FACTORS INFLUENCING EVIDENCE-BASED DECISION-MAKING AMONG SPECIALIZED NURSES WORKING IN SELECTED HEALTH FACILITIES IN NAIROBI, KENYA

SAFARI AGURE
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DECLARATIONS

I declare that this research proposal is my original work and has not been presented in any other university.

Student

Signature: …. Date …….....

Safari Agure:

HSM-3-3112-3/2021

Supervisors

This research proposal has been submitted for examination with our approval as university supervisors

Signature: …….....……..… Date…….....……..…

Prof. Wanja Mwaura Tenambergen, PhD.

Riara University, Kenya.

Signature: …….....……..… Date…….....……..…

Lillian Muiruri

Department of Health Systems Management

Kenya Methodist University

DEDICATION

This work is dedicated to the 'backbone' of my life that is my Mum and to my inspiration in life; my sons. Boys never be shy of your dreams or fearful in life; tackle all things head on. May you grow to pursue and realize your dreams. Always be there for each other and I will also be there whenever you need me.

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I am greatly indebted to my sons Tsarj and Teejay; you 'allowed' me to be absent from your lives to pursue this degree without complaining. To my mother, for encouragement and the myriad of ways in which you support me; words fail me in expressing my gratitude. For advice, your mentorship and guidance, the opportunity to pursue this course and financial support I am grateful to my lecturers, supervisors and KEMRI colleagues.

ABSTRACT

Evidence-based decision-making (EBDM) and practice among nurses in Kenya, is largely unexplored. The study was designed to determine the factors influencing the utilization of evidence by nurses for decision-making and practice. In 2024, a concurrent, triangulation mixed methods study was designed, targeting nurses working in maternal and child (Reproductive) wards in selected facilities in Nairobi County with the sites being all public facilities of levels 4 and 5. A 5-point Likert scale questionnaire was administered to all nurses found working on the day the researcher visited the facility. Key informant interviews were also conducted on the same day. Ethical approval was sought from Kenya Methodist University and individual respondents completed Informed consent forms prior to participation in the study. All other ethical considerations required were adhered to. Quantitative data analysis was carried out using SPSS version 22 statistical software. Exploratory data analysis (EDA) was employed at the initial stage of analysis. Bivariate level analysis was used to assess the association of independent variables with EBDM utilization using Chi-square test and/ or Fisher's Exact Test. All variables with a P-value < 0.25 in the bivariate analysis were subjected to multivariate analysis. Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CIs), were used to evaluate the strength of statistical association between dependent and independent variables. Qualitative data was managed using thematic analysis. Results show intuition is the most applied thought paradigm among nurses for decision making alluding to the importance of tacit knowledge in nursing. Factors that emerged as significantly associated with EBDM among reproductive nurses were individual in nature. The findings of this study are expected to inform policy and management efforts to enhance nurses' decision making. As without nurses' engagement with evidence and learning, EBDM contributions will continue to be negligible, it is recommend that more research be done to enhance institutional factors and the use of intuition to support EBDM. As well, strategies for harvesting tacit knowledge should be enriched.

TABLE OF CONTENTS **PAGE**

ABBREVIATIONS

EBDM	Evidence based decision making
EBP	Evidence based practice
EBDM & P	Evidence based decision making & Practice
EIDM	Evidence informed decision making
K2A	Knowledge to Action
KT	Knowledge Translation
FGDs	Focus Group Discussions
GOK	Government of Kenya
HCWs	Health care workers
HRH	Human Resources for Health
KEMRI	Kenya Medical Research Institute
KEMU	Kenya Methodist University
KIIs	Key Informant Interviews
SDM	Shared Decision making
WHO	World Health Organization

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Nurses decisions are complex due in part to the diversity of patients, technology advances, and practice settings (Nibbelink & Brewer, 2018). This makes the use of knowledge that is based on science to guide them in making correct decisions and problem-solving critical (Çalışkan & Hülya, 2016).

Humans have always sought information to solve problems and gain the knowledge, skills, and steps needed to act effectively. The aim of collecting data through research; for nurses, decision making means determining what data to collect, what tests to request, how to interpret this information, and which interventions to implement (Chanie et al., 2025) so as to ensure the effective and appropriate use of resources to facilitate health interventions. Research outcomes include data on population health and service provision for use in decision-making and planning for the health system. More so locally from where data was collected. With the focus shifting from traditional knowledge dissemination which is linear (science push model) to Knowledge Translation (KT); the role of exchange of knowledge between decision-makers and researchers for supporting decision-making has been acknowledged, however, the traditional, approach still remains a most common used approach (Armstrong et al., 2013).

Knowledge created from research is included as an essential part of the knowledge-to-action (K2A/ KTA) framework that aims at closing the gap between research and evidence-informed decision making (EIDM). The KTA which uses two components; knowledge Creation and knowledge application to facilitate the use of research by stakeholders including nurses and in so doing, applying knowledge to real life situations. The K2A framework has been proved as a useful planning, reflecting and evaluation tool to assess ways in which healthcare outcomes

can be improved through KT (Morton et al., 2018). By readily proving access to health information, KT can facilitate effective health services' provision and products that can strengthen the health care system. EBDM is a concept that integrates research findings with practitioner experiences to make informed decisions. (EBP) Evidence based practice, an off shoot of EBDM, teaches professionals how to find the research information that they need when they need it to guide developing, implementing, and evaluating proven programs or policies for positive health outcomes.

With uncertainty within the health environment, there will always be variability in patients and clinical situations, as well as incomplete or unclear information available to nurses; decisions and judgments have to be made. Nurses make accurate, life-saving decisions routinely, however it's not clear what sources of information they use to for their clinical decision-making (Anton et al., 2021). New information that comes from research can approve/critique existing information, beliefs, and values for nurses who are noted as the largest health professionals in the workforce (Olive, 2013) and reduce uncertainty.

Globally, the engagement of nurses with evidence in practice can be traced back to Florence Nightingale in the 1800s, whose use of statistics and visual illustrations to link sanitation with mortality marked one of the earliest demonstrations of evidence-based care (Mackey & Bassendowski, 2017). Following the post–World War era, nursing gradually evolved from task-oriented routines to a more analytical, research-informed discipline. The rise of Evidence-Based Nursing (EBN) in the late 20th century anchored this shift, institutionalizing the integration of research findings, clinical expertise, and patient preferences into everyday decision-making. Today, this evolution continues through Evidence-Based Decision-Making (EBDM) frameworks, digital innovations, and collaborative learning cultures that empower nurses to engage with research more effectively.

Engagement with evidence not only strengthens professional judgment but also narrows the gap between theory and practice, enabling the nursing profession to advance. Nurses engage with research-based evidence primarily to reduce uncertainty in practice, especially when making decisions related to the effectiveness of interventions, timing of treatments, and patient care strategies. Yet, their contribution to decision-making often remains understated. The concept of Shared Decision-Making (SDM) brings this role to light, offering nurses platforms to support patient needs, advocate for their preferences, and participate meaningfully in inter-professional teams (Lewis et al., 2016; Olling et al., 2021). Through these evolving roles, nurses continue to shape patient outcomes and reaffirm their position at the heart of evidence-informed care.

In Africa, the evolution of Evidence-Based Decision-Making (EBDM) has followed a unique trajectory shaped by contextual realities of limited resources, evolving health systems, and growing recognition of the value of local evidence. Early health decision-making across the continent was largely experience-driven and guided by external models, often influenced by donor priorities rather than locally generated data. In the low-resource settings common in Africa, there is low utilization of local data for planning in a health-system, monitoring, evaluation and decision-making. This is in part because of limited information sharing, inadequate staff capacity to analyze and use data in decision-making and non-collaborative decision making (Garrib et al., 2016; Parramore, 2017; Victoria et al., 2011; Wickremasinghe, et al., 2016).

The 2000s marked a turning point with the strengthening of national health research systems using initiatives championed by the World Health Organization's Regional Office for Africa (WHO-AFRO), the African Health Observatory, and the Evidence-Informed Policy Network (EVIPNet Africa). These platforms emphasized the translation of research into policy and practice, nurturing a culture of evidence use among policymakers and practitioners as whole.

In more recent years, countries such as Kenya, Uganda, South Africa, and Nigeria have made notable progress through the establishment of Knowledge Translation platforms, Health Observatories, and Communities of Practice (CoPs) that promote evidence synthesis, dialogue, and capacity-building. The Kenya Health Research Observatory (KHRO) and Uganda National Health Research Organization (UNHRO) exemplify efforts to institutionalize evidence use in health planning and policy. Collectively, these developments represent Africa's gradual but steady shift from externally driven decision models toward contextualized, data-informed systems that value indigenous research and collaborative learning as integral to achieving better health outcomes.

Historically, nursing decisions in Kenya were largely guided by clinical routines, mentorship, and institutional norms rather than explicit use of research evidence. However, the transformation began in the early 2000s with national efforts to strengthen research capacity and align nursing education with global evidence-based standards. Institutions such as the Kenyatta National Hospital, University of Nairobi, and Moi University integrated research and evidence appraisal into their nursing curricula, nurturing a new generation of nurses equipped with skills in critical thinking and data use (Mutisya, 2015).

The establishment of platforms such as the Kenya Health Research Observatory (KHRO) and the National Nursing Research Agenda by the Nursing Council of Kenya (NCK**)** further advanced this shift, anchoring research utilization as a professional expectation. Through Continuing Professional Development (CPD) frameworks and mentorship initiatives, nurses have been encouraged to engage with local data, evaluate interventions, and contribute to policy discussions. More recently, the growth of Communities of Practice (CoPs**)** and collaborations between academic institutions and health facilities have created spaces for peer learning and shared inquiry. These developments reflect Kenya's steady movement toward embedding evidence at the heart of nursing care—transforming the nurse from a passive

recipient of policy to an active agent in shaping evidence-informed practice. However, the Nairobi health system characterized with high patient loads, few absolute HRH numbers, time constraints and technological changes is seen as a barrier to specialized nurses from engaging with evidence in practice.

1.2 Statement of the Problem

Nurses play a pivotal role in the delivery of health services and patient outcomes, being in constant contact with the patients. This is more critical when dealing with maternal and child health care where patient anxiety is largely experienced and decisions made are critical. Nurses make judgments & decisions that have direct or indirect impact to patient care and outcomes sometimes impacting fatalities (Recio-Saucedo et al., 2018).

In the nursing profession in Kenya- intuition rather than evidence forms a major practice in decision-making, however, research on nurses has concentrated on the implementation arena of clinical practice with little evidence about the process of decision-making among nurses. This is so in Kenya too leaving gaps in what and how nurses access current contextual data and from whence it comes. Similarly, the nursing profession today often relies more on intuition than on evidence in practice and decision-making, even within specialized care settings. Hence the use of evidence in nursing service delivery hence remains largely unknown. This underscored the central problem under investigation. There is limited knowledge available on if and how EBDM and EBP is applied for patient care among nurses in Kenya. This results in a gap of research KT within the nursing field that needs to be closed for the improvement and efficiency of decision making and henceforth improved service delivery. For this optimal care, it has been encouraged that there be a shift to evidence-based decision-making and practice (Wilson, 2019).

1.3 Purpose of the Study

Towards understanding and subsequently addressing the problem of nurses care decision making being largely unknown, research was needed to support development of essential frameworks, tools, strategies and policies that anchor evidence-based decision-making. Strategies to enhance capacity of surgery and medical nurses in applying EBDM & P were a requisite. The overarching aim of the study was to determine the factors related to EBDM & P among specialized nurses. This went go a long way towards enhancing access to, understanding of, appraising and application of research to strengthen decisions made during service delivery practices.

1.4 Objectives

1.4.1 General Objective

To determine the factors influencing EBDM among maternal and child health nurses working in selected health facilities in Nairobi, Kenya.

1.4.2 Specific Objectives

i. To assess the level of influence of intuition and evidence thought paradigms in EBDM among maternal and child health nurses in selected facilities in Nairobi County.

ii. To determine the influence of the institution-related factors on the utilization of evidence for EBDM among maternal and child health nurses in selected facilities in Nairobi County.

iii. To determine the influence of individual factors on the utilization of evidence for EBDM among maternal and child health nurses in selected facilities in Nairobi County.

iv. To identify the barriers to the access of evidence for EBDM among maternal and child health nurses in selected facilities in Nairobi County.

1.5 Research Questions

i. What is predominantly used by maternal and child health nurses when making decisions for service delivery; intuition or evidence?

ii. What are the institution related factors influencing the utilization of evidence for EBDM for service delivery among maternal and child health nurses?

iii. What are the individual factors associated with the utilization of evidence for EBDM for service delivery among maternal and child health nurses?

iv. What are the barriers to the access of maternal and child research evidence for EBDM by maternal and child health nurses for patient service delivery?

1.6 Study Justification

It is noted that the greatest barrier being faced in nursing today is closing the know-do gap; between theory and practice (Saifan et al., 2021). In order to boost nurses' active engagement with evidence for improvement of decision making, a better understanding of the interactions between decisions made, the knowledge that informs the decisions, their sources, and their access was needed. Limited studies have explored how both individual and institutional factor among nurses influence EBDM & P, hence an additional justification for this study.

This study explored the individual and institutional factors, access barriers, and thought paradigms influencing evidence use in specialized nursing contexts. The findings informed strategies to strengthen evidence-informed practice, enhance decision-making in patient care, and contribute to the growing body of knowledge on EBDM in nursing.

1.7 Significance of the Study

Without a clear understanding of various issues that surround knowledge transfer among Kenyan nurses, it is likely that patients will linger in facing challenges of receiving high-quality healthcare as decision-making and practice is not based on any evidence. This study was designed to identify prevailing interactions between knowledge transfer from research and

service delivery decision making and practice. This was envisioned to go a long way towards continuous improvement of decision making for service delivery in maternal and child areas through the application of evidence-based decision making. According to Gagliard et al, EBDM enhances the use of research in health, guiding improved decision-making, policy making and practice, ultimately, health care outcomes. (Gagliard et al., 2014)

1.8 Study Limitation

The limitation of this study was that the study findings will not be generalized to other realms or sectors; the reporting of these results will therefore be limited to nurses working in Maternal and child areas. To address this, longitudinal studies will be required to determine causal judgments between evidence based decision making and specialized nursing practice. The study adopted the ACE Star Model as its theoretical framework to guide inquiry into EBDM, a rational decision-making approach. However, the aspect of intuition—though observed during the study—was not anchored in any theoretical framework, which may be viewed as a methodological bias.

1.9 Delimitations of the Study

The population in this study was limited to the realm of specialized nurses (maternal and child health) as health workers, specifically, only nurses who work in selected facilities in Kenya. Level 4, 5 and 6 facilities that will form the pool for section of study sites. It is noted that the current number of registered child and maternal nurses working in Nairobi under the public sector are lower than 1000 as registered by the nursing council of Kenya. This had an effect of delimiting the sample size required for this study. This was mitigated by conducting a census; including all maternal & Child nurses found at the selected facilities at the time of data collection.

1.10 Assumptions of the Study

The study assumed that frameworks and theories identified as being used in other countries can be adapted into the Kenyan context appropriately. Another assumption was that the context in which specialized nurses in the public sector and the private sector are similar to some extent.

1.11 Operational Definition of Terms

- Evidence based decision making:

This is a concept that is applied for making the best decisions while applying the best possible evidence available. In this study, it will be seen to be synonymous with evidence informed decision making (EIDM).

- Evidence based practice:

In this study evidence-based practice is using the best evidence available for decision-making while providing efficient and effective care for patients; EBDM and EBP will be seen as complementary concepts named EBDM & P.

- Knowledge:

Facts, evidence, information, and skills acquired through experience or education proving that something is true or valid.

- Explicit knowledge:

In the study, explicit knowledge is knowledge that is easily created, documented, articulated and transferred between people.

- Implicit knowledge:

In this study, implicit will be knowledge that is gained through essential activities that are routinely performed without one's express awareness that learning is occurring.

- Knowledge translation:

A dynamic and iterative process including synthesis, dissemination, exchange and application of knowledge to improve health. In this study it is ensuring stakeholders (including nurses) are aware of and utilize research evidence to inform healthcare decision-making.

- Shared Decision making:

The integrated approach where best research evidence, clinical expertise and patient values are used.

- Specialized nurses

The cadre of specialized nurses in this study were only maternal and child nurses. The two terms were used synonymously in this study.

- Tacit knowledge:

Tacit Knowledge is informally gained knowledge acquired through an individual's direct experience in society. Tacit knowledge can be communicated through performance and imitation.

- Intuition:

The natural ability to recognize something without proof/ evidence that guides a person to act in a certain way.

- Personality:

Patterns of thinking and behaving that evolve from biological and environmental.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter explores the various study variables and their interactions with each other and specifically decision making and Practice which is the dependent variable. Research done in this area are highlighted as a foundation for the current study.

2.2 Evidence Based Decision Making & Practice in Nursing

A crucial factor that determines the effectiveness of the whole (health) system is quality of services delivered more so for nursing who have more interaction with patients. Existing literature on the subject matter of knowledge transfer for EBDM and EBP is presented with the scope of this literature being narrowed down to nurses as health workers specifically working in the public sector.

The use of evidence for decision making and practice, is embodied in the larger concept of knowledge translation (KT). KT aims at reducing the gap that exists between research production (output is evidence) and its users (decision makers and health practitioners including nurses). Ideally, the process of EBDM & P begins with identification of relevant research and ends with evidence informing practice (Harrison & Graham, 2021). This congruence is seen as key towards enhancing health care and improving health outcomes.

The arrival of evidence-based practice, decision-making theories have gained increased importance. Decision making for service delivery involves making the right decision between options to guide practice.

Globally**,** the use of research evidence in nursing practice decision making is accepted as an important skill for healthcare workers and is increasingly becoming part of standards of

practice (American Nurses Association, 2010). The basis for evidence-informed decision making [EIDM] is individual expertise being integrated with research evidence together with patient preferences, clinical context, and resources (Canadian Nurses Association, 2013). It is believed that competency gaps in utilization of evidence exist as well as low implementation are components of EIDM. Hence, EIDM rates still remain low in the nursing profession (Belita et al., 2020).

In nursing in Africa, EBP is in infancy and is seemingly only being encouraged in few countries- Kenya, South Africa, Egypt, Ethiopia, Nigeria, Botswana, Burundi, and Malawi (Labrague, 2019). However even within these countries EBP is still not widely applied; in Nigeria, it is embraced selectively (Adamu & Naidoo, 2015). In Ethiopia, Hadgu et al. 2015 noted that EBP enhances patient care and safety (Hadgu et al., 2015).

Research in this area in Africa as despite global recognition of EBDM as a core professional standard, persistent gaps in knowledge translation and research utilization continue to hinder the integration of evidence into nursing practice—especially within African contexts, where evidence-based practice remains inconsistently applied.

2.3 Intuitive Decision Making & Practice in Nursing

Early studies on intuition and decision making reveal that when dealing with uncertain situations, nurses find intuition valuable to their decision making and practice (Namdar et al., 2024) however, for best patient care, intuition should be combined with evidence (Rew & Barrow, 2007). Decision-making among nurses, when influenced by intuition is based on nursing experiences, recognition of similarities in situations and awareness; therefore seemingly being without rationale (Benner & Tanner, 1987; Corcoran-Perry & Bungert, 1992).

Decision making is not always obvious to the person targeted with the decision. All required information may not be available at the time required to make the decision or may not be with the decision maker; all scenarios that are common in nursing. Hence the preferred use of intuition rather than evidence for decision making. In contrast to Evidence based decision making, Intuitive decision making also defined as a sixth sense, is a mechanism that relies on sub-conscious recognition of experience patterns and associations to make practice decisions (Giulia et al., 2017). However, intuition is more than a "gut feeling", or a "sixth sense"; it is based on knowledge from experiences in patient care, giving it a home next to research-based evidence in decision making (Melin-Johansson et al., 2017; Thusara, 2017). Intuition is therefore a result of complex interactions between attributes such as experience, personality, environment and expertise and has a place beside research-based evidence (Melin-Johansson et al., 2017; Nibbelink & Brewer, 2018).

Intuition has been recognized as an integral part of nursing for years. Globally more recent studies that have studied the use of intuition in nursing include Melin-Johansson et al in 2017 and Sylvie Grosjean et al in 2020. In Ethiopia, Degu et al. (2022) noted that most care given by nursing is grounded on experience, tradition, and intuition, while Adamu and Naidoo (2015) recorded the use of intuition among Nigerian nurses. Again in Ethiopia, Hadgu et al. (2015) noted the use of 'expert opinion' as common nursing. In Kenya Mutisya (2015) reported the use of intuition among Kenyan nurses.

2.3.1 Experience

Intuition is a result of processing information from previous experiences to make a prediction of a new and similar situation. It is more than a 'gut' feeling but encompasses experiences from the past, current as well as incoming sensory information (Corrado, 2018). The reasoning process with intuition is noted to proceed automatically. Intuition acts in the immediate future,

by recognizing patterns from familiar patterns seen in instances utilizing experiential knowledge (Brandenburg & Sachse, 2012; Julmi, 2019).

Repetitive work in the same field of work results in gradual gain of experience which will then become a part of intuition that will be used in making decisions at the workplace. More experienced nurses translate into faster decisions and better results than a novice nurse making similar decisions. Intuition is a commonly used aspect and an important element for nursing practice and valuable skill in a variety of clinical settings mainly due to the ambiguous and complex clinical situations nurses experience (Namdar et al., 2024). .

The differences in using intuition by nurses working in either medical care, progressive care, or critical care has been studied by Miller and Hill in a study of 98 nurses. However, how intuition is used by the nurses in these categories do not differ (Miller & Hill, 2017).

2.3.2 Personality

Decision making in nursing is influenced by environmental factors as well as personal attributes (personality). With Evidence Based Practice being currently prominent in practice, intuition-based practice is becoming somewhat diminished (Thusara, 2017). Studies show that Intuition is additional to a "gut feeling"; being a process based on experience with integration of both analysis and synthesis of intuition alongside objective data when making decisions.

Being aware of the situation which means the individual being able to perceive the environment, comprehend their meanings and be able to project their status in the future (Wise et al., 2016) is important in intuitive decision making. Emotional intelligence being a capability to understand and manage one's own and others' emotions and feelings and among nurses is characterized by high physical connection with patients and the ability to sense, anticipate and address patients' (Dikmen et al., 2017; Nuray et al., 2019).

Emotional intelligence being an important skill that when used well can complement cognitive skills (Karaman et al., 2019; Petrides et al., 2007), is embedded in the complex interplay between intuition and cognitive-based processes (Farčić et al., 2002). Both intuition and emotional intelligence work in similar ways and in the nursing field, merging of intuition and emotional intelligent combines both scientific and artistic aspects of the profession (Nuray et al., 2019).

Different tasks require different modes of thought, people need training so as to be able to more aware of decision-making situations, understand situational cues and avoid biases that may interfere with required decisions. When nurses establish a connection with patients, their use of intuition embraces an ability to read patient's cues and feelings, or as an interest to forge innovation (Thusara, 2017). Expert nurses who have a large knowledge base and experience however, make decisions based on their previous experience (Ibid).

2.4 Factors influencing EBDM & P

There are some factors that have been identified as associated with both EBDM and EBP. Dessie et al. (2020) and Hisham et al. (2016) identified institutional factors as associated with EBP in Ethiopia including leadership, knowledge, skills, and attitudes. Hoyiso et al. (2018) noted organizational factors as key to EBDM & P while Hickey et al. (2018) noted individual factors such as education levels as an influence of EBDM & P.

These findings underscore the importance of examining how institutional support and individual factors, in Kenyan public hospitals influences specialized nurses' decision-making.

2.4.1 Institutional Factors

Organization culture is embodied in the values and visions set by leadership for the institution. This culture guides the collective behavior of employees; in this case it can steer staff towards EBDM & P. Management support, availability of or lack of supervision as well as mentoring

and lack of an institutional research orientation have been seen as organizational factors that are associated with evidence-based decision making and practice among nurses (Alison et al., 2017; Friesen & Comino, 2016).

To drive EBDM & P, it is key that there be a partnership between academic/ researchers and practice settings (Malik et al., 2017). Partnership is critical in the nursing field to enhance skills and capacities for EBDM & P. Bennet et al. (2016) notes that towards building this partnership, the value of research needs to be felt in an organization with commensurate policies and procedures (Ibid). Policies can support the development and use of incentives at the institutional level. According to Malik, incentives are a requirement for developing research skills (Malik et al., 2016) more so among nurses.

The notion of autonomy in nursing, refers to participatory decision-making and the ability to influence nursing practices (Pursio et al., 2021). Autonomy gives the authority to nurses that if required, to change their practices in clinical settings (Leung et al., 2016) and is seen to enhance patient care. The absence of autonomy in nursing leads to doubt. Self-doubt is observed in environments where intellect is needed to succeed; specifically, is seen among nurses who shift their jobs from practice settings to educational settings as well as newly qualified nurses and nurses who advance in the profession (Gill, 2020; John, 2019). Unfortunately, self-doubt which is associated with depression and eventual burnout among nurses has been seen as impacting patient care negatively (Gomez-Morales, 2021). Self-esteem as well as self-confidence have also been associated with self-doubt.

According to Van Oostveen and Vermeulen (2017) the organization is responsible for facilitating nurses to act autonomously. This can be done through formulation of clear roles and responsibilities that can enhance nurses' competence in decision-making and practice.

Research has identified elements that are associated with autonomy and nurses' decision making while fostering nurses' independent decision making in the best interests of patients

(Georgiou et al., 2017; Maharmeh., 2017), enabling independent problem solving and actions (Abdolmaleki et al., 2019; Georgiou et al., 2017), organization of unit processes (Pursio, 2021), control over processes, organizing own schedules and prioritizing, and coordinating patient care (Ibid).

Research infrastructure has been identified as an important factor that supports Evidence based practice among nurses (Shifaza & Hamiduzzaman, 2019). Key infrastructure identified includes finances, administrative support, equipment and software (Alison et al., 2017; Cooke et al., 2016), access to the Internet and education and training in EBP (Duff et al., 2016) together with library resources; journals and databases/ repositories, (Cooke et al., 2016) These when not provided resulted are seen to hinder effective EBDM/ EBP.

Health data should be used to guide decision-making and planning within the health system. More so at the local level. Here the data has been collected, the use of this evidence-based decision making is important. However it has been seen that in practice, access to information is usually not used for decision-making at health institutions whether efficiently or not (Parramore, 2017).

Nurses' access to computers and or smart gadgets has been seen as impeded by the reluctance of nurses to adopt these technologies (specifically iPhones). One the reasons for the reluctance being the patient families' perceiving the nurses as non-professional (Farrell, 2016). Nurses perceive their use of online information as enhancing the quality of care that they give to patients with age and academic qualifications influencing the access of online databases by nurses (Ahmad et al., 2018).

2.4.2 Individual Factors

One of the top barriers to adopting EBP among nurses in Singapore was noted as lack of understanding statistical terms and research jargon that were in articles (Majid et al., 2011). Meanwhile in Nigeria, the English in which [research] articles are written was a barrier to

understanding of an issue. Rated as a high perceived barrier to understanding research was the language used for statistical terms in articles [61.7%] by Aliyu and Naidoo (2015). Majid therefore recommended that an all-inclusive approach for building EBP competencies be developed (Majid et al., 2011).

Understanding key concepts involved in nursing and healthcare research involves better understanding of the research being read to inform practice and to make judgments about quality. Understanding key concepts involved in nursing prepares one to undertake research in work or a course in a study. Nurses who engage with research have learned to ask questions about healthcare provision (Ellis & Standing, 2010).

94% of nurses in the Nigerian study noted they had skills to appraise clinical applicability of evidence material and are able to use information for their individual cases' decision making [91%]. 82.7% noted that they had good skills to determine how close to the truth the evidence was (Aliyu & Naidoo, 2015).

The ability to trace information to guide clinical practice (and decision making) is important for quality in nursing and patient safety. WHO notes that nurses should realize the justification for using EBP and endeavor to develop skills that will facilitate engagement with evidence while applying it to daily practice (WHO, 2017).

The role of nurses in research engagement is perceived to be simply adopting new working practices. However, right from the beginning, it is crucial for nursing students to be able to understand and evaluate current research to support learning (Ellis & Standing, 2010).

While nurses may search generally on the internet (59%), they infrequently go beyond basic individual searches to venture in web-based tools or chatrooms to order to access information. 43% said they started their search with Google; 64% of them reported success in obtaining results using Google. 49% searched using the professional databases CINAHL or MEDLINE,

with a much smaller percentage reporting success in their search (20% and 24% respectively) (Miller et al., 2010).

In a study in Zambia, it was noted that access to data by health staff was through retrieval specifically from Antenatal care records, tally sheets, Population data and outpatient registers (Collins et al., 2015). A study showed that the skills for seeking of information and retrieval of nurses in Iran were poor; there were clear skill gaps in the use of updated IT resources. As a result, in order to access evidence, nurses sometimes resort to human resources. This evidenced that Nurses in a developing country were not prepared to engage with EBP (Jamileh, et al., 2015).

Fifty-six percent of the respondents in a study on health workers indicated that a deficit of research skills was a barrier to evidence used for practice (Ramírez-Vélez, et al., 2015). In Nigeria, 83.5% of nurses responded that they had good research skills while 86.5% had good evidence retrieval skills. 85% had good awareness of major information types and sources (Aliyu & Naidoo, 2015).

Unawareness of evidence-based practice and a deficit of adequate preparation for using research findings were unearthed (Malik et al., 2015), thereby impeding the behavior of applying research findings to practice. Similarly impeding research involvement is the lack of interest of nurses to engage with information (Spenceley et al., 2008).

Nurses in Iran in overall have positive attitudes toward research as well as research-based practice with most of them believing that the use of research findings is necessary; however, translating research findings to nurses' practice and education has been seen as slow and sometimes unsuccessful, hence the findings not been used much in practice (Gawlinski & Becker, 2012; Houlston, 2012; Roberts et al., 2014; Trossman, 2014; Wilkes et al., 2013).

A study in Colombia revealed that initiatives toward EBP of health workers should target practitioner-level factors and not staff with no academic or research tradition or belief. In

order to shift attitudes towards research and development of research skills, health workers need to be provided the opportunity to conduct research (Ramírez-Vélez et al., 2015).

Although nurses were acquainted with EBP, and they had positive attitudes towards it; believing in its contribution in improving care quality and patient outcomes, they perceived their own practice knowledge and skills insufficient for employing EBP, and did not use best evidence in practice (Hannele & SaundersKatri, 2016). Uptake of EBP of nurses in Finnish University hospitals was seen to be low. This uptake being hampered by un-readiness for EBP, partly because of beliefs in clinical nursing practice and their own practice being based on evidence (Ibid).

Unfamiliarity with EBP together with usefulness of research, perceptions and less confidence in EBP knowledge and skills deterred Central Vietnam nurses from implementing EBP (Minh, 2014) while other nurses in Vietnam determined that although they recognized the importance of evidence-based practice (EBP) in improving health, they still found its implementation complex and fraught with challenges because of a lack of organizational support (Ibid).

Closer home in Tanzania, as a result of in insufficient performance of EBP, was blamed on the lack of skills and motivation to use research, and the preference to accessing information through third parties (McCaughan et al., 2002). Nurses rely heavily on knowledge obtained during work, from care of patients, colleagues, and evidence-based protocols (Ibid) and not knowledge obtained from research. Popular means of gathering information and knowledge among nurses is the use of social interaction with more experienced nurses rather than online sources (Gerrish, et al., 2008). To facilitate EBP, training, infrastructure (including stable electricity supply and Internet connectivity), common spaces to be used as computer rooms and a library with updated printed information and books should also be provided in the hospitals. Supervisors do not provide appropriate conditions such as a supportive environment

and staff nurses have insufficient capability for EBP. If their leaders are unaware of the need for EBP, staff nurses may not realize the potential of EBP (Leshabari et al., 2017).

2.5 Barriers to evidence access

In global studies, common barriers to EBDM & P have been noted as the organization, communication, and adoption of research evidence in Saudi Arabia (Alqahtani et al., 2022). In a systematic review of 22 studies from across Europe, Canada, America, Australia and the UK, Mathieson determined barriers as time, organizational infrastructure, and nurses' skills (Mathieson et al., 2019).

Dagne et al. (2021) recorded nurses' attitudes, minimum resources, lack of training, time management and motivation as barriers to the implementation of EBDM & P in Ethiopia. In Egypt, Youssef and colleagues recorded attitudes, knowledge, skills, finding and reviewing evidence as significant barriers (Youseff et al., 2018). In Kenya, Mutisya et al. (2015) concluded that the availability of research reports, inadequate facilities to support research and implications for practice that were not clear as barriers in adoption of EBDM.

2.5.1 Time

Authors found time to be one of the most common barriers implementing EBP (Mclnerney & Suleman, 2010; Solomons & Spross, 2011). Most clinicians more so nurses do not have adequate time to track down all original research articles, read them, and obtain the evidence they need to answer their questions. Systematic reviews which aim to identify, evaluate and summarize the findings of all relevant individual studies over a health-related issue, thereby making the available evidence more accessible to decision makers (Gopalakrishnan & Ganeshkumar, 2013).

As a result of heavy workloads, nurses in Singapore noted that, they cannot keep up to date with new evidence. This hinting at time once again as insufficient for engagement with research (Majid, 2011) and hence being a barrier.

2.5.2 Organizational barriers

Organizations are responsible for facilitating and supporting EBP while changing practices if needed and maintaining a positive culture for EBP (WHO, 2017).

Individual factors and workplace structures both work together to enhance uptake of EBP. 84.6% of nurse respondents in an Iranian study of barriers to the application of evidence to practice noted the lack of adequate facilities to implement the ideas as a key barrier (Bahadori et al., 2016).

As part of quality improvement in health care, research recommends the implementation of EBP (Boaz et al., 2011). Training, information support systems and mechanisms that facilitate learning and that disseminate the best practice at all levels of the organization constitute technical barriers to EBP implementation.

The cultural dimension of barriers to EBP refers to beliefs, values, norms and behaviors of an organization that either inhibit or support Continuous Quality Improvement in healthcare (Mia & Karin, 2016).

2.5.3 Structural barriers

In the clinical setting when faced with decisions health workers traditionally turn to books which could be availed through physical libraries. Hospital libraries can play a dynamic role in the development of information literacy skills among nurses (Majid et al., 2011). With this digital era, the role played by physical public libraries in providing an array of information is changing.

Recently, medical informatics has provided easy access to latest medical information (Weng et al., 2013). This is seen through the internet which presents a virtual library; probably now the first place one turns to when looking for information more so research. Enhanced clinical

decision making can be assisted by availability of internet at the point of care in common and uncommon conditions (Bhargava et al., 2010) hence the need to invest in electronic libraries to improve access to research evidence (Grimshaw et al., 2012).

Internet-based resources available include electronic books, Web portals, electronic journals and online databases (Folb et al., 2011). A study conducted in Taiwan highlighted the Internet as a key source of medical information for healthcare workers as internet use was correlated with users' characteristics such as age, faculty position and academic degree for nurses (Weng et al., 2013).

Literature shows that nursing care decisions should be based on best practice evidence from peer-reviewed research literature (Miller et al., 2010). In a study by Ramírez-Vélez et al. (2015), 20.5% of respondents noted lack of information resources as a barrier to the use of evidence in clinical practice.

2.6 EBDM & P

2.6.1 Patient outcomes

The application of EBDM in the nursing profession has been conceptualized as Evidence Based Practice (EBP). First conceptualized by Sackett in 1996, this emphasis on evidence use in health care integrates information from 4 sources; latest research, patient values, clinical experience and practice contexts to bridge the gap between what practitioners know and what is done while reducing healthcare costs (Sackett et al., 2996).

Specific patient outcomes that have been seen to be impacted by EBP include positive impacts on pain management, use of urinary catheters, pressure ulcers, hospital stay, number of calls to outpatient orthopedic clinic, infection rate of dialysis catheters, rates of infections in relation to central line while in neonatal intensive care units (NICU), health care cost, anxiety of

patients, rates of aspiration pneumonia, the rates of ventilator-associated pneumonia, symptom management, hospitalization time, and patient satisfaction (Wu et al., 2018).

2.6.2 Job satisfaction

Quality care can be achieved by the application of EBP (Dagne et al., 2021). A qualitative study conducted in Malawi noted that decision-making capacities among nurses was developed through EBP, this facilitated the provision of the best nursing care (Chiwaula & Jere, 2022; Jylha et al., 2017) and hence job satisfaction among nurses.

Several authors note that EBP mentorship can result in higher job satisfaction (Kim et al., 2016; Melnyk et al., 2021; Tomic, 2017). Although few studies have assessed the associations between EBM and job satisfaction among nurses, the relationship is seen to be indirect in impacting job satisfaction; rather the improvement in quality of care that results from EBP is what leads to job satisfaction among nurses (Kang, 2016). Authors have therefore noted the need for more studies to investigate if long-term implementation of EBP interventions improve job satisfaction of nurses (Ibid).

2.6.3 Confidence in decision making

Self-confidence is a feeling of guarantee of oneself and one's ability and skills to organize and execute actions. These are needed to reach objectives while anticipating the determination and attitude needed to overcome obstacles and failures in practice (Beatriz et al., 2019). Developing the self-confidence of nurses is therefore important in promoting effective decision-making. The level of confidence in decision making among nurses has been seen to be moderated by experience where newly recruited nurses were seen to exhibit less self-confidence on their decision-making abilities (Ibid).

A study done among general managers on the influence of confidence on the use of intuition determined that possession of a set of traits by an individual that includes self-confidence as a predictor of the rate of intuition use in decision-making. According to the study, and that these traits are characteristic of intuitive decision making (Kamila, 2018).

Evidence based decision making among nurses has been seen to enable nurses remain relevant with emerging practices. This boosts their decision-making skills and in turn increases their confidence (Hohman, 2019). A study that compared confidence of nurses and doctors on the knowledge they had for dealing with situations, revealed doctors as more confident in their professional knowledge than nurses, however this is seen to lead to doctors' overconfidence (Westbrook et al., 2015) the opposite could be said for nurses.

2.7 Conclusion

With an average population growth of 1 million per year, Kenya's estimated population is 46 million. It is estimated that by 2020 Kenya will have a population of over 50 million people (Embassy of the Kingdom of the Netherlands in Nairobi, 2016). The demand for quality services in the public sector; providing the greatest health services and employing most of the health workers can only rise.

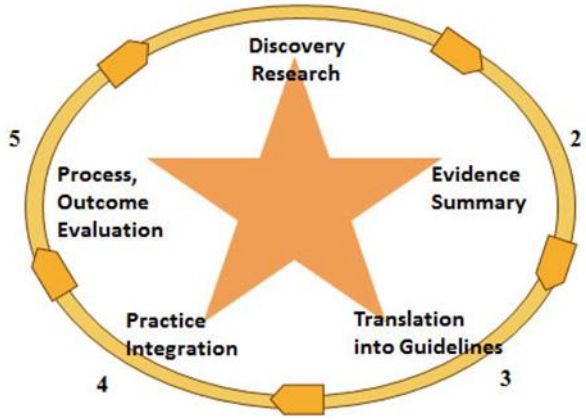
A small but growing body of research are focusing on Evidence based practice among nursing staff, however this research is focused in Developed countries. Hence indications are additional research is needed to further investigate nurses' clinical decision making in developing countries and specifically the public sector. Encouraging and building evidence-based practices will go a long way towards strengthening the health system for improved service delivery.

2.8 Theoretical Framework

Theoretical frameworks guide design and execution of approaches that aim at strengthening evidence-based decision making. The ACE Star Model of Knowledge Transformation/ Translation will be used in this study (Stevens, 2013). Using 5 phases, the model recognizes various resources to enhance evidence use for decision making, identifies these resources for in each phase and outlines what things will be measured, and what statistical relationships to look for within the variables while highlighting barriers associated with moving evidence into practice while incorporating solutions grounded in EBP. The fulfilment of the cycle will be hinged on overcoming the barriers to use of evidence as well as strengthening of individual and institutional capacities; in this study called factors. (Stevens, 2013).

Figure 2:1:

The ACE Star Model of Knowledge Transformation.

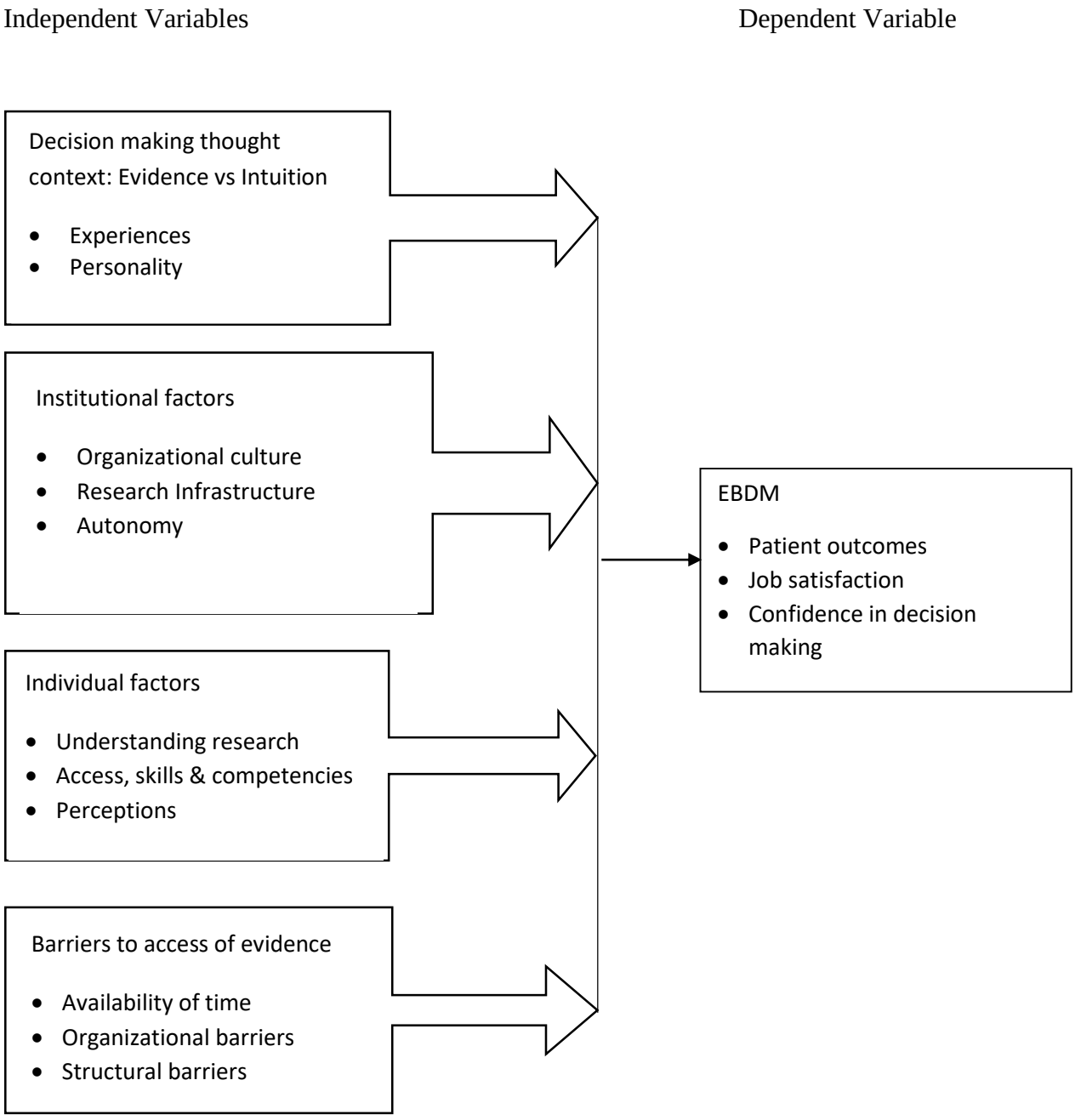


Source: Copyright Stevens 2013

2.9 Conceptual Framework

Figure 2.2:

Study Conceptual framework



Source: Researchers own

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter elucidated the methods that will be used in the study to sample and determine respondents, to collect data, manage it as well as analysis platforms. Ethical issues are also dealt with in this chapter and well as presentation of the work plan and budget to include the budget justification.

3.2 Research Design

The complete study took a Concurrent nested mixed methods design whereby the quantitative (QUANT) phase was Exploratory, being the primary and dormant phase of the study. The Qualitative (Qual) phase which was phenomenological was embedded within. The QUANT phase collected data for objectives 1, 2, 3 and 4. Qual data was collected to partly address objectives 1 and 4. Mixed methods designs involve (Creswell, 2009) research involving collection, analysis and interpretation of both QUANT and Qual data in a single study or in a series of studies while investigating the same phenomenon"; conducting a study that 'mixes' qualitative and quantitative approaches across study components. (Leech & Onwuegbuzie, 2009). Mixed methods enabled the complex phenomenon of Decision making be studied in 'an in-depth, multilayered and multipart study' so as to explain and go towards expanding the understanding of the phenomenon in the Kenyan context. The 'mixing' was both by the use of mixed data collection approaches as well as mixed analysis.

3.1.1 QUANT Phase

The design used in response to the objectives was cross sectional in nature.

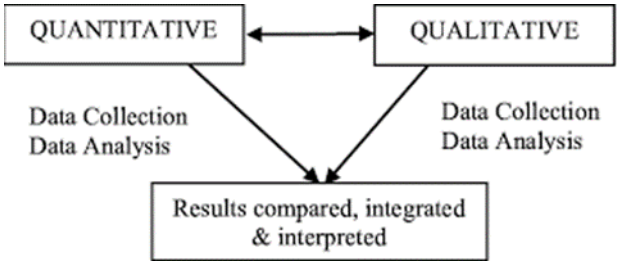
3.1.2 Qual phase

The qualitative approach took the form of grounded theory in part response to Specific Objectives 1 and 4 applying the ACE star theory. This method was used because the study

attempted to move beyond description of the factors associated with decision making, the realms of decision making and the challenges in applying evidence to decision making & practice among maternal and child nurses, but also explore in-depth the experiences or otherwise and perceptions of nurses with research and decision making.

Figure 3.1:

Concurrent Triangulation Mixed Methods study design



Source: Creswell et al. (2003)

3.3 Study Site

The study was carried out in Nairobi County, the capital city of Kenya. It has a population of 4,397,073 people according to census data from 2019 Kenya National Bureau of Standards.

The health system in Nairobi is divided into 6 levels. The specialized maternal and child services are offered at levels 4, 5 and 6 of the system. It is among these that the sample respondents was drawn. Kenyatta National Hospital, Mbagathi hospital, Pumwani hospital and Mama Lucy Kibaki hospitals were identified.

3.4 Target Population

3.4.1 QUANT Phase

This phase of the study had a target population of maternal and child health nurses working in reproductive wards in the selected facilities. All the nurses found to be working in the facility at the time of the study visit were invited to be respondents in the study. The target of 51 respondents was achieved as follows:

Table 3.1:

Study Site and Sample Distribution

FACILITY	TARGET POPULATION	ACHIEVED

`

Kenyatta National Hospital	All available	24
Mbagathi District Hospital	All available	6
Pumwani Maternity Hospital	All available	11
Mama Lucy Kibaki Hospital	All available	10
TOTAL	All available	51

3.4.2 Qual Phase

The target population in this phase was nursing heads or section heads in the wards of the same facilities.

3.5 Sampling Procedures

The sampling procedure was a census as the population was a finite population with both quant and qual populations being the same.

3.5.1 QUANT phase

A formula that enabling gauging the average interaction of nurses with research was used (Charan et al., 2013) to determine minimum sample size requirements. The formula used to calculate was

$$N = \frac{Z_{1-\alpha/2}^{2}\, SD^{2}}{d^{2}}$$

where

N - The desired sample size (assuming the population is greater than 10,000)

Z - The standard normal deviation, set at 1.96, which corresponds to 95% confidence level

SD – Standard deviation. Percentage of nurses able to apply Research for EBDM & P are unknown therefore 50% will be assumed

d = Margin of error (absolute precision) will be set at 5%

In substitution, $n = \frac{1.96^2 \times 50^2}{5^2}$

$= 384.16$

To cater for non-response a rate of 5% was to be added, hence a minimal sample size of 403 was determined. However since the currently registered reproductive nurses working in the selected facilities are less than 1000 in population, for the four facilities, a census was therefore carried out where all nurses available in the facility at the study site visit were recruited. The census managed 51 respondents.

3.5.2 Qual phase

For qualitative phase of the study, 2 key informants' interviews were conducted from 2 facilities. This was adequate to reach saturation point. This sample was purposively selected and recruited at their convenience.

3.6 Instrumentation

3.6.1 QUANT phase

Phase I utilized a structured questionnaire with 5-point Likert scale type questions to gather information. To ensure quality and validity of the study tools, a pre-test was conducted.

3.6.2 Qual phase

A key informant interview guide was developed and used to collect data from Key informant interviews (KIIs) for in-depth information.

3.7 Data Collection

3.7.1 QUANT phase

This phase collected primary data using self-administered questionnaires. For testing the tool for internal consistency, Cronchbach alpha was used. A figure of $\alpha < 0.7$ was considered acceptable. On computation of secondary variables, six single items were used to measure the nurses' practice on EBDM. The items responses were in form of a five-point Likert scale response format (1 = strongly agree, 2 = slightly agree, 3 = Neutral, 4 = slightly disagree, 5 = strongly disagree). The scores for the six items were summed up and those with scores below median were classified as having high level EBDM utilization and those with median and above scores as having Low level EBDM utilization.

Evidence vs intuition (7 items), Institutional factors (9 items), Individual factors (6 items), Barriers to access (5 items): The items responses were in form of a five-point Likert scale response format (1 = strongly agree, 2 = slightly agree, 3 = Neutral, 4 = slightly disagree, 5 = strongly disagree). The scores for each factor items were summed up and analyzed as continuous variables.

3.7.2 Qual phase

KIIs were carried out using one on one interviews with nurse section heads in the selected facilities and supervisors. All interviews were audio taped and informed consent was sought. Interview notes were also taken.

3.8 Data Analysis

3.8.1 QUANT Phase

Statistical Data analysis was carried out using SPSS version 22 statistical software. Exploratory data analysis (EDA) was employed at the initial stage of analysis to identify the normal distribution of variables, missing data, and extreme outliers. At bivariate level analysis, demographic characteristics (Sex, Marital status, Education level, Employment duration in same position & Monthly income) were assessed for association with EBDM utilization using Chi-square test. For continuous variables (Age, Evidence vs intuition, Institutional, Individual & Barriers to access factors) were assessed for association with EBDM utilization using Mann-Whitney U test. All variables with a P-value < 0.25 in the bivariate analysis were subjected to multivariate analysis to control confounding effects and identify Low EBDM utilization correlates using multivariable binary logistic regression (backward LR) analysis. Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CIs), were used to evaluate the strength of statistical association between dependent and independent variables. All tests were two-

sided, and variables with P-values <0.05 in the analysis were considered statistically significant. Results are presented in frequency and distribution tables.

3.8.2 Qual phase

Interviews were transcribed and translated for manual analysis thematically. Results were presented in narratives and or in textural descriptions.

3.9 Ethical Considerations

Ethical considerations are standards set to guide the conduct of investigators during research processes in-order to protect human subjects from harm. The study was presented to and approved by the research review board of the university prior to being conducted to ensure that the elements conform to elements of good practice of research. This study was given the number KeMU/ISERC/HSM/27/2023. Any other required permission or permit including NACOSTI and institutional permissions were acquired. NACOSTI permit reference number NACOSTI/P/23/3294. No invasive procedures were used, hence minimal risk was anticipated. All information given was kept confidential by the Principle Investigator. All participants signed an informed consent form to ensure voluntariness in the study, not coercion. This form gave all details of the study including general study information, procedures, investigators and their contacts as well as participant rights and study opt out were given.

CHAPTER 4: RESULTS & DISCUSSIONS

4.1 Introduction

This study aimed to examine factors influencing evidence-based decision-making and practice (EBDM&P) among maternal and child health nurses in selected Nairobi health facilities. Specifically, it explored the roles of intuition versus evidence, institutional and individual influences, and barriers to accessing evidence. This chapter presents the study's quantitative and qualitative findings, analyzed through univariate, bivariate, multivariate, and thematic approaches.

It is noted that decision-making in nursing practice is a complex process. According to Tummers et al. (2002) and Bjørk and Hamilton (2011), nurses' decision-making varies significantly based on the nurse practice context. Understanding of nurse decision-making in the maternal & child health environment using structured interviews was therefore essential for the study so as to enhance positive patient outcomes (Bjørk & Hamilton 2011; Tummers et al. 2002).

4.2 Response Rate

The respondents in this study were specialized nurses who are working in reproductive health clinics. These clinics included maternal heath, child and neonatal wards. All the nurses found at the duty stations during the visits were invited into the study and agreed to and completed the questionnaires. As the study quantitative aspects applied a census, the response rate is reported as 100%.

4.3 Statistical analysis

Data analysis was carried out using SPSS version 22 statistical software. The dependent variable EBDM was considered as binary, hence, Correlations, regression, and interaction tests were applied to examine relationships and moderating effects, ensuring coherence between the

conceptual framework and statistical analysis. This structured approach ensured alignment between the conceptual framework, hypotheses, and statistical testing.

Exploratory data analysis (EDA) was employed at the initial stage of analysis to identify the normal distribution of continuous variables, missing data, and extreme outliers. At bivariate level analysis, demographic characteristics (Sex, Marital status, Education level, Employment duration in same position & Monthly income) were assessed for association with EBDM utilization using Chi-square test or Fisher's Exact Test where applicable. For continuous variables, age was assessed for association with EBDM utilization using Mann-Whitney U test. All variables with a P-value < 0.25 in the bivariate analysis were subjected to multivariate analysis to control confounding effects and identify EBDM utilization levels (low/ High) correlates using multivariable binary logistic regression (backward LR) analysis. Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CIs), were used to evaluate the strength of statistical association between dependent and independent variables. All tests were two-sided, and variables with P-values <0.05 in the analysis were considered statistically significant.

4.4 Questionnaire reliability test

The Cronbach's Alpha reliability test was used to ascertain the internal consistency and reliability of the quantitative research instrument as a whole. The test revealed a coefficient of 0.8774. As an alpha measure of $0.8 \leq \alpha < 0.9$ was predetermined as acceptable, a test result of 0.8774 was realized, which was considered acceptable.

4.5 Qualitative results

These themes reflect the various aspects of healthcare practice and research discussed in the interview, highlighting both challenges and strategies for improvement. Common themes that emerged from both transcripts were a common focus on the integration of evidence-based

practices with practical experience, the importance of collaboration and continuous education, and the challenges faced by nurses in implementing these practices

Table 4.1

Qualitative results

THEME	SUB THEME		REPRESENTATIVE QUOTES	
			Respondent 1	**Respondent 2**
Evidence-Based Practice and Decision-Making	Knowledge	There is emphasis on the importance of using evidence-based practices in nursing.	"... Yes something showing that this is what is supposed to be done. .... Those are evidence-based and have been proven that they work?"	"According to my understanding this concept is about using evidence in making decisions to improve patients care. These are normally used in work improvement teams."
	Examples of EBDM tools	They discuss the use of protocols, guidelines, and tools developed from evidence-based research to improve patient care	Evidence-based we use SOPs..... We use ... protocols we use comprehensive neonatal booklets which we refer if it is a given condition you want to manage; how are we doing	"..... through the automated tools which in our case is a kathograph and be able to intervene and act" " We have come up with simplified tools for PPH managing PPH which are easier to follow than the IEC materials which are able to guide on the outcome on the procedure to be followed in case

				of such emergencies"
	EBP	SOPs and protocols are adapted from WHO guidelines to local settings is crucial for neonatal care and integrated for evidence-based decision-making into neonatal nursing and other healthcare practices	"its important to provide patients and their families with clear information and involving them in the care process to ensure better outcomes and satisfaction."	"The concept of evidence-based practice is about using evidence in making decisions to improve patient care. For instance, in maternal health, we use tools like the kartograph to monitor labor and make informed decisions based on established protocols and guidelines"
Intuition and Experience in Nursing	Use of Intuition	The interviewees acknowledge that while evidence-based practices are crucial, intuition and experience also play a significant role in decision-making, especially in high-pressure or resource-limited situations.	"I would go with the intuition because sometimes it's an emergency. In an emergency situation, you're able to assess a mother or a baby who need urgent intervention. When you're alone they're relying on you especially if you're a team leader they're relying on you to make decisions "	"At times you require to use intuition... When there is a shortage of staff or when the doctor isn' t there. You are able to use intuition to guide and be able to recognize a problem earlier so that you can intervene."
Challenges in Implementing Evidence-Based Practices	• staffing • time constraints • need for continuous training and education • balancing workload with staying	Both interviews discuss challenges to implement evidence-based practices effectively.	"Staffing issues is another one... Especially during that time of induction it's low. And that is where I know you find the problems. You need a strong	"The challenge one of them is availability of the doctors. Staffing issues is another one.... especially the team there is high turnover of staffing in the

	updated on the latest research.		person to make decisions especially as a team leader. There is none because of the shortage of the staffs. So you find it a bit difficult to coordinate care during that time"	whole hospital. Let's say the whole hospital" "I didn't like research when I was in school. I see it and I pass it then put it aside. its so complicated" " We have many patients and there's no time to teach so u learn as you continue with work."
Multidisciplinary Collaboration		Collaboration among different healthcare professionals is a recurring theme. High levels of collaboration between nurses, doctors, and consultants are necessary, though challenges remain due to differing attitudes and behaviors.	"based protocols from WHO and some we sit with multidisciplinary team from consultants consultant neonatalists MOs COs nurses; we come up with SOPs how are conditions meant to be managed?"	"From that angle with the evidence you can be able to coordinate care with other cadres within the departments so that you can improve the outcome."
Support for Professional Development	• Enabling factors • Barrier factors	Highlight the support provided by hospitals for the professional development of nurses, including access to education, study leave, and resources like libraries and computers. However,	"There is a fully-fledged unit within the nursing department which deals with CME continuous medical education and students. So there are schedules like now which is	"Need to strengthen systems and a lot of training like the continuous medical education to be done on a regular basis rather than waiting would improve patient care. The

		financial constraints and workload	ongoing. There are trainings which are ongoing to improve patient's care if there's a need."	challenges of this is the logistics in planning for workshops education programs ... If there is facilitation to do those"
Challenges in doing Research	• Complexity • Lack of Support • Interest • Motivation	Research is perceived as complicated and stressful, often disliked by practitioners during their studies, a need for better support in understanding and conducting research, as many feel they have to struggle on their own The drive for professional development varies among individuals, influenced by personal motivation and the support	"If there is that positive attitude from my employer, it' ll drive more nurses to say if I go study more which means I am capacity building myself, I move to this level and given this rank, this work to do then it'll create a motivational impression on nurses and the will move" "If one wants to study, we have the library in the school as the school is part of the hospital"	"You will find one who is in the field of nursing recently, few years but has interest. So one has, the other doesn't have interest (in training) so it' ll depend on individual and what is driving the individual" "CME room. Okay. It has the infrastructure. That's a department in itself."
Continuous learning		Continuous training, especially in critical skills like neonatal resuscitation, is necessary for both nurses and doctors with the institution providing infrastructure, opportunities for education, and	"There are trainings which are ongoing to improve patient's care if there's a need. So, basically, I would say there is improvement, there is support from management, because the participants of	" If there is that positive attitude from my employer..... it'll create a motivational impression on nurses and the will move'

	study leave is crucial for professional growth	those CMEs, those training opportunities."

4.6 Quantitative results & discussions

Six single items were used to measure the nurses' practice on EBDM. The items responses were in form of a five-point Likert scale response format (1 = strongly agree, 2 = slightly agree, 3 = Neutral, 4 = slightly disagree, 5 = strongly disagree). The scores for the six items were summed in accordance with Alkharusi (2022). Those with scores below median were classified as having high level EBDM utilization while those with median and above scores as having Low level EBDM utilization (Ayalew et al., 2019).

Evidence vs intuition was measured by 7 items; Institutional factors 9 items; Individual factors 6 items; and Barriers to access 5 items; (see Annex 1). Item responses for the various factors were in form of a five-point Likert scale format with the options of 1 = strongly agree, 2 = slightly agree, 3 = Neutral, 4 = slightly disagree, 5 = strongly disagree. The five point Likert scale responses were transformed into: - Yes = strongly & slightly agree and No = Neutral, slightly disagree & strongly disagree. The collapsing of the scale served to reduce overwhelming respondents and causing confusion due to too many oversimplified response options. The combination of these options which are actually conceptually similar, was a means of reducing the complexity of the data during analysis. According to Tabachnick and Fidell (2019), if certain response options are conceptually similar and combining them does not result in the loss of meaningful information, then collapsing like explained for the above reasons is justified.

4.6.1 Social Demographic results

Analysis of social demographics was done through Univariate analysis and presented in tables as below. A total of 51 nurses (72.5% Females & 27.5% Males), participated in the study.

Their age ranged from 25 to 58 years with a median of 30 years and Interquartile range (IQR) 28 – 38 years. Majority 64.7% were married and slightly over three quarters (76.5%) were Diploma holders & below, as shown in the Table 4.2

Table 4.2

Distribution of Social demographic characteristics (n=51)

Variable	Category	Frequency	Percent
Sex	Male	14	27.5
	Female	37	72.5
Marital Status	Not married	18	35.3
	Married	33	64.7
Education level	Diploma holder & below	39	76.5
	Basic degree holder	12	23.5
Employment duration same position	Less than 5 years	31	60.8
	6 years and above	20	39.2
Monthly income	Kes 50,000 & below	14	27.5
	Between Kes51,000 & Kes80,000	22	43.1
	Above Kes 81,000	15	29.4

4.6.2 Dependent variable (DV) results

The dependent variable for the study was Evidence Based Decision Making (EBDM) utilization. In determining EBDM utilization, the following 6 indicators were accessed.

3.1 - The care that I give have an impact on patient outcomes

3.2 - The care I give my patients are based on evidence

3.3 - I feel satisfied with my job when my patients have positive outcomes from my care

3.4 - The support for decision making I get from the use of evidence reduces fatigue and burnout

3.5 - I am confident in my care abilities when my decisions and practice are evidence based.

3.6 - I am confident of my knowledge in dealing with patient situation

Distribution of responses to the items is shown in Table 4.3

Table 4.3

Distribution of responses to the questions determining indicators.

Item	N	Responses				
		Strongly agree, %	Slightly agree, %	Neutral, %	Slightly disagree, %	Strongly disagree, %
3.1	51	76.5	5.9	9.8	2.0	5.9
3.2	51	60.8	19.6	19.6	0	0
3.3	51	82.4	5.9	9.8	0	2.0
3.4	51	45.1	19.6	25.5	7.8	2.0
3.5	51	68.6	11.8	17.6	2.0	0
3.6	51	58.8	9.8	25.5	3.9	2.0

Six single items were used to measure the nurses' practice on EBDM. The items responses were in form of a five-point Likert scale response format which were given scores as follows: 1 = strongly agree, 2 = slightly agree, 3 = Neutral, 4 = slightly disagree and 5 = strongly disagree. Summing up the scores for each nurse Hussain (2022) gave a range from minimum score of 6 to a maximum score of 22, the summed scores were treated as a continuous variable and since they were not normally distributed, the median and interquartile range (IQR) was used as a measure of central tendency and dispersion. The median of summed scores was 9 with a lower IQR of 7 and an upper IQR of 11.5 scores. The summed scores were further classified into High level (scores below median) EBDM users (23 (45.1%) and Low level (median and above scores) EBDM users 28 (54.9%), (Getenet et al., 2019).

Results of the study shows that respondents have basic knowledge of the use of evidence in patient care and how to implement it. For item 3.4 and 3.6, a significant number (25.5%) were neutral in their responses. Reasons for being neutral could be lack of understanding of the subject matter and or ambivalence of the discussion matter, alluding to inexperience of the respondents.

Social Demographic factors association with EBDM & P

At bivariate level analysis, Marital status and Education level met criteria of inclusion into multivariate analysis ($p<0.25$) and were subjected to multivariable binary logistic regression

`

analysis. Multivariate analysis for EBDM & P and social demographic factors' results indicate logistic regression generated a valid overall model as Hosmer-Lemeshow Goodness-of-Fit (GOF) test was not statistically significant ($\chi 2$ (0) = 0; p >0.05). The model explained 24.5% (Nagelkerke R^2) of the variance in EBDM & P and correctly classified 70.6% of the cases overall. The results identified both marital status and education as independently having significant association with EBDM & P after they were retained in the model using backward elimination method, Table 4.4. The odds of having low level EBDM utilization was lower 0.163 for married as compared to being not married and was statistically significant (p=0.01). The Basic degree holders had 4.62 higher odds of having low level EBDM utilization compared to Diploma holders & below though marginally significant (0.054).

Table 4.4

Demographic factors associated with nurses' level of EBDM utilization (N=51)

Characteristic/Factor	EBDM utilization (N=51)				Parameter Estimates			
	High level N=23		Low level N=28		Chi-square P-value	AOR#	95% CI*		P-value
	n	%	n	%			Lower	Upper	
Sex									
Male**	21.7		32.1		0.407				
Female	78.3		67.9						
Marital status									
Not married**	17.4		50.0		0.015	1			
Married	82.6		50.0			0.163	0.041	0.648	0.010
Education level									
Diploma holder & below**	87.0		67.9		0.110	1			
Basic degree holder	13.0		32.1			4.616	0.975	21.846	0.054
Employment duration									
Less than 5 years**	60.9		60.7		0.991				
6 years and above	39.1		39.3						
Monthly income									
Kes 50,000 & below**	30.4		25.0		0.863				
Between Kes 51,000 & Kes 80,000	43.5		42.9						
Above Kes 81,000	26.1		32.1						
Age and Factor scores	Median (IQR)@		Median (IQR)@						
Age last birthday in years	30 (29-35)		30 (28-41)		0.731				

#AOR – Adjusted Odds Ratio; *95%CI – 95% Confidence Interval; **- Reference category; @- Interquartile range (IQR)

4.7 Objective 1 results & discussions: Evidence vs Intuition

The first objective was 'To assess the level of influence of intuition and evidence thought paradigms.....' In order to do so, the questionnaire measured indicators using the questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7 (List of questions attached as Annex 1V)

Evidence vs intuition items distribution

All items under evidence vs intuition had yes responses over 50% and ranged from 56.8% for item 2.6 to 72.5% for items 2.1 and 2.3, Table 4.5.

Table 4.5

Evidence vs intuition responses distribution (N=51)

Item	Evidence vs intuition responses			
	Yes		No	
	n	%	n	%
2.1	37	72.5	14	27.5
2.2	39	76.4	12	23.6
2.3	37	72.5	14	27.5
2.4	32	62.8	19	37.2
2.5	36	70.5	15	29.5
2.6	29	56.8	22	43.2
2.7	32	62.7	19	37.3

Evidence vs intuition factors associated with EBDM

In order to compare the odds of being in one category versus another category the reference category was determined as 'Yes' for all the variables. Based on this, questions 2.2, 2.5 and 2.7 from evidence vs intuition factors section met criteria of inclusion into multivariate analysis ($p<0.25$). Multivariate analysis for EBDM and evidence vs intuition factors' results indicate logistic regression generated a valid overall model as Hosmer-Lemeshow Goodness-of-Fit (GOF) test was not statistically significant ($\chi 2$ (4) = 3.875; p=0.423). The model explained 18.1% (Nagelkerke R^2) of the variance in EBDM and correctly classified 66.7% of the cases overall. The results of binary logistic regression identified item 2.7 as independently

having significant association with EBDM after it was retained in the model using backward elimination method. Only item 2.7 showed significant association with EBDM with No having 5.48 higher odds (p=0.011) of low level EBDM utilization compared to Yes category, Table 4.6.

Table 4.6

Evidence vs intuition factors associated with nurses' level of EBDM utilization (N=51)

Evidence vs intuition factors	EBDM utilization (N=51)						Parameter Estimates			
	High level N=23		Low level N=28		Chi-square	P-value	AOR#	95% CI*		P-value
	n	%	n	%				Lower	Upper	
Item 2.1										
Yes**	16	69.6	21	75.0	0.187	0.665				
No	7	30.4	7	25.0						
Item 2.2										
Yes**	20	87.0	19	67.9	2.560	0.110	1			
No	3	13.0	9	32.1			2.792	0.601	12.975	0.190
Item 2.3										
Yes**	18	78.3	19	67.9	0.686	0.407				
No	5	21.7	9	32.1						
Item 2.4										
Yes**	16	69.6	16	57.1	0.834	0.361				
No	7	30.4	12	42.9						
Item 2.5										
Yes**	19	82.6	17	60.7	2.916	0.088	1			
No	4	17.4	11	39.3			1.217	0.240	6.161	0.812
Item 2.6										
Yes**	13	56.5	16	57.1	0.002	0.964				
No	10	43.5	12	42.9						
Item 2.7										
Yes**	19	82.6	13	46.4	7.071	0.008	1			
No	4	17.4	15	53.6			5.481	1.480	20.297	0.011

#AOR – Adjusted Odds Ratio; *95%CI – 95% Confidence Interval; **- Reference category

Using evidence to inform clinical decision-making is seen to improve patient care. This by preventing complications hence reducing health care costs, while keeping health care practices relevant and adapting best practices (Lu, 2023). The results of the study concurs with the literature as majority of the nurses agreed with the indicators for EBDM and its ability to enhance patient care.

Intuition has been considered the “art of nursing” or “aesthetic knowing”, and “tacit knowledge” or “personal knowing”; a “gut feeling” (Hassani, et al., 2016; Pearson, 2013); ‘going beyond merely a lack of analysis and including an experienced decision-makers’ depth of knowledge for facilitating an ability to predict circumstances effectively (Hamm, 1988). According to Hamm, traditional education of medical students involves teaching a systematic approach to decision-making, alluding to use of evidence. Experienced decision-makers (including nurses), however appear to make decisions without obviously following a formal decision-making procedure ie Intuition (Ibid).

The significance of ‘being connected to the patients’ indicates the development of intuition among nurses. Intuition allows them to pick up on subtle cues and subtle changes in a patient's behavior or condition beyond just clinical data.

In the nursing profession, there are unconscious processes that facilitate their decision-making. These unconscious processes are largely based on experience (Nibbelink & Brewer, 2018). Both experience and intuition have been studied as ingredients for nurses’ decision making (Ibid). In this study the thought paradigm that emerged as a significant issue in utilization of EBDM a with a p value of 0.039 was intuition, meaning that it contributes majorly towards the use of EBDM the effect being unlikely to have occurred by chance. Majority; 85.7% of respondents in the study were seen to apply intuition rather than evidence in decision making in the practical situation of patient care, however some preferred evidence use and advocated for the same. This shows a combination of the two thought paradigms.

> *‘I would go with the intuition because sometimes it's an emergency.’ (KII respondent)*
>
> *‘At times you require to use intuition... When there is a shortage of staff or when the doctor isn’t there.’ (KII respondent)*

The combination of intuitive and analytical (evidence-based) approaches has been observed in literature as enabling medical decision-makers, with varying levels of experience, to make

decisions in a variety of situations with differing contextual features. (Nibbelink & Brewer, 2018).

According to literature, use of Intuition is associated with increased age and experience among nurses (Karki et al., 2018). Intuitive nurse decision-making is based on years of experience and includes recognition of similarities between patient care situations, awareness developed over time, and a process that may appear to be without rationale. Nurses with more experience prefer using intuition in their practice as Intuition provided a confidence in nursing skills, employs new nursing practice methods, as well as a feeling of connection with patients (Pretz & Folse, 2011). However the majority of respondents who preferred intuition in the study were of lower age and years of experience. This presents a contradiction with literature begging further investigation. Similarly, Parker, 2014, reveals a contrast is seen where older age and longer experience was correlated with evidence based decision making among decision makers (Parker, 2014).

Qualitatively, respondents agreed on the importance of intuition further going on to correlate use of intuition with staffing constraints.

> *'The challenge one of them is availability of the doctors. Staffing issues is another one...' (KII respondent).*

In a study conducted by Hassani in 2016, it was noted that nearly all the nurses in that study indicated that their intuition inspired them to re-assess the prognosis of patients, to that of poor conditions; conditions that were previously not detected by typical physical examinations and laboratory findings (Hassani et al., 2016). Similarly in this study, nurses felt connected with their patients whereby majority (62.8%) gave a Yes response that they were connected with their patients again alluding to the relying on Intuition.

As majority of respondents alluded to reliance on Intuition, so did they also give a Yes response that the use of intuition boosted their confidence in their patient care. Similarly,

Intuitive nurses have been characterized by their confidence in intuition, and willingness to take unconventional approaches to problem-solving Karki et al., (2018), more so in the complex environment of clinical care. Confidence which is developed with time just like experience is vital in the nursing profession for building of trust with patents and their families; trust that the patient is being given utmost care, avoidance of self-doubt and eventually positive patient outcomes (Abdelkader, 2021).

In response to earlier research question 'What is predominantly used by specialized nurses when making decisions for service delivery; intuition or evidence?' and objective of 'Assessing the level of influence of intuition vs evidence thought paradigms in EBDM & P among nurses in selected facilities in Nairobi' it emerged that Intuition is the most applied thought paradigm among reproductive nurses working in the level 4, 5 and 6 in Nairobi.

4.8 Objective 2 results & discussions: Institutional factors

The second objective of this study was 'To determine the influence of the institution-related factors on the utilization of evidence for EBDM & P'. For institutional factors, majority had Yes response on the indicator in question; 2.12 (60.8%). Other items with Yes responses above 50% were 2.16 and 2.10, Table 4.7.

Table 4.7

Institutional factors responses distribution (N=51)

Item	Institutional factors responses			
	Yes		No	
	n	%	N	%
2.8	23	45.1	28	54.9
2.9	15	29.4	36	70.6
2.10	29	56.9	22	43.1
2.11	21	41.2	30	58.8
2.12	31	60.8	20	39.2
2.13	23	45.1	28	54.9
2.14	18	35.3	33	64.7
2.15	20	39.2	31	60.8

`

2.16	26	51.0	25	49.0

Institutional factors associated with level of EBDM utilization

Again based on the reference category of 'Yes', several indicators; 2.8, 2.9, 2.10, 2.11 and 2.12 in Institutional factors met criteria of inclusion into multivariate analysis ($p<0.25$), Table 4.8. Multivariate analysis for EBDM and institutional factors' results indicate logistic regression generated a valid model as Hosmer-Lemeshow Goodness-of-Fit (GOF) test was not statistically significant ($\chi2\ (2) = 0.732$; $p=0.694$). The model explained 20.3% (Nagelkerke R^2) of the variance in EBDM and correctly classified 64.7% of the cases overall. The results of binary logistic regression identified item 2.8 and 2.10 as independently having significant association with EBDM after they were retained in the model using backward elimination method. For indicator 2.10 the odds of having low level EBDM utilization was higher 3.48 for No compared to Yes and was statistically significant ($p=0.048$). The No for item 2.8 had 3.00 higher odds of having low level EBDM utilization compared to Yes though marginally significant (0.073).

Table 4.8

Institutional factors associated with nurses' level of EBDM utilization (N=51)

Institutional factors	EBDM utilization (N=51)						Parameter Estimates			
	High level N=23		Low level N=28		Chi-square	P-value	AOR#	95% CI*		P-value
	n	%	n	%				Lower	Upper	
Item 2.8										
Yes**	14	60.9	9	32.1	4.209	0.040	1			
No	9	39.1	19	67.9			3.001	0.901	9.995	0.073
Item 2.9										
Yes**	9	39.1	6	21.4	1.906	0.167	1			
No	14	60.9	22	78.6			1.122	0.260	4.843	0.878
Item 2.10										
Yes**	17	73.9	12	42.9	4.965	0.026	1			
No	6	26.1	16	57.1			3.480	1.013	11.951	0.048
Item 2.11										
Yes**	13	56.5	8	28.6	4.073	0.044	1			
No	10	43.5	20	71.4			2.350	0.663	8.324	0.185
Item 2.12										
Yes**	16	69.6	15	53.6	1.355	0.244	1			
No	7	30.4	13	46.4			0.464	0.089	2.418	0.362

Item 2.13							
Yes**	11	47.8	12	42.9	0.126	0.723	
No	12	52.2	16	57.1			
Item 2.14							
Yes**	8	34.8	10	35.7	0.005	0.945	
No	15	65.2	18	64.3			
Item 2.15							
Yes**	9	39.1	11	39.3	<0.001	0.991	
No	14	60.9	17	60.7			
Item 2.16							
Yes**	13	56.5	13	46.4	0.515	0.473	
No	10	43.5	15	53.6			

#AOR – Adjusted Odds Ratio; *95%CI – 95% Confidence Interval; z- Reference category**

According to Nibberlink and Brewer, organizational decision-making factors within a nursing unit provide informal influence over nurse decision-making that could influence patient care (Nibberlink & Brewer, 2018). The indicators studied under Institutional factors were organizational culture, research infrastructure, guidelines and document support and decision making autonomy.

It emerged that the 'hard' infrastructure is availed, some through a library, some through a facility which is linked to a nursing school and or through set up of specific departments.

> *'If one wants to study, we have the library in the school as the school is part of the hospital.' (KII respondent)*
>
> *'....CME room. Okay. It has the infrastructure. That's a department in itself.' (KII respondent)*

However, respondents in majority gave a No response on the availability of stable internet connection (49.0%). Research infrastructure here included stable internet provision and computer equipment that is used to access information and knowledge that can guide decision making. With research infrastructure unavailable or limited, access to input for decision making is questionable for reproductive nurses working in the public sector in Nairobi. According to several studies, developing countries are noted to remain technically challenged and financially under-resourced hence having shortfalls on the availability of evidential data and insight required to make informed decisions (African Health Initiative Partnership

Collaborative for Data Use for Decision Making 2022; Almeshqab & Ustun, 2019) This case was clearly seen in this population.

Qualitative results show that the organization factors also include balance of workload which is challenging towards engaging in research for EBDM, once again being correlated with staffing and time constraints.

> *'You need a strong person to make decisions, especially as a team leader. There is none because of the shortage of the staffs. So you find it a bit difficult to coordinate care during that time.' (KII respondent)*
>
> *We have many patients and there's no time to teach so u learn as you continue with work. (KII respondent)*

In terms of autonomy of decision making, respondents were mostly agreeable on the need to have supervisory approval before decision making where guidelines are not available and or clear (29.4%), although marginally. This indicates the low levels of autonomy for the population in decision making. This however contradicts with the results that revealed that majority if the nurses leaned on intuition for decision making. According to authors, decision making among nurses is equated with professionalism. Hence to enhance professionalism, one requires more autonomy indecision making, become a person who thinks, makes decisions, and takes responsibility for his/her decisions, not just someone who takes orders (Rouhi-Balasi et al., 2020). This is also correlated with years of experience and subsequently use of intuition.

While quantitatively majority of respondents were neutral on the organizations' culture towards sharing and facilitating EBDM, qualitatively, respondents noted that organizational constrains including work allocations from the facility management limited their interactions with EBDM. This is alluding to culture that doesn't support engagement with EBDM.

'... there's no one to induct you mainly because of shortage of staff, shortage of time and also workload. (KII respondent)

4.9 Objective 3 results & discussions: Individual factors

The indicators of individual factors that were studied were complexity of research, skills, language of research and application of EBDM. The objective that guided this factor was **'To** determine the influence of individual factors on the utilization of evidence for EBDM within selected facilities in Nairobi.'

Almost all items under individual factors had Yes responses above 50% except items 2.17 and 2.18.

Table 4.9

Individual factors responses distribution (N=51)

Item	Individual factors responses			
	Yes		No	
	N	%	n	%
2.17	16	31.3	35	68.7
2.18	22	43.1	29	56.9
2.19	30	58.8	21	41.2
3.20	31	60.7	20	39.3
2.21	37	72.5	14	27.5
2.22	41	80.4	10	19.6

Individual factors associated with low level EBDM utilization

Questions 2.18, 2.19, 2.20, 2.21 and 2.22 of Individual factors met criteria of inclusion into multivariate analysis ($p<0.25$), Table 4.10.

Multivariate analysis for EBDM and individual factors' results indicate logistic regression generated a valid overall model as Hosmer-Lemeshow Goodness-of-Fit (GOF) test was not statistically significant ($\chi 2$ (2) = 0.592; p=0.744). The model explained 42.5% (Nagelkerke R^2) of the variance in EBDM and correctly classified 78.4% of the cases overall. The results

of binary logistic regression identified item 2.18 and 2.20 as independently having significant association with EBDM after they were retained in the model using backward elimination method. For Item 2.18 the odds of having low level EBDM utilization was higher 5.69 for No compared to Yes and was statistically significant (p=0.013). The No for item 2.20 had 7.01 higher odds of having low level EBDM utilization compared to Yes and was statistically significant (0.012).

Table 4.10

Individual factors associated with nurses' level of EBDM utilization (N=51)

Individual factors	EBDM utilization (N=51)				Parameter Estimates			
	High level N=23		Low level N=28		Chi-square	P-value	AOR#	95% CI*		P-value
	n	%	n	%				Lower	Upper	
Item 2.17										
Yes**	9	39.1	7	25.0	1.171	0. 279				
No	14	60.9	21	75.0						
Item 2.18										
Yes**	16	69.6	6	21.4	11.929	0. 001	1			
No	7	30.4	22	78.6			5.690	1.446	22.396	0. 013
Item 2.19										
Yes**	18	78.3	12	42.9	6.535	0. 011	1			
No	5	21.7	16	57.1			12.490	0.180	8.669	0.822
Item 2.20										
Yes**	20	87.0	11	39.3	12.038	0.001	1			
No	3	13.0	17	60.7			7.010	1.529	32.130	0.012
Item 2.21										
Yes**	20	87.0	17	60.7	4.366	0.037	1			
No	3	13.0	11	39.3			0.760	0.109	5.323	0.783
Item 2.22										
Yes**	22	95.7	19	67.9	6.189	0. 013	1			
No	1	4.3	9	32.1			3.734	0.358	38.916	0. 271

#AOR – Adjusted Odds Ratio; *95%CI – 95% Confidence Interval; **- Reference category

Individual factors seemed to have the highest significance to the use of EBDM with a p value of 0.001. This can be interpreted that the most affective factor to the utilization of EBDM are individual factors.

According to authors, most African countries lack access to EBDM resources and well-trained public health personnel with the capacity to predict, prevent, respond and control epidemiological events before disease outbreaks spread beyond local areas (Harris et al., 2016). Although referring to health workers as a whole, nurses are equally needing of these skills for EBDM. Responses from questions on individual capacities revealed that they have requisite skills (45.1%) and do understand the language of research (43.1%), although this is less than half of the participants. Qualitatively, respondents noted that in acquiring skills for engaging with research and learning, individual drive is required

> *'It will depend on individual to individual and the interest one has. You can find one has been in the field for longest but has no interest to study and do research (KII respondent).*

What incentivizes nurses in participating in research have been described in literature including: lack of knowledge, training and skill, mentoring support and protected time (Mulkey 2021). Severally respondents in the study mentioned the limitation of time to engage in research and or evidence due to shortage of staff, including qualitatively.

4.10 Objective 4 results & discussions: Barriers to access

This objective was to 'Identify the barriers to the access of evidence for EBDM'. All the items had Yes responses below 50%, below.

Table 4.11

Barriers to access responses distribution (N=51)

Item	Barriers to access responses			
	Yes		No	
	n	%	n	%
2.23	18	35.3	33	64.7
2.24	24	47.0	27	53.0
2.25	12	23.5	39	76.5
2.26	15	29.4	36	70.6

2.27	15	29.4	36	70.6

Barriers to access factors associated with low level EBDM utilization

Questions 2.23, 2.24 and 2.26 of Barriers to access factors met criteria of inclusion into multivariate analysis ($p<0.25$), Table 4.13. Multivariate analysis for EBDM and barriers to access factors' results indicate logistic regression generated a valid overall model as Hosmer-Lemeshow Goodness-of-Fit (GOF) test was not statistically significant ($\chi 2\ (4) = 0.545$; p=969). The model explained 13.2% (Nagelkerke R^2) of the variance in EBDM and correctly classified 66.7% of the cases overall. The results of binary logistic regression identified item 2.23 as independently having significant association with EBDM after it was retained in the model using backward elimination method with No having 4.00 higher odds (p=0.026) of low level EBDM utilization compared to Yes.

Table 4.12

Barriers to access factors associated with nurses' level of EBDM utilization (N=51)

Barriers to access factors	EBDM utilization (N=51)					Parameter Estimates			
	High level N=23		Low level N=28		Chi-square	P-value	AOR#	95% CI*		
	n	%	n	%				Lower	Upper	P-value
Item 2.23										
Yes**	12	52.2	6	21.4	5.227	0. 022	1			
No	11	47.8	22	78.6			4.000	1.183	13.525	0. 026
Item 2.24										
Yes**	14	60.9	10	35.7	3.207	0. 073	1			
No	9	39.1	18	64.3			1.141	0.264	4.925	0. 860
Item 2.25										
Yes**	6	26.1	6	21.4	0.152	0. 696				
No	17	73.9	22	78.6						
Item 2.26										
Yes**	10	43.5	5	17.9	3.993	0. 046	1			
No	13	56.5	23	82.1			2.841	0.752	10.740	0. 124
Item 2.27										
Yes**	8	34.8	7	25.0	0.582	0. 446				
No	15	65.2	21	75.0						

#AOR – Adjusted Odds Ratio; *95%CI – 95% Confidence Interval; **- Reference category

Literature tells us that barriers to EBDM include organization support, continuous education systems, improved skills, knowledge, and confidence [alluding to autonomy] (Ayoubian,

2020). With the research question, What are the barriers to the access of maternal and child research evidence for EBDM & P by specialized nurses for patient service delivery? Cumulatively respondents had Yes responses that there exists barriers in their respective facilities. These included time (Quant 29.4%), staffing constraints (qual), access (Quant 27.5% and 29.4%), and skills (qual).

> *'The challenge one of them is availability of the doctors. Staffing issues... ' (KII respondent)*
>
> *'The challenges of this is the logistics in planning for workshops education programs ... If there is facilitation to do those' (KII respondent)*

In the qualitative results, one facility respondents expressed that training and continuous learning was not a barrier, rather an enabler and there was management support for the same. In another facility however, some challenges were seen in this area. This means that opportunities for self-development through continuous learning of the nurses was contextual to a facility. Organizational support for continuous development also emerged as contextual to a facility.

> *'There are trainings which are ongoing to improve patient's care if there's a need. So, basically, I would say there is improvement, there is support from management, because the participants of those CMEs, those training opportunities.' (KII respondent)*
>
> *'If there is that positive attitude from my employer..... itll create a motivational impression on nurses and the will move [towards self-improvement by training]' (KII respondent)*

A review of research in this area showed that nurses indicated a preference for information provided by experienced colleagues or their own experience more than other sources of information (Cappelletti et al., 2014; Samuriwo & Dowding, 2014), more so as finding access

to colleagues more efficient and patient specific in time constrained critical decision-making circumstances. This showed collaboration and joint decision making (what is called in literature, Shared Decision making) among the reproductive nurses studied. Literature supports the use of shared decision making for EBDM and EBP and recommends the same for enhancing and embracing evidence among nurses (Chung et al., 2021). In this study, shared decision making was evidenced when respondents gave Yes responses that there is a culture of joint decisions. (56.9%)

CHAPTER 5: SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This chapter represents a summary of findings as guided by the specific objectives of the study. Conclusions and recommendations are also presented to inform policy and practice decisions that will enhance EBDM & P as well as the nursing profession. Emerging needs for research directions will also be elucidated.

5.2 Summary of findings

The utility of this study was to understand the factors that inhibit and/ or allow for the implementation of EBDM & P among specialized nurses in Nairobi, county, working in the public sector.

5.2.1 Intuition vs evidence

Specialized nurses generally value and apply evidence in practice, particularly older ones, though intuition remains a key component of decision-making. Younger, less experienced, and lower-educated nurses tended to rely more on intuition due to challenges engaging with research while managing work demands—challenges rooted in both institutional and individual factors. Notably, connections with patients (Item 2.7) most strongly influenced EBDM use.

5.2.2 Institutional factors

It was noted that some research infrastructure to enable engagement with research for EBDM was available at facility levels while others were limited. Time and other constraints such as autonomy challenge still engagement with EDBM. Implementation of EBDM is evidenced through the use of adapted tools. Supportive management and culture had significant association with EDBM. Building positive culture is a requirement for EBDM.

5.2.3 Individual factors

On individual factors, autonomy and the language of research emerged as significantly associated with EBDM among nurses working in specialized wards. It was noted that the capacity to engage with research is driven by the individual, being seen to be driven by individual interests rather than being a requirement for working. Incentives for nurses to interact with research for EBDM are wanting.

5.2.4 Barriers to access

Barriers that are not supportive to EBDM, is the item 2.23 which alludes to time availability was noted as significant to EBDM. The limit of time was associated with low staffing. Organizational support for continuous skills and capacity development is therefore critical while indicating to culture building.

5.3 Conclusion

The study provided an improved understanding of decision-making among specialized nurses in public sector in this environment (Nairobi) that may help to guide future efforts to support nursing practice for enhanced patient care.

5.3.1 Intuition vs evidence

As a whole, the knowledge that is relied upon majorly for decision making among reproductive nurses working in the public sector in Nairobi was seen to be tacit knowledge. Notably, tacit knowledge forms the basis for application of intuition.

5.3.2 Institutional factors

There has emerged a basis for strengthening the interaction with research/evidence from the learning institution rather than the work space. The works pace should just be a place for continuous learning and implementation of evidence use in decision making.

5.3.3 Individual factors & Barriers to access

Further, individual factors such as skill, incentives and understanding of research are critical to enhancing of EBDM among specialized nurses working in public health facilities. The lack of and or weakness in these skills presents barriers to the utilization of EBDM & P.

5.4 Recommendations

1. The use of intuition shows tacit Knowledge emerged as key to EBDM and EBP among this population. Intuition reflects the vital role of tacit knowledge in EBDM and EBP among specialized nurses. Facilities, in collaboration with HR departments, should develop strategies to capture and apply this knowledge. The SECI model offers a useful framework for converting and contextualizing tacit knowledge for practice.
2. The enhancement of the individual factors is recommended due to the lack of EBDM skills noted from the study; building of skills for utilization of research for decision making among specialized nurses is a prerequisite identified by this study. This can also be a function embedded in the HR and strategy departments.
3. Culture & supportive management is required to support trainees for EDBM. Institutions and facilities can initiate the same at their contextual opportunities. Required support include routinely scheduled time, opportunity provision and research infrastructure emerged as requirements from this study.
4. More nuanced research is also recommended more so longitudinal studies with larger sample sizes and other health workers so as to tease out and further explore the institutional factors as well as Intuition and their associations with EBDM. Research departments have been seen to be on the rise in public facilities. This would fall directly under their mandate.

5. It is also recommended that the curriculum provided to nurses' training, embed more nuanced, practical learning programs that will enable early engagements with research. This review of the nurses' training should can be done by various training institutions across the country.

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APPENDIX I: INFORMED CONSENT FORM

FACTORS INFLUENCING EVIDENCE BASED DECISION MAKING AMONG SPECIALIZED NURSES WORKING IN SELECTED HEALTH FACILITIES IN NAIROBI, KENYA

Principal Investigator: Safari Agure

Address: P.O Box 54840-00200

1. Introduction

This Consent Form contains information about the research named above. In order to be sure that you are informed about being in this research, we are asking you to read (or have read to you) this Consent Form. You will also be asked to sign it (or make your mark in front of a witness). We will give you a copy of this form. This consent form might contain some words that are unfamiliar to you. Please ask us to explain anything you may not understand.

2. Reason for the Research

You are being asked to take part in research to establish the factors that determine the use of evidence by nurses for routine work decision making.

3. General Information about Research

The procedures that will be used in this study to collect data are

Participants' survey

Study participants will be invited to participate in the study from their respective working stations identified according in the sampling plan. After explaining the nature of the study and signing of the informed consent form those willing will to be enrolled into the study will be enrolled. They will then be administered a survey questionnaire.

Key informant interviews and focus group discussions

This will involve discussions and interviews which will be audio recorded and notes taken. These will be employed in the study to capture the perceptions and experiences in job decision making and the use of evidence among nurses.

4. Your Part in the Research

If you agree to be in the research, the survey will last 15 minutes to complete while Interviews will take 45 minutes.

5. Possible Risks

The study carries only minimal risks to you as participants may be inconvenienced due to the length of the data collection process.

6. Possible Benefits

There are no direct benefits to respondents for participating in this study.

7. If You Decide Not to Be in the Research

You are free to decide if you want to be in this research. Your decision will not affect the health care you would normally give.

8. Confidentiality

All the information gathered by the researcher will be used in confidence for the sole purpose of this research only. No names of individuals will be written down in the questionnaires however in the consent form names will be used. Data will be held in locked storage throughout the study period. Computer documents will have passwords only accessible to the researchers under instructions by the principle investigators. The strict data management procedures are intended to ensure confidentiality of the study subjects.

9. Compensation

Participants of the survey and interviews will be recruited at their convenience at their facilities and work stations; hence no monetary compensation will be given.

10. Leaving the Research

You may leave the research at any time. If you choose to take part, you can change your mind at any time and withdraw.

11. If You Have a Problem or Have Other Questions

Please call the Principal Investigator, Ms Safari Agure at 0715612953 if have questions about the research.

12. Your rights as a Participant

This research has been reviewed and approved by the IRB of Kenya Methodist University. An IRB is a committee that reviews research studies in order to help protect participants.

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research titled (name of research) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Date Signature or mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

_____ _____

Date Signature of Witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

_____ _____

Date Signature of Person Who Obtained Consent

APPENDIX II: SURVEY QUESTIONNAIRE

FACTORS INFLUENCING EVIDENCE BASED DECISION MAKING AMONG NAIROBI, KENYA

Respondent ID. | | | | |

(County no/ Facility no/ respondent no)

SECTION 1: SOCIAL DEMOGRAPHIC DETAILS

Instructions:

Tick the appropriate options against each question

1.1	County name						
1.2	Interviewer's name						
1.3	Date	……/……/……					
1.4	Age at last birthdate						
1.5	Sex	Male		Female			
1.6	Marital status	Never married		Married		Divorced/ separated	
1.7	Level of education	Diploma holder & below	Basic degree holder	Master's degree holder	PhD holder & above		
1.8	Duration of employment in the same position	Less than 5 years	6yrs to 10 years	11 years and above			
1.9	Monthly income	Below Kes20,000	Between Kes21,000 & Kes50,000	Between Kes51,000 & Kes80,000	Above Kes81,000		

SECTION 2: INDEPENDENT VARIABLES

Instructions:

Tick the most appropriate answer option for the question given in the boxes below the choice.						
	QUESTION	OPTION				
		Strongly agree (1)	Somehow agree (2)	Agree (3)	Don't agree (4)	Strongly disagree (5)
Evidence vs Intuition thought paradigm						
2.1	My previous experiences largely determine my current decisions for patient care					
2.2	When making decisions for patient care, I prefer to use facts rather than 'gut feelings'.					
2.3	Situations that need decision-making for patient care are always clear to me.					
2.4	The decisions I make for patient care are largely based on my previous experiences.					
2.5	I am able to make difficult decisions for patient care without making thing personal					
2.6	I am able to perceive what my patients are feeling emotionally					
2.7	I usually build connections with my patients for patient care					
Institutional factors						
2.8	Our hospital managers are supportive of EBP					
2.9	The culture of our team is not receptive to changing practice					
2.10	The culture among us is to make collective decisions for patient care					
2.11	Our facility encourages us to make individual decisions					

2.12	There are knowledge sharing platforms available in the facility for us to use					
2.13	The facility has adequate research infrastructure such as computers and software for me to use to access evidence					
2.14	The facility has stable internet connection that we can use					
2.15	Guidelines available for patient care does not allow me to decide on what a patient needs on my own					
2.16	I need approval from a supervisor when making decisions for patient care that is not in the guidelines					
Individual factors						
2.17	We have incentives that encourage us to engage with evidence and research					
2.18	I am able to implement recommendations from research studies in practice					
2.19	I have the skills to find appropriate evidence					
2.20	I understand the language of research					
2.22	The use of evidence is necessary for decision making and practice					
2.22	Nursing and patient care should be guided by evidence					
Barriers to access of evidence						
2.23	There is time within my work schedule for me to access research evidence that can guide my practice					

2.24	There is sufficient time for me to find new guidelines and protocols to guide me practice					
2.25	I have accessed a research database within the last month					
2.26	The facility has a central place from where I can access medical and nursing information and evidence, I need					
2.27	I prefer to get information from my peers rather than from accessing evidence					

SECTION 3: EBDM & P

Instructions:

Tick the most appropriate answer choice for the question given in the boxes below the choice.

		Totally agree (6)	Somewhat agree (7)	Agree (8)	Do not agree (9)	Totally disagree (10)
3.1	The care that I give have an impact on patient outcomes					
3.2	The care I give my patients are based on evidence					
3.3	I feel satisfied with my job when my patients have positive outcomes from my care					
3.4	The support for decision making I get from the use of evidence reduces fatigue and burnout					
3.5	I am confident in my care abilities when my decisions and practice are evidence based.					
3.6	I am confident of my knowledge in dealing with patient situations					

APPENDIX III: KEY INFORMANTS INTERVIEW GUIDE

FACTORS INFLUENCING EVIDENCE BASED DECISION MAKING AMONG SPECIALIZED NURSES WORKING IN SELECTED HEALTH FACILITIES IN NAIROBI, KENYA

SECTION I: RESPONDENT DEMOGRAPHIC INFORMATION

Name of facility	**Age**	**Sex** **M/F**	**Marital status** **S/ M/ D**	**Nursing Cadre**	**Comments**

1. Have you heard of Evidence Based Decision making?

YES ☐ NO ☐

Probe: Evidence Informed Decision making/ Evidence Based Medicine/ Evidence Based Practice?

2. Can you describe what it is?
Probe: What, Why, Who

3. Is there a difference between Evidence and Intuition?
Probe: What Evidence is, What Intuition is, Preferred though paradigm, why?

4. Which one is best for patient care?
Probe: Experience, patient outcomes

5. Can we talk about the culture of your organization?
Probe: attitude towards research, team work, information sharing, communication, autonomy, resources (Computers/ internet, library)

6. Have you been involved in compiling of research findings?
Probe: Searching, access, Incentives, appraising, collaborations

7. How would you implement evidence-based practice sufficiently to change practice?

Probe: How, Who, When?

8. Have you changed any of your practices based on information you received?
Probe: when, Source of information, authority, autonomy?

.

APPENDIX IV: ITEMS/QUESTIONS FOR THE VARIOUS FACTORS

Intuition vs evidence	
2.1	My previous experiences largely determine my current decisions for patient care
2.2	When making decisions for patient care, I prefer to use facts rather than 'gut feelings
2.3	Situations that need decision-making for patient care are always clear to me
2.4	The decisions I make for patient care are largely based on my previous experiences
2.5	I am able to make difficult decisions for patient care without making things personal
2.6	I am able to perceive what my patients are feeling emotionally
2.7	I usually build connections with my patients for patient care Institutional factors
Institutional factors	
2.8	Our hospital managers are supportive of EBP. The desire is to support use of evidence.
2.9	The culture of our team is not receptive to changing practice
2.10	The culture among us is to make collective decisions for patient care
2.11	Our facility encourages us to make individual decisions
2.12	There are knowledge sharing platforms available in the facility for us to use
2.13	The facility has adequate research infrastructure such as computers and software for me to use to access evidence
2.14	The facility has stable internet connection that we can use
2.15	Guidelines available for patient care does not allow me to decide on what a patient needs on my own
2.16	I need approval from a supervisor when making decisions for patient care that is not in the guidelines
Individual factors	
2.17	We have incentives that encourage us to engage with evidence and research
2.18	I am able to implement recommendations from research studies in practice
2.19	I have the skills to find appropriate evidence
2.20	I understand the language of research
2.21	The use of evidence is necessary for decision making and practice
2.22	Nursing and patient care should be guided by evidence
Barriers to access	
2.23	There is time within my work schedule for me to access research evidence that can guide my practice
2.24	There is sufficient time for me to find new guidelines and protocols to guide me practice
2.25	I have accessed a research database within the last month
2.26	The facility has a central place from where I can access medical and nursing information and evidence, I need
2.27	I prefer to get information from my peers rather than from accessing evidence

APPENDIX V: NACOSTI RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **907330**

Date of Issue: **15/December/2023**

RESEARCH LICENSE

This is to Certify that Ms.. Dorothy Safari Agure of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Factors associated with evidence-based decision making among oncology nurses working in selected public health facilities in Nairobi, Kenya for the period ending : 15/December/2024.

License No: **NACOSTI/P/23/32094**

907330

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX VI: INTRODUCTION TO NACOSTI

KENYA METHODIST UNIVERSITY
P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171
Fax: 254-64-30162
Email: deanrd@kemu.ac.ke
DIRECTORATE OF POSTGRADUATE STUDIES

November 9, 2023

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.C. Box 30623-00100
NAIROBI.

Dear Sir/Madam,

RE: SAFARI AGURE – (REG. NO. HSM-3-3112-3/2021)

This is to confirm that the above named person is a bona fide student of Kenya Methodist University, in the School of Medicine and Health Sciences, Department of Health System Management undertaking a Master's Degree in Health System Management. She is conducting research on; **"Factors Associated with Evidence-Based Decision Making among Oncology Nurses Working in Selected Public Health Facilities in Nairobi, Kenya".**

We confirm that her research proposal has been presented and approved by the University.

In this regard, we are requesting your office to issue a research license to enable her collect data.

Any assistance accorded to her will be appreciated.

Yours sincerely,

09 NOV 2023

Dr. John M. Muchiri (PhD)
Director, Postgraduate Studies
Cc: Dean SMHS
CoD, HSM
Program Coordinator -HSM
Student Supervisors

APPENDIX VII: KeMU SERC APPROVAL

KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: INFO@KEMU.AC.KE

November 9, 2023 KeMU/ISERC/HSM/27/2023

SAFARI AGURE
HSM-3-3112-3/2021

Dear Safari,

SUBJECT: FACTORS ASSOCIATED WITH EVIDENCE-BASED DECISION MAKING AMONG ONCOLOGY NURSES WORKING IN SELECTED PUBLIC HEALTH FACILITIES IN NAIROBI, KENYA

This is to inform you that Kenya Methodist University Institutional Scientific Ethics and Review Committee has reviewed and approved your research proposal. Your application approval number is KeMU/ISERC/HSM/27/2023. The approval period is 9th November, 2023 – 9th November, 2024.

This approval is subject to compliance with the following requirements:-

I. Only approved documents including (informed consents, study instruments, MTA) will be used.

II. All changes including (amendments, deviations, and violations) are submitted for review and approval by Kenya Methodist University Institutional Scientific Ethics and Review Committee.

III. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KeMU ISERC within 72 hours of notification.

IV. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KeMU ISERC within 72 hours.

V. Clearance for export of biological specimens must be obtained from relevant institutions.

VI. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

VII. Submission of an executive summary report within 90 days upon completion of the study to KeMU ISERC

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

MR. HERBERT K. EBE
CHAIR, ISERC