for knowledge exchange.

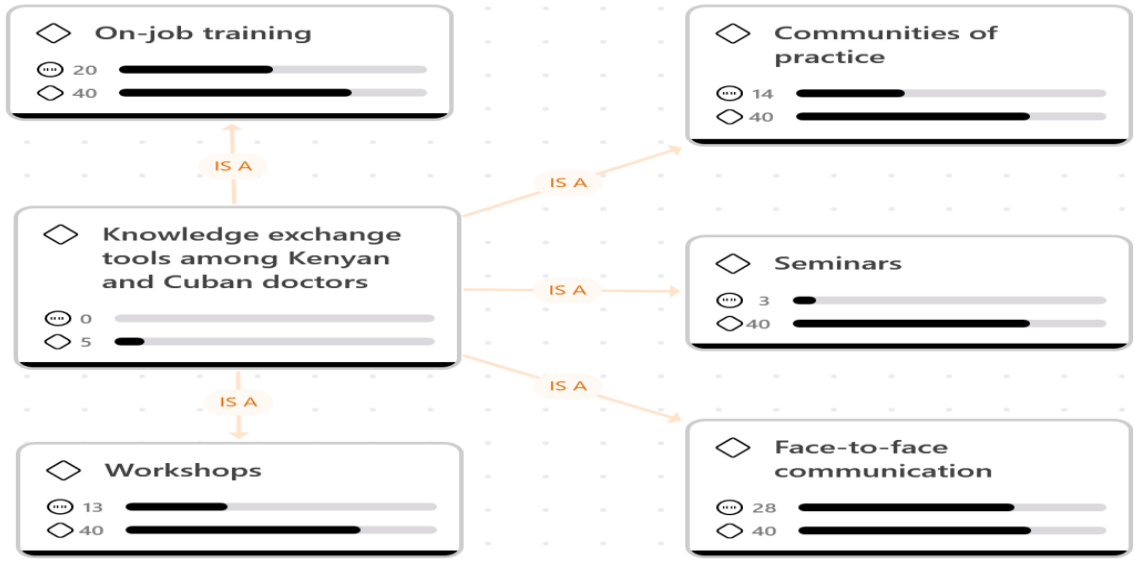

Figure 2*:* Tacit Knowledge exchange tools

The codes with "is a" represent a symmetrical type of relationship.

- On-job training: 20 times in 40 PDs
- Communities of practice: 14 times in 40 PDs
- Workshops: 13 times in 40 PDs
- Seminars: 3 times in 40 PDs
- Face-to-face communication: 28 times in 40 PDs

Data analysis on the tools used by Kenyan and Cuban doctors to exchange tacit knowledge indicates that the majority of the respondents indicated that face-to-face communication was the most used tool for knowledge exchange, mentioned 28 times in 40 PDs. Some respondents indicated that,

> *"I find face-to-face meetings to be very effective. It's easier to ask questions, clarify doubts, and build trust with colleagues, especially in complex cases."* (Respondent, 23)
>
> *"I prefer direct communication. It's much easier to convey and receive knowledge when we can interact personally. Often, I learn new perspectives by listening to my colleagues during our daily rounds."* (Respondent, 23)

On-the-job training followed, cited 20 times in 40 PD (50%). Some of the responses from the study indicated,

> *"I find the hands-on experience more effective than theoretical training. I'm able to ask questions immediately and get answers in real-time while working on patients."* (Respondent, 24)
>
> *"The on-job training sessions allow for immediate feedback, which helps me refine my techniques."* (Respondent, 11)

Communities of practice were mentioned 14 times in 40 PDs. One of the responses that was outstanding indicated that,

> *"Communities of practice are essential in keeping up with the fast-changing medical field. Through regular meetings, we stay updated on the latest research and best practices."* (Respondent, 23)

Workshops were noted 13 times in 40 PDs. Some excerpts from the responses include,

> *"Workshops offer structured learning and are particularly helpful when we need to dive deep into specific areas. We can also interact with external experts, which brings in new insights."* (Respondent, 10)
>
> *"The workshops organized by the Cuban doctors are insightful. They offer a space where we can ask specific questions about new procedures and best practices."* (Respondent, 11)
>
> *"I attend workshops whenever I can. They provide me with fresh knowledge and practical skills that I can apply in my day-to-day work, particularly in dealing with rare diseases."* (Respondent, 25)

Seminars were the least mentioned, cited 3 times. One respondent indicated that:

> *"In-person meetings allow us to share stories face-to-face, which can be more impactful and lead to deeper discussions"* (Respondent 13).

4.2.2 Tacit knowledge retention tools

The study sought to know the tacit knowledge retention tools used by the Kenyan and Cuban doctors in their knowledge exchange and retention practices. Figure 3 illustrates a network view with 3 codes on knowledge retention tools.

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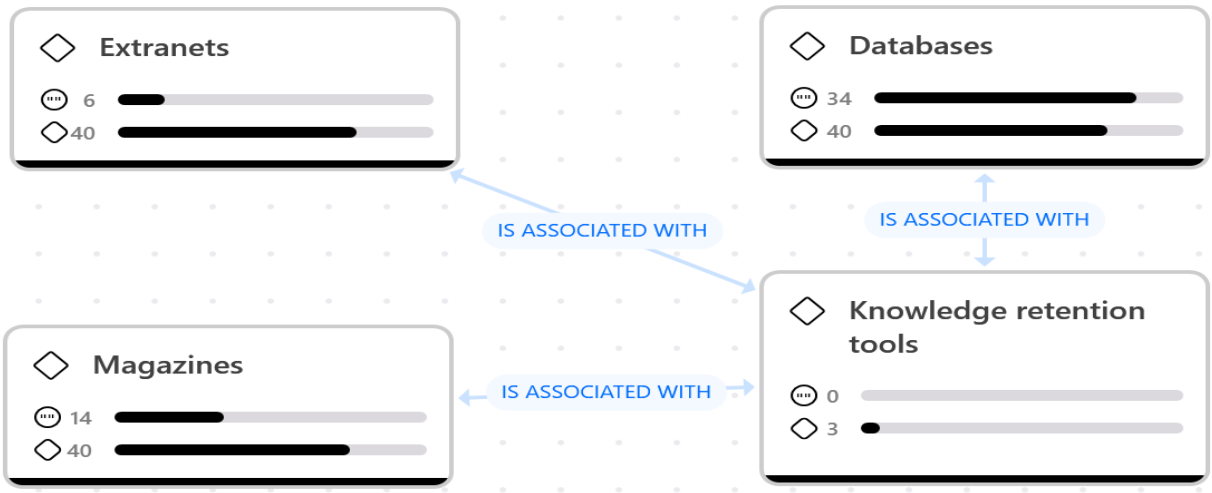

Figure 3: Tacit knowledge retention tools

The respondents' views on the tacit knowledge retention tools, on tools for knowledge exchange and retention practices identified 3 codes. The codes with "is associated with" represent a transitive type of relationship, and they include:

- Extranets: 6 times in 40 PDs
- Magazines:14 times in 40 PDs
- Databases:34 times in 40 PDs

The data indicate that databases are the most used tools for tacit knowledge retention, mentioned 34 times in 40 PDs. Some excerpts from the respondents include,

> *"The shared database has become a cornerstone for our collaboration. It allows easy access to patient records and research data, enhancing decision-making and reducing redundancy."* (Respondent, 21)
>
> *"Having a central database means I can review treatment protocols used by Cuban doctors, which helps in adapting their approaches to our local needs."* (Respondent, 05)

Magazines were the second highest, 14 times in 40 PDs. Some of the respondents indicated that,

> "*Medical magazines serve as a bridge for knowledge exchange, especially when they include features on innovative practices and how they can be adapted locally."* (Respondent, 20)
>
> *"One magazine highlighted success stories of similar collaborations in other countries, inspiring us to adopt some of those strategies in our hospitals.* (Respondent, 35)

Extranets were least mentioned, 6 times in 40 PDs. Some of the respondents indicated that,

> *"We use the hospital's extranet platform to share updates on patient cases and treatment protocols with our Cuban counterparts. It's helped ensure continuity of care."* (Respondent, 28)
>
> *"Although not widely utilized, the extranet allows us to upload and access crucial documents like guidelines and reports, bridging the gap when face-to-face interactions are not possible."* (Respondent, 02)

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Vol. 5||Issue 6||pp 12-33||August||2025
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"The extranet has proven useful for collaborating on research papers, as it provides a secure space for sharing drafts and receiving feedback from our Cuban colleagues." (Respondent, 39)

4.2.3 Use of Digital Tools for Tacit Knowledge Exchanges and Retention practices among Kenyan and Cuban doctors

To conclude the analysis of the first objective, the study sought to establish the digital tools employed by Kenyan and Cuban doctors for tacit knowledge exchange and retention, as well as their associated benefits and challenges. The respondents were asked to indicate digital tools for tacit knowledge exchange and retention. Figure 4 presents a network view of digital tools used in tacit knowledge exchange and retention practices, depicting 3 codes.

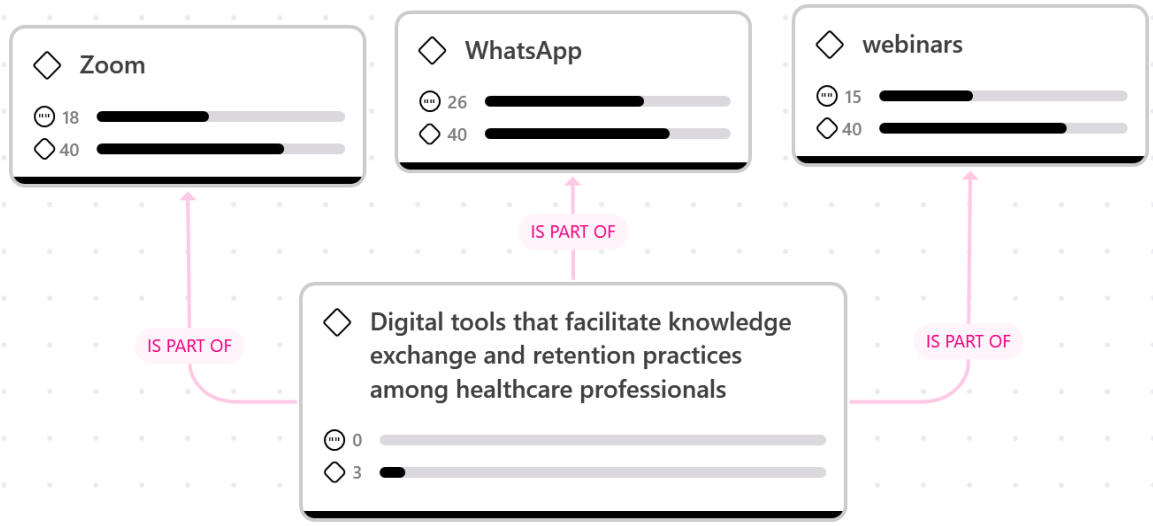

Figure 4: Digital tools used in tacit knowledge exchange and retention

The respondents' views on the digital tools for tacit knowledge exchange and retention practices identified 3 codes. The codes with "is part of" represent a transitive type of relationship, and they include

- Zoom:18 times in 40 PDs
- WhatsApp:28 times in 40 PDs
- Webinars:15 times in 40 PDs

The Data indicates that WhatsApp is the most used digital tool in tacit knowledge exchange and retention, mentioned 28 times in 40 PDs. Some of the responses include,

"Our WhatsApp group for medical practitioners is a daily forum where we share case studies and discuss treatment outcomes" (Respondent, 11).

"WhatsApp groups allow us to stay connected and exchange knowledge instantly, regardless of where we are." (Respondent, 27)

"The WhatsApp platform is particularly useful for sending case photos, lab results, and short videos for quick consultations." (Respondent, 40)

Zoom was the second highest, mentioned 18 times, 40 PDs. Some respondents indicated that,

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"Zoom has been instrumental in bridging the gap between us and our Cuban colleagues. It's where we hold case reviews and discuss treatment plans." (Respondent, 08)

"The ability to share screens and use breakout rooms makes Zoom ideal for interactive learning and focused discussions." (Respondent, 39)

"Without Zoom, much of our cross-border communication would have been limited due to logistical challenges." (Respondent, 24)

Webinars were the least mentioned, 15 times, 40 PDs. One of the respondents indicated that,

"Webinars provide a platform for sharing detailed clinical stories with a broader audience, making it a valuable tool for knowledge exchange" (Respondent 18).

4.2.4 Benefits of Use of Digital Tools for Tacit Knowledge Exchanges and Retention Practices among Kenyan and Cuban doctors

The study sought to understand the benefits of digital tools in tacit knowledge exchange and retention. Respondents were asked to indicate the benefits associated with the use of digital tools. Figure 5 illustrates a network view of the benefits associated with the use of digital tools in tacit knowledge exchange and retention.

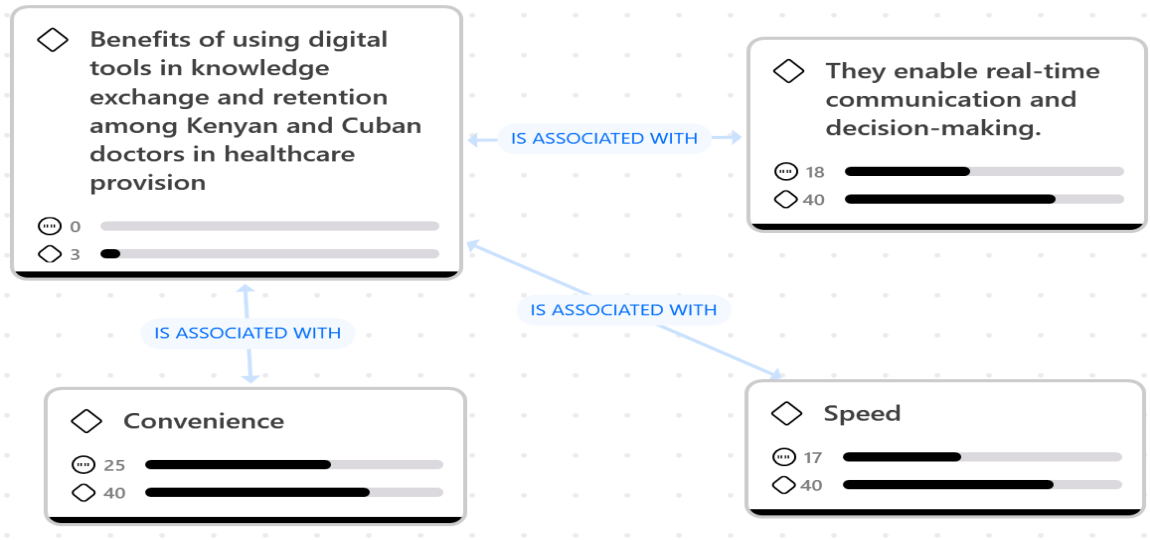

Figure 5: Benefits of using digital tools in tacit knowledge exchange and retention

The respondents' views on the benefits of digital tools on tacit knowledge exchange and retention practices identified 3 codes. The codes with "is associated with" represent a transitive type of relationship.

- Convenience: 25 times in 40 PDs
- Speed: 17 times in 40 PDs
- They enable real-time communication and decision making: 18 times in 40 PDs

The majority of the respondents indicated that convenience is a key benefit of using digital tools in tacit knowledge exchange and retention, mentioned 25 times in 40 PDs. Respondent's responses included,

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Vol. 5||Issue 6||pp 12-33||August||2025
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"Digital platforms allow us to access information and connect with colleagues without needing to travel, saving time and resources." (Respondent, 29)

"The tools are user-friendly, making it easier for everyone, regardless of technical expertise, to participate in knowledge-sharing activities." (Respondent, 04)

"Having access to multiple resources in one platform makes the entire process seamless and efficient." (Respondent, 16)

The second highest response was that digital tools enable real-time communication and decision-making, cited 18 times in 40 PDs. Some of the respondents indicated that,

"The immediacy of these tools ensures that we are always in sync, whether discussing patient care or planning workshops." (Respondent, 18)

"Real-time interaction has fostered a sense of teamwork and accountability, even across different time zones." (Respondent, 39)

The lowest response was enhancing speed in tacit knowledge exchange, mentioned 17 times in 40 PDs. One of the respondents was quoted as saying,

"The convenience and speed of sharing patient histories via WhatsApp facilitates real-time communication and quick decision-making." (Respondent 6)

4.2.5 Challenges in Use of Digital Tools for Tacit Knowledge Exchanges and Retention practices among Kenyan and Cuban doctors

Lastly, the respondents were asked to indicate the challenges associated with the Use of Digital Tools for Tacit Knowledge Exchanges and Retention practices. Figure 6 illustrates study findings on the challenges depicting 3 codes.

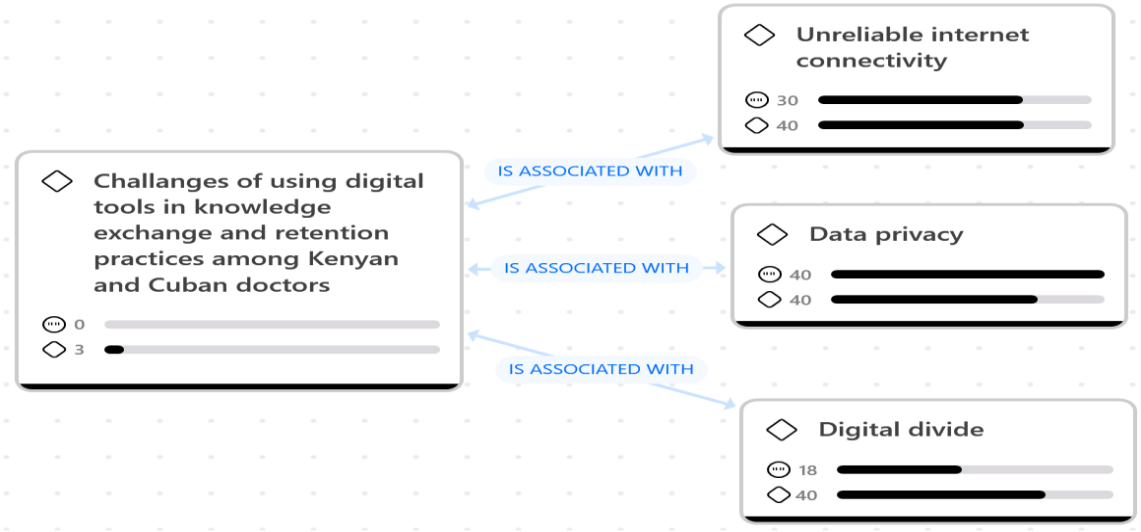

Figure 6: Challenges in using digital tools in tacit knowledge exchange and retention

The respondents' views on the challenges in the use of digital tools for tacit knowledge exchange and retention practices identified 3 codes. The codes with "is associated with" represent a transitive type of relationship and include,

- Unreliable internet connectivity: 30 times in 40 PDs
- Data privacy: 40 times in 40 PDs

- Digital divide: 18 times in 40 PDs

The majority of the respondents indicated that 'data privacy' is a significant challenge in using digital tools for tacit knowledge exchange and retention, mentioned 40 times in 40 PDs.

Some excerpts

> *"While digital tools are convenient, there are concerns about the security of patient information shared on these platforms"* (Respondent, 7)
>
> *"Sharing patient data over digital platforms raises questions about confidentiality and compliance with ethical standards."* (Respondent, 20)

The second highest responses were on unreliable internet connectivity, cited 30 times in 40 PDs. Some of the responses captured include,

> *"Sometimes, the network goes down during important virtual meetings, delaying critical discussions."* (Respondent, 28)
>
> *"In remote areas, internet access is either poor or unavailable, making it hard to use digital tools effectively."* (Respondent, 01)
>
> *"Frequent interruptions due to unstable internet connections disrupt the flow of knowledge exchange."* (Respondent, 37)

The least responses were for the digital divide, mentioned 18 times in 40 PDs. Some of the respondents indicated that,

> *"Some of us lack the necessary gadgets or familiarity with digital platforms, making participation in digital exchanges difficult."* (Respondent, 09)
>
> *"The disparity in access to digital tools between urban and rural hospitals affects the overall effectiveness of these platforms."* (Respondent, 37)
>
> *"The gap in technological adoption among older doctors compared to younger ones creates challenges in collaboration."* (Respondent, 28)

4.2.6 Role of Storytelling in Medical Knowledge Exchange

Storytelling, being one of the methods for tacit knowledge exchange, the study sought to understand its relevance within the medical field. As such, respondents were asked to illustrate the role of storytelling in medical knowledge exchange. Figure 7 illustrates the role of storytelling, depicting 2 codes.

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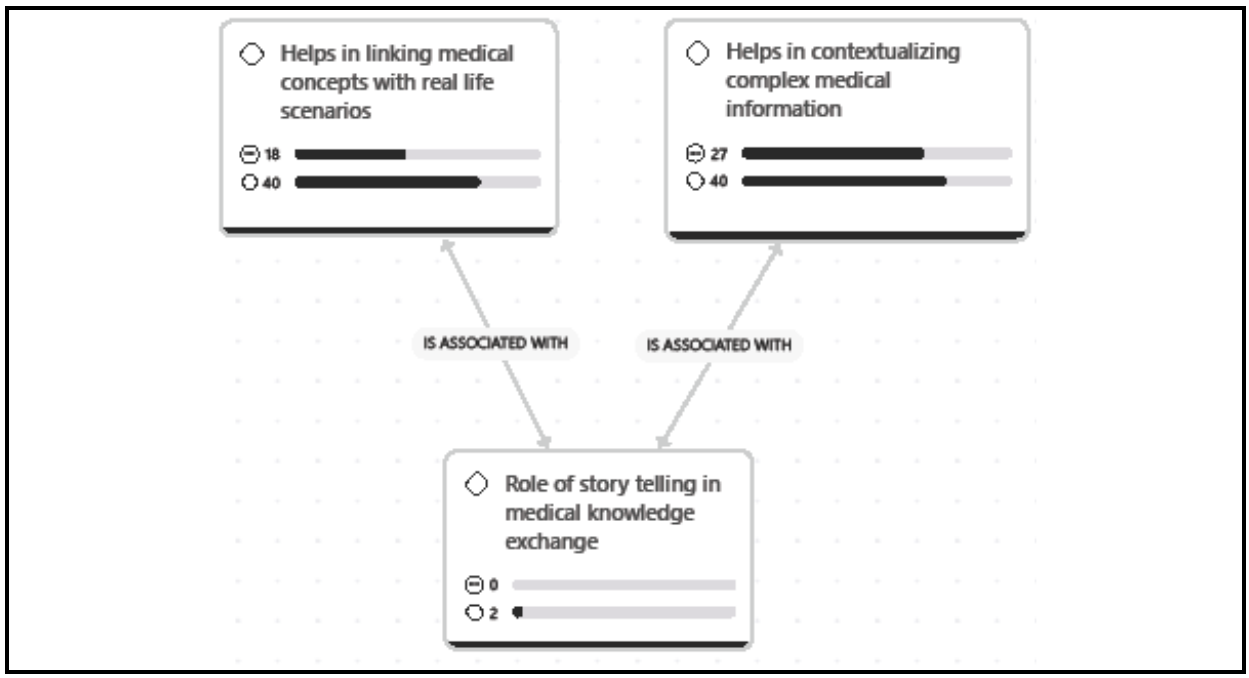

Figure 7: Role of storytelling in medical knowledge exchange

The respondents' views on the role of storytelling in medical knowledge exchange identified 2 codes. The codes with "is associated with" transitive type of relationship.

- Helps in contextualizing complex medical information: 27 times in 40 PD
- Helps in linking medical concepts with real-life scenarios: 18 times in 40 PD

The majority of the respondents indicated that storytelling helps in contextualizing complex medical information, mentioned 27 times in 40 PDs. Some excerpts include,

> *"Sharing personal experiences and patient stories helps to contextualize complex medical information, making it easier to understand and apply in practice"* (Respondent 10).
>
> "*We hold regular meetings, engage in Continuous Medical Education (CME) sessions, and often participate in practical learning experiences. Occasionally, we commence medical procedures collectively, fostering knowledge sharing among colleagues. This collaborative sharing extends to various topics, including our strengths and expertise. Simultaneously, we organize mortality meetings, quality improvement meetings, and infection prevention meetings. These gatherings serve as platforms for extensive information sharing on patient management."* (Respondent 3)

The second-highest responses indicated storytelling aids in linking medical concepts with real-life scenarios, cited 18 times by 40 PDs. The responses captured included. Some excerpts from the respondents include,

> *"Stories from experienced practitioners stick with me and often come to mind when I encounter similar cases"* (Respondent 15).
>
> "*Hearing stories about patient experiences helps me connect on an emotional level, which I believe improves my patient interactions*" (Respondent 8).

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4.2.7 Impact of Coaching and Mentoring in Enhancing Clinical Skills and Patient Care

Finally, while addressing the first objective on tools for tacit knowledge exchange and retention practices, the researcher sought to understand the impact of Coaching and Mentoring in Enhancing Clinical Skills and Patient Care. The data from respondents are illustrated in Figure 8, depicting 4 codes.

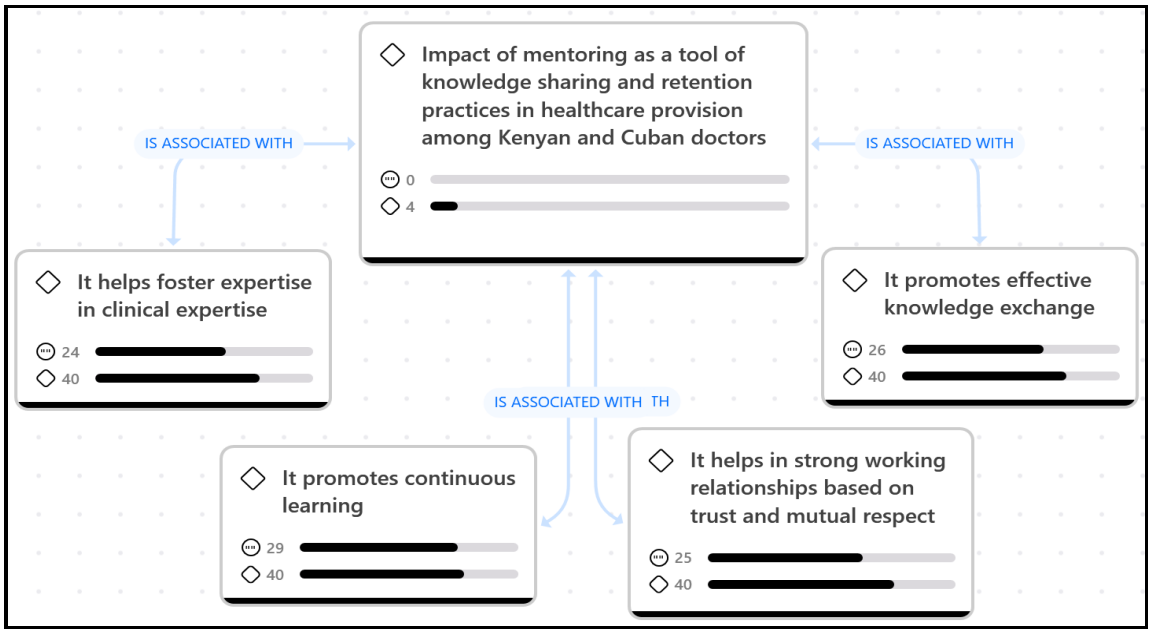

Figure 8: Impact of mentoring as a tool of tacit knowledge exchange and retention practice in healthcare provision

The respondents' views on the Impact of mentoring as a tool of tacit knowledge exchange and retention practice in healthcare provision identified 4 codes. The codes with "is associated with" represent a transitive type of relationship and include.

- It helps foster expertise in clinical expertise: 24 times in 40 PDs
- It promotes effective knowledge exchange: 26 times in 40 PDs
- It promotes continuous learning: 29 times in 40 PDs
- It helps in strong working relationships based on trust and mutual respect: 25 times in 40 PD

The respondents identified several impacts of mentoring as a tool for tacit knowledge exchange and retention in healthcare provision. Promoting continuous learning was the highest mentioned, cited 29 times in 40 PDs. Some of the responses include,

> *"The mentorship program keeps me updated on the latest medical advancements and techniques."* (Respondent, 07)
>
> *"Mentoring encourages us to pursue further training and certifications to stay current in our field."* (Respondent, 25)
>
> *"It supports his continuous learning and helps him stay updated with the latest advancements and best practices in his field"* (Respondent 40).

Effective knowledge exchange was second with 26 times in 40 PDs. One of the respondents was quoted,

> *"Mentoring provides a platform where we exchange ideas, experiences, and best practices to improve healthcare outcomes."* (Respondent, 25)

Fostering expertise in clinical expertise was third with 24 times in 40 PDs. Some excerpts from respondents include

> *"Through mentoring, I gained hands-on experience in specialized procedures that were not covered during formal training."* (Respondent, 40)
>
> *"Mentors guide us in clinical decision-making, which significantly improves our expertise and confidence."* (Respondent, 03)
>
> *"The practical insights from my mentor have been instrumental in managing complex patient cases effectively."* (Respondent, 30)
>
> *"My goal is always to be both skilled and compassionate, fostering not just clinical expertise but also empathy and thoughtfulness in my approach to healthcare"* (Respondent 27).

The least mentoring was reported to help build strong working relationships based on trust and mutual respect, mentioned 25 times in 40 PDs. Some of the respondents' responses include.

> *"Mentorship has created a strong sense of trust and collaboration within our team, making it easier to work together."* (Respondent, 34)
>
> *"Through mentoring, I have developed meaningful relationships with my colleagues that go beyond professional interactions."* (Respondent, 28)
>
> *"The mutual respect between mentors and mentees enhances our ability to communicate and collaborate effectively."* (Respondent, 16)
>
> *"The goal is to share medical knowledge and enhance clinical skills, which underscores the significance of building strong working relationships based on trust and mutual respect"* (Respondent 8).

5. Discussion of findings

5.1 Examine tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors in selected hospitals in Kenya

A critical examination of tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors was essential to comprehensively understand the methods and techniques employed to facilitate the transfer and preservation of medical knowledge. This analysis encompassed identifying digital tools, evaluating their benefits and challenges, and exploring traditional approaches such as storytelling and coaching to enrich knowledge-sharing processes. By delving into these aspects, the study aimed to provide a nuanced understanding of how diverse tools and techniques enhance knowledge management, particularly in cross-cultural healthcare contexts, where collaboration and effective communication are pivotal.

5.1.1 Tacit knowledge exchange tools and methods

SET suggests that individuals engage in interactions based on an assessment of costs and benefits (Cropanzano & Mitchell, 2023). This is evident in the widespread preference for face-to-face communication (28 mentions in 40 PDs), as doctors prioritize direct interactions for real-time clarification, trust-building, and emotional connections that enhance collaboration. However, challenges such as time constraints and large teams may limit its feasibility, necessitating alternative knowledge-sharing methods (Wong & Yu, 2023). On-job training (20 mentions), workshops (13 mentions), and seminars (3 mentions) also align with SET, as these methods improve professional competence despite requiring time and resources (Patel & Kumar, 2023).

CoP theory highlights that learning occurs through shared experiences within a professional community (Wenger-Trayner & Wenger-Trayner, 2022). This is evident in the frequent use of storytelling (34 mentions) and mentorship (25 mentions) as primary knowledge exchange methods. Storytelling helps contextualize medical knowledge by linking clinical concepts to real-life scenarios, ensuring better retention and comprehension (Drews & Smith, 2022). Similarly, mentoring provides a structured way to transfer both explicit and tacit knowledge, reinforcing professional growth within healthcare teams (Anderson & Lee, 2023). Coaching (8 mentions) and after-action reviews (5 mentions) were mentioned less frequently, possibly due to a preference for more informal or experiential learning methods, a trend also observed in previous studies (Williams & Jackson, 2023).

5.1.2 Tacit knowledge retention tools and methods

SET is evident in the preference for databases (34 mentions) as key knowledge retention tools, as they provide a structured and easily accessible way to store medical information, reducing time spent searching for critical data (Borges & Costa, 2023). Magazines (14 mentions) and extranets (6 mentions) also serve knowledge retention functions, though their lower frequency suggests they are supplementary rather than primary tools. The perception of benefits versus drawbacks (e.g., access, reliability) influences doctors' decisions on which tools to use (Ramirez & Delgado, 2023).

CoP is reflected in the high emphasis on mentorship programs (33 mentions) and knowledge documentation (32 mentions) as preferred knowledge retention methods. This highlights the significant role of mentorship in facilitating the transfer of tacit knowledge from experienced to less experienced healthcare professionals, ensuring that valuable insights and expertise are passed on (Lee et al., 2023; Patel & Kumar, 2022). These approaches ensure that expertise is systematically transferred within the community, strengthening long-term knowledge sustainability (Patel & Kumar, 2023). Repositories (22 mentions) and collaborative learning (17 mentions) further support CoP by enabling shared access to information and peer-based knowledge reinforcement (Thompson & Garcia, 2023). The varying emphasis on these tools suggests that different hospitals and medical environments may prioritize different retention strategies based on available resources and institutional culture (Smith & Chang, 2024).

5.1.3 Digital tools for tacit knowledge exchange and retention

The role of digital tools in tacit knowledge management aligns with SET, where healthcare professionals weigh the convenience of these platforms against challenges such as security risks and infrastructure limitations (Thompson & Baker, 2023). WhatsApp (28 mentions) was

the most frequently used digital tool, primarily due to its ease of use and ability to support instant communication, aligning with SET's principle of maximizing benefits while minimizing effort (Patel et al., 2023). Zoom (18 mentions) and webinars (15 mentions) were also commonly used, reflecting a growing reliance on digital communication for knowledge sharing. However, data privacy concerns mentioned 40 times in 40 PDs and unreliable internet connectivity 30 times in 40 PDs were highlighted as major challenges, demonstrating the trade-offs involved in adopting digital solutions (Greenwood et al., 2024; Williams & Zhang, 2023). An outlier from literature, however, suggests that while WhatsApp is popular, its informality and lack of professional structure may limit its effectiveness in clinical settings, with some recommending more secure, structured platforms (Singh et al., 2024).

From a CoP perspective, digital tools foster virtual communities of practice, where knowledge is shared asynchronously or in real-time, extending learning opportunities beyond physical interactions (Ahmed & Al-Qudah, 2022). However, as noted in outlier studies, the lack of structured professional frameworks in informal platforms like WhatsApp may limit their effectiveness in formal medical training (Singh et al., 2024). This suggests the need for integrating more secure and professionally managed platforms to enhance digital knowledge exchange.

5.1.4 Role of storytelling in medical knowledge exchange

Storytelling's dominant role in tacit knowledge exchange helps in linking medical concepts with real-life scenarios mentioned in 18 in 40 PDS is deeply rooted in CoP theory, as it serves as an engaging way for professionals to learn from real-life experiences within their medical community (Thompson & Garcia, 2023). Doctors highlighted that storytelling simplifies complex medical concepts by contextualizing complex medical information mentioned 27 times in 40 PDs to relatable patient cases, thereby improving understanding and retention (Drews & Smith, 2022). This aligns with prior studies emphasizing its effectiveness in medical education and tacit knowledge transfer. However, SET suggests that in high-pressure environments where time is limited, more structured methods such as formal training or workshops may sometimes be preferred over storytelling (Williams & Jackson, 2023).

5.1.5 Impact of coaching and mentoring on clinical skills and patient care

Both SET and CoP strongly support mentoring as a critical tool for tacit knowledge retention and skills development. SET explains mentoring as a mutually beneficial exchange, where experienced professionals transfer knowledge in return for professional recognition and institutional growth (Anderson & Lee, 2023).This aligns with findings that mentoring promotes continuous learning, mentioned 29 times in 40 PDs, and enhances knowledge exchange, mentioned 26 times in 40 PDs, ultimately improving patient care and clinical expertise, mentioned 24 times in 40 PDs (Patel & Kumar, 2023). Additionally, mentoring fosters strong working relationships 25 times in 40 PDs, reinforcing the social bonds that underpin CoP (Wenger-Trayner & Wenger-Trayner, 2022). While structured training programs and workshops may sometimes be favoured in resource-limited settings, the long-term benefits of mentorship in sustaining knowledge and professional development remain invaluable (Smith & Chang, 2024). However, an outlier study by Williams and Jackson (2023) suggests that while mentoring is valuable, some healthcare institutions prefer structured training programs or workshops as more formal methods of tacit knowledge transfer, particularly when resources for one-on-one mentoring are limited.

6. Summary of Research Findings

While examining the first objective on tools for tacit knowledge exchange and retention practices among Kenyan and Cuban doctors, both the Social Exchange Theory provide a robust framework for understanding tacit knowledge exchange and retention among Kenyan and Cuban doctors. SET explains how doctors assess the benefits of different tacit knowledge-sharing tools and methods, balancing factors such as efficiency, convenience, and security. CoP, on the other hand, highlights how medical professionals learn through shared experiences, mentorship, and collaborative engagement. The study findings demonstrate that while traditional methods such as face-to-face communication, mentoring, and storytelling remain central, digital tools and structured training programs are becoming increasingly important in modern healthcare knowledge management. However, challenges such as data privacy concerns and infrastructure limitations must be addressed to optimize digital knowledge-sharing practices (Greenwood et al., 2024; Li & Wang, 2024)

7. Conclusion

This study concludes that tacit knowledge exchange and retention among Kenyan and Cuban doctors rely on diverse tools and methods, including face-to-face communication, on-the-job training, communities of practice, storytelling, mentoring, and digital tools, each playing a unique role in fostering collaboration and preserving medical knowledge

8. Recommendations

Based on the findings of the study, the researcher made the following recommendations.

8.1 Recommendations for TKER Practices

To enhance knowledge management and collaboration in healthcare settings, a comprehensive strategy should be adopted. First, mentorship and peer networks should be formalized by establishing clear mentorship programs with defined goals, learning contracts, and quarterly reviews. In addition, interdisciplinary peer-learning groups should be created to meet monthly for case discussions and joint simulations, fostering cross-specialty learning. Second, a blend of digital and analog platforms should be leveraged by deploying a secure intranet or mobile app that hosts “how-to” procedure videos, reflective journals, and discussion forums. These platforms should also integrate AI-powered suggestions, such as related cases and protocol updates, to surface tacit insights at the point of care.

Third, cultivating communities of practice (CoPs) is essential. Hospital-wide CoPs should be organized by specialty, with bi-weekly meetings and rotating facilitators to embed shared norms and practices. Particip ation should be tracked and key takeaways documented in a centralized repository to support both new and rotating staff. Fourth, targeted cultural and language training should be provided to bridge communication gaps in the Kenyan-Cuban healthcare exchange. This includes offering basic medical Spanish and Swahili modules, along with intercultural-communication workshops, role-plays, and peer feedback to hone real-world interaction skills.

Fifth, tacit knowledge exchange and retention (TKER) should be embedded into performance and policy frameworks. This can be achieved by introducing key performance indicators (KPIs), such as mentorship hours completed, CoP contributions, and digital platform usage, into annual appraisals. Dedicated knowledge management officers with budget authority should be appointed to maintain these platforms, curate content, and facilitate events. Lastly,

it is crucial to monitor, evaluate, and iterate on these initiatives by collecting monthly feedback, clinical outcome metrics, and digital tool analytics to identify and address ongoing gaps.

8.2 Recommendations for further studies

Future studies should explore the impact of emerging digital tools and technologies, such as artificial intelligence and machine learning, on enhancing knowledge exchange and retention in healthcare settings, particularly in low-resource environments.

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