ASSESSMENT OF STRATEGIES ON PATIENT SAFETY PRACTICES AMONG HEALTHCARE PROVIDERS AT NAKURU COUNTY REFERRAL HOSPITAL, KENYA

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DEDICATION

I dedicate this work to all the healthcare providers, especially in Nakuru County Referral Hospital, who have heeded to the call of serving mankind.

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ABSTRACT

Quality care is achieved through integrating all components within the healthcare delivery system. Patient safety involves increasing awareness about errors made due to human factors in the process of delivering healthcare services that may lead to harm and adverse effects. This study was on Assessment of strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya. The study objectives were to: Examine the organizational processes on patient safety practices, determine the communication strategies on patient safety practices, assess monitoring strategies on patient safety practices, and determine patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya. The study was anchored on General Service Readiness Theory, Anderson Model of Health Services Utilization and Donabedian Model for Assessment of Quality of Care. The study adopted descriptive cross-sectional study design. The sampling technique was purposive, stratified random sampling and proportionate with a sample size of 310 healthcare providers drawn from various cadres. Data collection tools were questionnaire, interview schedule and observational checklist. Quantitative data was analyzed using descriptive statistics and inferential statistics. Spearman's correlation analysis was used for inferential statistics to determine the association between organizational processes, communication strategy, monitoring strategy, patient advocacy on patient safety practices using 20th version of Statistical Package for the Social Sciences (SPSS) with 0.05 level of significance. Data was presented in tables, pie charts and graphs forms. A Permit was obtained from National Commission for Science, Technology and Innovation, through an introductory letter provided by Mount Kenya University Research Ethical Committee and authority from health directorate of Nakuru County. The study findings established that Nakuru County Referral Hospital had effective organizational processes on patient safety practices indicated by mean of 3.6 and standard deviation of 1.2 with need for implementation of quality improvement programmes having strongest correlation with patient safety practices (R = 0.922 and P + 0.028). There were effective communication strategies on patient safety practices with early clarification of information and efficient dissemination of information facilitating timely service delivery. There was complete handover of information, access to electronic records, prescribing systems and coordination of patient flow, mitigating delayed diagnosis, treatment and adverse events (mean = 3.6, standard deviation = 1.0, R value = 0.893 and P value = 0.021).However, patients were found not to be adequately compensated in cases of erroneous medical procedures (mean = 2.8, standard deviation = 1.2, R value = 0.945 and P value = 0.014), indicating strong correlation with patient safety practices. The study recommends the need for implementation of quality improvement programmes to patient safety practices. The hospital administration should ensure there is coordination in ensuring patient flow which enhances mitigation of delayed diagnosis, treatment and adverse events. There is need for meetings to review and share ideas on patient safety thus achievement of organizational culture in relation to safety. The hospital should also improve on patient involvement in decision making while receiving healthcare services and clear guidance that ensures patients are adequately compensated in-case of medical errors.

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LIST OF ABBREVIATIONS AND ACRONYMS

CCC:	Comprehensive Care Centre
FGD:	Focus Group Discussion
GSR:	General Service Readiness
HAI:	Healthcare Associated Infections
ICT	Information communication and Technology
ICU:	Intensive Care Unit
IRS:	Incident Report System
IOM:	Institute of Medicine
KII:	Key Informant Interviews
KPRM:	Kenya Policy on Risk Management
ME:	Medical Errors
MKU:	Mount Kenya University
NACOSTI:	National Commission for Science, Technology and Innovation
NCRH:	Nakuru County Referral Hospital
NGO:	Non-Governmental Organization
SPSS:	Statistical Package for the Social Sciences
UHC:	Universal Health Coverage
WHO:	World Health Organization
WHA:	World Health Assembly
£:	Pound

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The content of this chapter covers study background, the statement of the problem, the purpose and the objectives, research questions under which the study was undertaken. The chapter also covers the significance of the study, the scope of the study, the limitations of the study and the study delimitation and the assumptions.

1.1. Background information

Patient safety is the physical, psychological and social wellbeing of any sick person. Patient safety is considered to be one of the leading concerns in health service delivery in various levels of public and private hospital settings (Azyabi et al., 2021). Globally, the cost of adverse events and other medical errors still remains high, posing a burden in healthcare system. A study undertaken on the cost of injuries in Canada reported that most injuries were due to falls, which further resulted to permanent disabilities and making patients to be exposed to further injuries which were debilitating, the report also noted that managing such injuries increased medical cost not only to the patients and or his/her family but also to the nation at large (Crain et al., 2016; Azyabi et al., 2021).

Looking at the health service provision, it is always recommended that the safety status of the patient should be given much attention (Wray et al., 2022). Indeed, according to world patient safety report, the safety of patients is a critical public health concern worldwide and it is viewed to have a role in enabling health systems to achieve effective Universal Health Coverage (UHC) (WHO, 2018). Furthermore, such safety should not only exist to the healthy persons, but also need to be extended to the patients receiving healthcare services. It is clear that harm on the patient while receiving care is considered

to be on the rise and poses to be one of the leading causes of global burden as a result of its related complications (Wright, 2007 Gluyas, 2015).

From the above reports it is clear that unsafe care of both the patients and other healthy family members puts the nation or the globe to a high health burden. Indeed, families may suffer economically, physically, psychologically and socially when one of their members suffers from any form of injuries. Most health facilities have always embraced the provision of medical services without subjecting the patient to any form of suffering or injuries. Moreover, the WHO Global patient safety report emphasizes for recognition of the need to implement "Medication without harm," (Aldridge, 2012). The report emphasizes that nations should provide an opportunity to learn and strengthen international collaborations that will not only achieve UHC, but also improve the patient safety through proper co-ordination with other countries or organizations with proper patients' protection mechanisms (Elmontsri et al., 2018).

To obtain this, there is need for adequate information that warrants collection of inclusive data, and efficiently sharing of such data. Studies on this subject need to focus on global level with more research studies being done on patient safety, and the end goal to be directed towards a change in both the culture and knowledge. (Donaldson, Kelley, Dhingra-Kumar, Kieny & Sheikh, 2017). Additionally, errors in medication also need to be lowered. It is reported that whilst much attention is geared towards safety of the patient and quality of healthcare, medical errors and adverse events are still frequently experienced in medical practices within most health facilities in a global stretch. In the study report, approximately 10% of hospitalized patients globally are predisposed to injuries related to medical management and it is viewed that half of these errors are preventable (Thomas et al., 2015).

To strengthen the safety of patients, a safety culture needs to be inculcated in the health systems. Safety culture entails all through responsibility, with provision of qualified staff and shared norms among all the stakeholders in the healthcare system (Halligan & Zecevic, 2011; Ghahramanian et al., 2017). Through this understanding, it is further ascertained that healthcare provision requires knowledge sharing among the caregivers, patients, and a well engaged hands-on leadership with proper management for its effectiveness. From this point of view, training and monitoring remains paramount to achieving safety within the healthcare system. Studies have continued to recommend proper trainings, monitoring and evaluations on matters concerning patient safety practices, workload and fatigue management as well as establishing mechanisms that create and promote culture of reporting positive incidences in health service delivery (Fleming & Wentzell, 2008; Ghahramanian et al., 2017).

According to WHO perspective, the scope of patient safety covers a wide range of aspects that include having diverse areas such as mitigation strategies, avoiding errors and other adverse effects during provision of healthcare services (Vaismoradi et al., 2015). To ensure adequate healthcare safety, there is need to reduce incidences that are prone to causing harm to patients and health service providers. The Medical ethical concept of 'do no harm' which evolves debates around the responsibility for ascertaining patient safety needs to be strengthened. According to the opinion of (Summers & Morrison, 2009), patient harm may not occur as a result of deliberate act of negligence but may arise as a result of system's operations and policy constrictions that are beyond the practitioners' control. Fundamentally, cautious steps directed towards addressing patient safety issues of hospitalized patients which is admissibly complex need to be undertaken with quality and without causing any harm to the ill individual and family. For instance, the hospital environment, drug therapies used to treat illnesses and maintain health showed effects

which were undesired, with little information of such occurrences being reported and documented (Andel et al., 2012 Azyabi et al., 2021). Sadly, the scenario and current status reveal gaps and weak surveillance systems leading to under reporting of the correct magnitude (Andel et al., 2012; Peters et al., 2018). Medical based injuries have continued to threaten the life of many people all over the world. A study by WHO on patient safety illustrated that, every year millions of patients worldwide suffer from disabilities or death due to receiving unsafe medical care, with developing countries reporting highest incidences (Sneeringer et al., 2012). Such injuries or deaths arise as a result of different risk factors. For example, it has been estimated that medical errors alone account for 4% to 16% of the cases and half of these cases occur during surgeries. Healthcare related injuries vary from one locality to another and different countries also show different magnitude of health-related injuries.

Healthcare associated infections in developing countries were rated as; Mali (18.9%), Tanzania (14.8%) and Algeria (9.8%) (WHO, 2008). Another study has also shown that cases on neonatal care are 3-20 times higher, for example 23% were from general surgery in Tanzania and 19% were from maternity in Kenya as reported by WHO (2018). However, the report did not mention at what level of care patients are harmed, though it gives a general overview that harm is not voluntarily committed by healthcare providers. It is therefore clear that what is happening worldwide on numerous occasions is that, patients are thought to be continually harmed during healthcare delivery or suffer from not receiving the right intended treatment according to the diagnosis as a result of omission errors (WHO, 2018; Rigamonti et al., 2021).

Even though Kenya has made numerous strides in providing quality health services, cases of healthcare-based injuries are still common and have not been eliminated totality. Therefore, the Kenyan Ministry of Health strives to achieve the linkage between patient

safety to UHC and Sustainable Development Goals (SDGs). In order to attain the UHC while promoting the safety of patients, a multi-tier management approach is necessary that widens the understanding and implementation of the necessary health safety measures. In fact, the Kenya patient safety survey report emphasized on multi-tiered regulatory structures and centers to promote and maintain high standards of quality care, professional development, patient safety standards and norms on infrastructure with leadership and governance in health (Bedoya et al., 2017a). This has created the need to introduce practices that will ensure patient safety. In Kenya, there is increasing recognition of the need to adopt mandatory patient safety practices as a component in health system management however little has been done to accomplish this objective (Wachira et al., 2021).

To accomplish mandatory patient safety practices, the adoption of health safety strategies needs to be made uniform throughout the entire country and across different health service provision institutions (Torres et al., 2022). However, the Uniform standards have been a challenge to roll down by the fact that health services are provided across several tiers and levels both in public and privately-owned health facilities. This has made it difficult to maintain consistency in the implementation and sustainability of the strategies on patient safety practices. This approach on institutionalization of health service delivery should become a priority in supporting sustainability of patient safety measures and making patient safety a priority coupled with embracing it as an organizational culture (Bedoya et al., 2017b). This study therefore seeks to contribute towards strengthening patient safety practices through multi-disciplinary approach, policy making and emphasizing patient safety culture in all levels of healthcare delivery.

1.2. Statement of the Problem

Most developing countries still records low compliance to patient safety standards and health related injuries have been on the rise. Kenya being one of the developing countries suffers from lack of information on compliance to safety standards within its service delivery points and health facilities. In as much as the new constitution enshrines greater rights to individual's access to quality healthcare, this position has been greatly hampered and severely affected due to unaddressed patient safety issues. Indeed, a study done by WHO and World Bank (WB) in various counties in Kenya showed that 16% of healthcare facilities are at high risk of harming patients during care, out of which 56% of the risk posed is imminently high (Leotsakos et al., 2014). There is generally low attention to risk identification, mitigation, reduction and management (Poe et al., 2005). Recent reports have documented scanty and almost non-existent policies and guidelines on patient safety which has contributed to low implementation of patient safety practices. Another baseline survey done in Kakamega, Kilifi and Meru counties showed that 3% of facilities complied with minimum patient safety standards (Leotsakos et al., 2014). In Nakuru County Referral Hospital, despite the few structures geared towards patient safety practices, there are still inadequate and scanty documented policies and guidelines coupled with lack of data on patient safety practices in general, resulting into unreported cases, injuries, litigation costs, mortality and disabilities (Gichobi, Ndwigah, Sinei, & Guantai, 2017). Patients complains related to the quality of care has been highlighted, with little attention followed on the strategies on patient safety practices (Kenya Patient safety survey, 2013).

Many studies dwell on safety on the care given to patients leaving the aspect of environment, where these services are rendered, which has a significant influence in the wellbeing of the patients, visitors and healthcare providers. Indeed, no study has specifically provided information on organizational processes on patient safety practices

among healthcare providers and non has reported on the communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya. Moreover, there is inadequate information the reports association between monitoring strategies and patient safety practices among healthcare providers and no information exit on advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya. Environmental safety is essential to ensure that patients receive care in a conducive environment. At least 4 out of the 18 wards have fire extinguishers with minimal signage on emergency exit doors. Against this background, there was need to carry out a study to assess the strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital.

1.3 Purpose of the Study/ General Objective

The study was purposefully aimed at assessing the strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital

1.4 Specific objectives

The study was guided by the following specific objectives;

I. To examine the organizational processes on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya.
II. To determine the communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya.
III. To assess monitoring strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya.
IV. To determine patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya.

1.5 . Research questions

I. What are the organizational processes on patient safety practices among healthcare providers at Nakuru County Referral Hospital?

II. What are the communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital?

III. What are the monitoring strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital?

IV. What are the patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital?

1.6. Justification of the study

This study unveiled patient safety strategies gaps and unmet patient safety related issues, thus contributing to the improvement of patient safety practices in healthcare settings leading to enhancement to reduced mortality, complications due to wrong medication, reduced legal suits and litigations. Healthcare providers stand to benefit from the study findings, through support from the organization by adapting to policies on patient safety thus improvement of the working conditions and environment leading to medical error free practice, near-miss free practice, decreased healthcare associated infections leading to achieving quality healthcare. The patients attending Nakuru County Referral Hospital stands to benefit as the study informs on strategies of ensuring that they receive healthcare services safely in safe environment thus shortened hospital stay, and improved healthcare which is responsive to the needs of the population. The hospital administration as well as healthcare providers stands to benefit as their healthcare delivery will be rendered safe upon the implementation of the study recommendations therefore reducing litigation cases among other related consequences that come with unsafe practices. Healthcare

administrators and policy makers may utilize the findings by identifying gaps and strengthening the available structures, policies and guidelines on patient safety.

1.7. Scope of the study

The study area for this research was at Nakuru County Referral hospital, it is situated in the urban settings of Nakuru County to assess the strategies on patient safety practices, from a sampled population of healthcare providers and administrators of healthcare services. The study was carried out in the months of September and October, 2019

1.8. Study Limitations

Matters pertaining to patient safety could have been perceived to be secretive which could have led to some respondents refusing to disclose key information due to fear of victimization, which lead to biasness in providing information. The many cadres involved could have also lead o to selection biasness. Some healthcare providers were also not capable of providing correct information.

1.9. Delimitation

Patient safety practices are wide in range. It consists of practices related to service delivery, medical management, adverse events, right to information and other errors. The respondents were guaranteed of secrecy and confidentiality on the information given and they were clarified on the sole intention of the study. The researcher created good rapport with the respondents ensuring that they cooperated by giving correct information. Selection of the respondents was done scientifically using proportionate sampling which ensured representation of each cadre.

1.10. Assumptions of the study

Under this study, it was assumed that appropriate cooperation would be achieved from the selected respondents and that they would accurately avail all the required information and be available during the entire data collection period.

1.11. Definition of Key Terms

Patient safety: This is the conveyance of health services to patients carefully in order to avoid hurting them.

Error: Refers to occurrence when a healthcare provider chooses an inappropriate method of care.

Medical error: This is deviation, either intentional or unintentional, from the expected results of a medical procedure.

Risk management: Efforts to identify and prevent adverse events related to clinical care. Entails measures for avoiding medical malpractice

An adverse event: This is an occurrence characterized by a patient being harmed, injured or experiencing health complications as a result of medical procedure gone wrong.

Organization Structure: It is a system that defines how activities are directed and by the management to achieve the aims and success of a hospital in delivery of patient safety.

Communication Strategies: These are mechanisms meant to enhance the reporting and sharing of information on patient safety to and from all stakeholders namely management, healthcare practitioners as well as patients.

Monitoring and Evaluation: These are strategies that are established in a hospital to check the extent of compliance with the stipulated standards of operations so as to detect and correct aspects that could compromise patient safety.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The literature review section contains the discussion on the reviewed literature materials which is considered very relevant to the objectives of this study. It highlights on organizational processes, communication strategies, monitoring strategies as well as patient advocacy strategies on patient safety practices. The chapter also presents theoretical framework, conceptual framework, summary of reviewed literature, empirical review, critical review and the research gap.

2.1. Empirical Review

2.1.1. Organizational Processes on Patient Safety Practices

There are various disciplines involved in healthcare delivery. Patient safety is one of the necessary pillars with focus on reporting, analyzing and ensuring delivering safe care with effective communication to ensure continuity of care (Kim et al., 2015). The nature of leadership in healthcare system holds an awfully important role required to efficiently and appropriately transform vision that is needed to form a right environment and condition for teams to render safe patient care with implementation of quality improvement programs (McFadden, Stock, & Gowen III, 2015). Patients' comfort is a basic requirement in attaining patient safety. Adequacy in amenities such as good lighting, minimal noise levels and family involvement are some of the amenities that make patients to be comfortable, thus enhancing safe practice in a safe environment. Proper decision making is important in ensuring patient safety in any health facility. Optimal use of computerized clinical decision-making supports mitigation of any discrepancies in evidence based and ideal practice. It is a requirement for improved

consistency in provision of care that led to positive healthcare outcomes (Best et al., 2016).

Safety in health service also depends on the quality of the available healthcare workforce. According to studies, it has been viewed that with the correct number of staff having the proper skill mix and having competent teams that work collaboratively enhances the achievement of quality in respect to patient care (Needleman et al., 2002).

Fundamentally, it facilitates effectiveness in service delivery and timely administration of medication (Donaldson et al., 2017). Coupled with effective systems and processes concerned with reporting safety events that include near misses, it also gives an opportunity for continuous learning and support of the patient safety activities (Macrae, 2014). The way the information is transferred from one sector or individual to the next within healthcare environment also contributes to the level of patient safety. Outcomes of study should be shared among all staff and practitioners in training in an open and supported environment so as to reinforce higher standards of patient safety practices (Baruch, 2014). System operation which covers how health facilities and services are organized and run also contributes to patient safety. Indeed, patient harm does not result from intentional activities or malpractice but system's operation or policy constrictions that are beyond the control of health practitioners (Summers & Morrison, 2009).

To strengthen safety within a hospital environment, there is need to enhance collaboration within the protection of patients. This is often because the security of patients may be a collaborative effort by healthcare entities, and requires a well-integrated system to maximize safe care within the frontline practice. Collaboration entails emphasizes on a bigger and collective responsibility of the people, healthcare providers and also the systems involved in implementing patient safety in healthcare and minimizing harm (Kim et al., 2015).

To strengthen healthcare service provision, there is need to put in place a well-coordinated and structured healthcare organizational structure. The nature and strength of the healthcare service provision is a product of organizational culture. Patient safety practices depend on the organizational culture and other underlying factors, which are occasionally influenced by both the internal and external factors within the organization. For example, the policy environment, organization culture, leadership, availability of resources and professional bodies and care regulators have all been key to having a safe environment for patients (Hughes et al., 2006).

Cognitive and emotional culture in healthcare environment strengthens the coordination that ensures the achievement of health safety to the patient. It is therefore important for leadership to support and strengthen both cognitive and emotional culture in healthcare teams and organizations to enable a good and efficient team which functions in an exceedingly changing environment (Kerfoot, 2016). This author affirms that for every objective to be achieved in an organization there should be a well performing leadership to support the available structures and processes. Patients feel safe in healthcare environments where healthcare providers strive to determine and sustain therapeutic, responsive and mutual relationships to satisfy patients' needs in an exceedingly timely manner (Mollon, 2014).

A functional interaction among patients, professionals and a safer environment where patient care is delivered prevents adverse events (Kim et al., 2015). Consideration of patients' injury safety concepts, mitigating and managing risks is required to confirm that the security within the hospital is not compromised. Indeed, patient safety culture optimizes safety by actively involving safety concepts, mitigating and managing risks of which these will make sure that the treatment room environment remains safe and secure. A secure environment motivates healthcare providers to embrace safety initiatives and

methods through identification of threats and early management. Having the ability to detect and mitigate causes of patients' injury will act as frontier in ensuring that the unnecessary harm is eliminated or prevented. Clinicians, who actively assess, monitor and recognize deteriorating patients, act quickly to treat and seek assistance from consultants in an exceedingly timely manner. Safety culture acts to support access to specialized healthcare teams through early warning systems for timely management of emergencies and improvement of patient outcomes (Alam et al., 2014).

2.1.2 Communication Strategies on Patient Safety Practices

Communications in healthcare service provision ensure proper exchange of information among the service providers and the clients. Communication strategy is a component that enables identification, clarification and dissemination of vital information within the health care set-up. With effective communication among all the actors in healthcare provision, patient safety practices can be achieved through early identification, clarification and dissemination of vital information and taking responsibilities for any action by healthcare providers within the team that maximizes safe care (Kliger, 2015). This facilitates for care improvement in communication and coordination of formal standardized forms that facilitate timely, accurate and complete handover information (Manley et al., 2017).

The availability of electronic records is of great value in impacting the knowledge of healthcare providers in relation to tracking patient safety. Access to electronic records and prescribing systems enables efficient multidisciplinary communication and sharing of important information associated with patients' condition, treatment and outcome (Hitchcock et al., 2014). These records should not only be available but also have to be properly coordinated. Well-coordinated care improves triage, patient flow and

management thus mitigate delayed diagnosis, treatment and adverse events (Rooney & Schilling, 2014).

Within a Health Care facility, reporting is an important practice in ensuring that services are rendered in an appropriate way and time. Surrendering of an in-depth report on patient care is a very important procedure within the healthcare delivery system. It involves moving the accountability for patient care and data required to render care from one professional team to others. Professionals with proper safety awareness always accurately discharge care settings and make sure that vital information like medication, dosages, patient status and vital medical problems are well documented for continuity and accountability in respect to safe patient care (Donaldson et al., 2017). Within the healthcare facilities, there is a desire for proper and timely documentation because it is a vital aspect within the execution of healthcare. It gives guidance to providers across all the departments, this might be important as reference notes within the event that a problem that needs written evidence arises. An example, where concerns associated with litigation procedures arise, practitioners are considered as their notes and records give evidence of what was done to the person before harm (Tingle, 2014). Patient participation is achieved through providing relevant information on how they will be involved in safety practices, strengthening safety and early detection of failures (Vaismoradi et al., 2015).

The author did not mention the moral issues which include consent as a part of safety though it gives an insight to healthcare providers that involving patients during their course of treatment enhances a decent interpersonal relationship. It ensures a mutual relationship which strengthens a secure environment free from doubts. Meetings and mentorships within the health sectors are useful in promoting knowledge sharing and proper communication. Regular technical support meetings and education with peer

mentorship offer a learning experience that enhances patient improvement outcomes (Hughes et al., 2006).

Sufficient investment of resources in safety initiatives with different mechanisms in situ for capturing safety concerns enables safety practices (Mitchell, Schuster, Smith, Pronovost, & Wu, 2016). Incident reports enhance a mirrored image and widen the organization's learning, especially in regard to data collected from patients that are associated with existing medical errors or adverse events (Waterson & Catchpole, 2016). Appropriate means and ways of collecting and disseminating information remains paramount in ensuring proper healthcare management. Organizational systems with regular use of safety protocols, collection and dissemination of relevant patient safety data, active patient management, medication follow-up and addressing of complaints sustain a deep-rooted organization safety culture. A system with clear instructions and guidelines for clinical procedures and other quick intervention for managing complications support practitioners to stick to safety measures, guidelines and protocols (Schwappach, 2015).

The system and mechanisms available for reporting cases within the healthcare environment ensure proper and timely precautionary measures are taken. Reports indicate that Incident Reporting Systems (IRS) provides insight into leadership inadequacies, unmotivated and fatigued healthcare providers and therefore the need for assessing training must meet the gaps (Stavropoulou et al., 2015).

With good and effective reporting systems, organizations are able to compare safety trends against the objectives, goals, mission and vision, which shows strategies from achievement and embraces success (Thomas, 2015). To ensure proper understanding between various treatment room departments similarly as between individual health practitioners, information sharing is vital. Creating time for employees to debate and

share ideas associated with issues of safety within the various units facilitates collaboration in realizing the shared objectives and vision of patient safety focus (Dight & Peters, 2015). Accurate recording of care process, which has incidents, provides reliable evidence for continuous monitoring and sustainable improvements (Starmer et al., 2014). According to McElroy et al. (2015), an accurate and comprehensive record provides a shared understanding of stakeholders and other teams' safety values and also the development in sustaining those values.

2.1.3 Monitoring strategies on Patient Safety Practices

Patient safety may be a concept that is increasingly gaining interest because it is viewed as a way of promoting proper healthcare provision. The concept of patient safety has emerged from increased awareness about the errors made because of human factors within the process of delivering healthcare services that has led to harm and other extreme occurrences and methods to boost patient care quality (Kim et al., 2015).

An identical clinical care protocol and guidelines to support adherence to quality standardized care through adaptation of healthcare providers and managers to the knowhow and quick access to safety protocols should be enhanced (Thomas, 2015).

Surveillance, assessment and evaluation are three components of managing a corporation that ensures a well-coordinated policy formulation and implementation. Continuous and constant surveillance with clear assessments and evaluation of patient safety practices is very important for its sustainability. Outcome measures and indicators in a systems approach manner with integration of patient safety, accelerates change of unsafe cultures and adapting to continuous improvement strategies in various clinical settings. It is realized that through accurate collection, storage, analysis and sharing of data on areas of excellence, including listening to the experiences learnt on issues of safety improves patients' outcome. This is often significant in our current health system where with new

technology, traditional methods of communication and tracking of trends should be enhanced electronically (Kerfoot, 2016). When, where and the way the data is shared have to show much consideration, especially when it involves provision of critical and sensitive services like healthcare. Sharing information among various teams enables reflection on individual behaviour, clinical processes and interpersonal relations with different stakeholders with creation of opportunities for mentorship for healthcare providers and monitoring patient safety practices (Fleming & Wentzell, 2008).

With the supply of relevant matrices, means of improvement processes and monitoring, quality of care is achieved. Use of relevant data enables early detection of weaknesses within the systems and cultures that cause latent conditions that compromise activities associated with patient safety (Martin et al., 2015). To ensure smooth flow of service provision, a company is required to speculate in powerful monitoring and evaluation systems. Organizations with powerful system of monitoring and evaluating of quality and safety of care achieves higher performance and improved quality as this ensures coordinated actions that help in avoiding safety risks (Martin et al., 2015).

The power to efficiently collect, stores and share important information on patient safety ensures proper health system management. Reports show that use of various sources of information to detect errors and weak patient safety cultures and systems which will cause failure in care process promotes coordinated actions to avoid safety risks. Standardized event classification of likely events with proper incident reporting systems encourages voluntary reporting, comparable data within the organization and provides a basis for early intervention. This sheds light in what is in practice that documentation is not up thus far, with the available data not utilized to bring the specified changes in quality of care (Mitchell et al., 2016). Globally, there are healthcare standards that are documented to provide guidance on health safety. However, achievements of international quality

standards still remain a problem with lack of training and resource constraints in most healthcare institutions and other regulatory bodies. Furthermore, strategies for proper enforcement of these standards are not strong enough to ensure implementation and adherence. Lack of evidence-based enforcement strategies with inadequate resource allocations to promote, strengthen and support adherence to the standards have been reported (Batalden et al., 2002).

The report on human being is bound to make error by the Institute of Medicine (1999) highlights importance of proper corrective measures that should be instituted so as to view errors as opportunity for improvement in the system and a guide to prevent future harm. In so doing, it will achieve safer health system, and subsequently improve on how errors are viewed. In addition, this gives an insight to healthcare managers on handling issues related to individual cases of patient safety errors. It has been observed that procedures for reporting healthcare incidences play an important role in achieving quality healthcare. An open and safe reporting culture enhances a spotlight on identifying what works and the way it works to boost areas where safety fails (Westbrook et al., 2010).

The status of health care facility contributes in shaping the standards of the services rendered within the facility. Patients subjectively experiences unsafe care during hospitalization. A conducive and cozy environment depicts a way of safety and security from harm with good collaboration between healthcare providers, patients and visitors (Mollon, 2014)

2.1.4 Patient Advocacy Strategies on Patient Safety

The perception on health service delivery is decided by the character of service the health center delivers to its clients. A secure healthcare system is achieved through the patient's perception in respect to their experience at different service delivery points across the health system (Illingworth, 2015). Investing in Patient safety practices and other risk

management practices could also be expensive; however, unsafe care is also costly to the individual patient and family, and also to the healthcare system at large (Hollnagel et al., 2015).

With the value of loss of productivity to permanent disability or death of the individual who have suffered harm, this has to be evaluated (Manley et al., 2017). Studies revealed that patient's informational needs and goals that exist is what constitute patients' safety. For instance, patients' constructions of the meaning of the term or concept 'feeling of safety' has since elicited mixed reaction since it is thought to be technical aspects of healthcare (Mollon, 2014). Therefore, it is critical to understand what is perceived to be quality in relation to the treatment outcomes given to the patient.

The cost of patient safety issues surprisingly has taken huge costs of government expenditure. For instance, damages paid to patients in UK is said to have increased by 23% in 2014/15, rising from £774.4 million to £950.4 million (Authority, 2016). These statistics may be incomparable to the status in the developing countries where reporting systems are still not well strengthened with little attention on the reported cases of harm during medical care coupled with non- involvement of patients during their care (WHO, 2010). Kenyan health sector has been emphasizing on the need to promote safety in healthcare facilities. Integration of Kenya Quality Model for Health and patient safety enhances improved quality. Cases must be focused to patient needs and rights, involving them at every care process in decision making. The report advocated for basic training on patient safety to be integrated into the curriculum of health-related education at all levels. Despite WHO providing a training curriculum on patient safety, little has been done in training institutions (Batalden et al., 2002).

This is significant in the hospital setup as a requirement that continuity of enhancing patient involvement strategies by ensuring that during orientation and induction of new

staff, students included, safety practices should be included in their programs. It enhances strengthening of patient safety practice as an all-round responsibility for everyone involved in patient care.

2.2 Critical Review

2.2.1 Patient Safety Practices

The states in which the healthcare systems, structures, processes and tasks are managed contribute to the success in delivery of quality and safe healthcare services. Mistakes during delivery of healthcare are made not only because of lack of proper training, but also because of the systems, structures, processes and tasks which are carried out in poorly designed states (WHO Patient safety report, 2010). The Report identified that in developing countries, the major factors related to patient safety were Healthcare Associated Infections (HCAI), preventable drug effects that are adverse, obstetric complications, surgical and anesthetic care, with major gaps identified coupled with inadequate staff knowledge, unavailable monitoring and ill-defined interventions.

For proper management of patient safety, there is need to ensure that diagnosis process is timely and the tools used are efficient to provide accurate results. It is noted that events related to wrong or late diagnosis was also a factor leading to lapses in patient safety practices. In line with responding to increase in concerns on value of patient upkeep and wellbeing practices, the Ministry of health in Kenya introduced initiatives geared towards improving the regulatory environment and healthcare quality improvement. This was achieved through the gazettement of Joint health inspection regulatory checklist in 2012 (Pal, Duncombe, Falzon, & Olsson, 2013).

The work was significant in that gaps were identified and that recommendations were highlighted. However, little has been done in the implementation of patient safety policies and procedures. Safe environment for staff and patients, with managers and

administrators playing a key role in patient safety practices, was identified. It called for the involvement of all stakeholders including patients so as to strengthen safety culture. It requires training and implementation of systems that identify, mitigate, manage and monitor occupational hazards as an ongoing process. It also necessitates for a risk management procedure to be codified, with details according to the size of the facility in relation to the services offered and its infrastructure. These include materials on the components of a safe environment availed, well displayed and communicated to include informational materials for patients. This sheds light to the management and healthcare providers on the reputation of putting structures linked to patient safety in place and taking into consideration patients complains as a window for further improvement.

Patient safety practice can be achieved through proper documentation, focusing on the whole system, processes and integrating good practice in all the facility operations ranging from the managerial level to the lower levels regardless of the facility size (Pal et al., 2013). Fundamentally, safety culture should be created in the right environment by leaders, which emphasizes on meaningful measurements on patient safety practices for easier application and sustainability. Capacity building and creation of a safer learning environment, safety of healthcare workforce as well as means of involving the patients and their family members at all levels of care promotes transparency with enhancing organizational culture on patient safety (Disch et al., 2017).

The patient safety systems in developing countries still need improvement for better health service delivery. According to Kenya patient safety survey report 2014, it was concluded that patient safety systems are still poor and it called for immediate action. Cost effective intervention should be put in place to achieve in the poorly performing areas like infection prevention and control, training and capacity building for staff. This report is significant in the study area since most of the structures in place are not well

utilized by the different cadres leaving questions on the quality of training received and the implementation structures, processes and procedures in place. To strengthen service delivery in a health system set-up, monitoring and review strategies should be well structured and managed. There is need for patient safety monitoring and review in order to guide the healthcare providers on the available safety measure which aims at quality patient care improvement. It is observed that better enforcement of basic policies and protocols like hand washing after every activity and procedure, use of other infection prevention techniques, colour coding of infectious waste bins should be integrated in patient safety practices. Strengthening of inspection of infrastructure and installment of fire safety equipment should be a priority as part of risk management practice (Margraff & Bertram, 2014).

2.2.2 Research Gap

The first component of enhancing patient safety is through involvement of all the stakeholders into matters of healthcare safety. Furthermore, understanding the importance of patient safety and involving patients in all aspects of their care increases confidence among doctors, patients and health systems (Macrae, 2014).

The openness in reporting errors offers space for learning and continuous improvement in patient care (Young, 2014). Safety practices rarely receive attention in the developing countries, leading to an overall lack of information related to patient safety practices and reporting systems (Dight & Peters, 2015). Studies have indicated that some of the reasons include the lack of attention related to the health systems, constraints like inadequate workforce and lack of reliable data with weak health information systems. Lack of awareness on patient safety practices in a standard healthcare practice has been reported as well as inadequate knowledge on how to enforce in the daily activities which is considered as one of the causes (Gichobi et al., 2017).

Therefore, efforts should be geared towards patient safety with establishment of evidence-based systems. The evidence-based systems have been proved to be necessary in the health safety acquisition process. It provides easier and improved strategy on patients' outcomes including their safety while receiving care. Reviewed literature has documented emergence of the concept of patient safety as having roots in raised awareness on mistakes made because of human factors within the process of delivering healthcare which will cause harm and difficulties in achieving the standard of care (Kim et al., 2015).

2.3 Theoretical Framework

2.3.1 General Service Readiness (GSR) Theory

The focus of this study was anchored on the General Service Readiness (GSR) theory developed by WHO, 2013. GSR is the capability that healthcare facilities demonstrate in terms of offering general health services. The indicators considered by this theory are the adequacy of medical equipment and facilities that are essential. These involves; basic facilities, fundamental equipment, standard safeguard for contamination prevention, diagnostic testing capacity as well as essential medicines (Al-Balushi et al., 2014). The target of this research was on the patient safety strategies, which according to the theory are considered as standard precautions. The other tenets of the theory are basic amenities and equipment, diagnostic testing capacity as well as essential medicines. Specifically, the study focused on the independent variables namely organization processes, communication strategies, monitoring strategies and patient advocacy strategies.

2.3.2 Andersen Model of Health Services Utilization

The study was also informed by the health service seeking and utilization model derived by Andersen (1995). Several recent studies such as Tomiak et al., (2000) have applied this theory. The model considers the individual's health seeking behavior as being

determined by three features namely predisposing factors, facilitating factors as well as essential factors.

The predisposing factors consist of the individuals' socio-cultural situations. The specific characteristic for individuals includes their academic qualification, employment status, family background, linkage and beliefs. Health beliefs for individuals are described based on their perceptions, standards and awareness of the health care system. Their demographics are described by their age and gender, among others. Facilitating factors are based on the personal/family status; accessibility and social relationships, while for the community, availability and quality of the healthcare services, personnel and medical utilities. As for the essential factors, the model suggests the urgent medical needs as well as the problems from which medical interventions are needed (Anderson & Newman, 2005).

The outcome for the model comprises of the clear understanding of health seeking, compliance to the stipulated standards as well as the quality of the treatment given to the individual (Anderson & Newman, 2005). As for perceived healthcare need, the model focuses on the people's perception on the health services and the functionality of the institutions. It also entails how individuals perceive the consequences of their health conditions that convict them to seek medical attention (Anderson & Newman, 2005). The model is illustrated and described below in Figure 1.

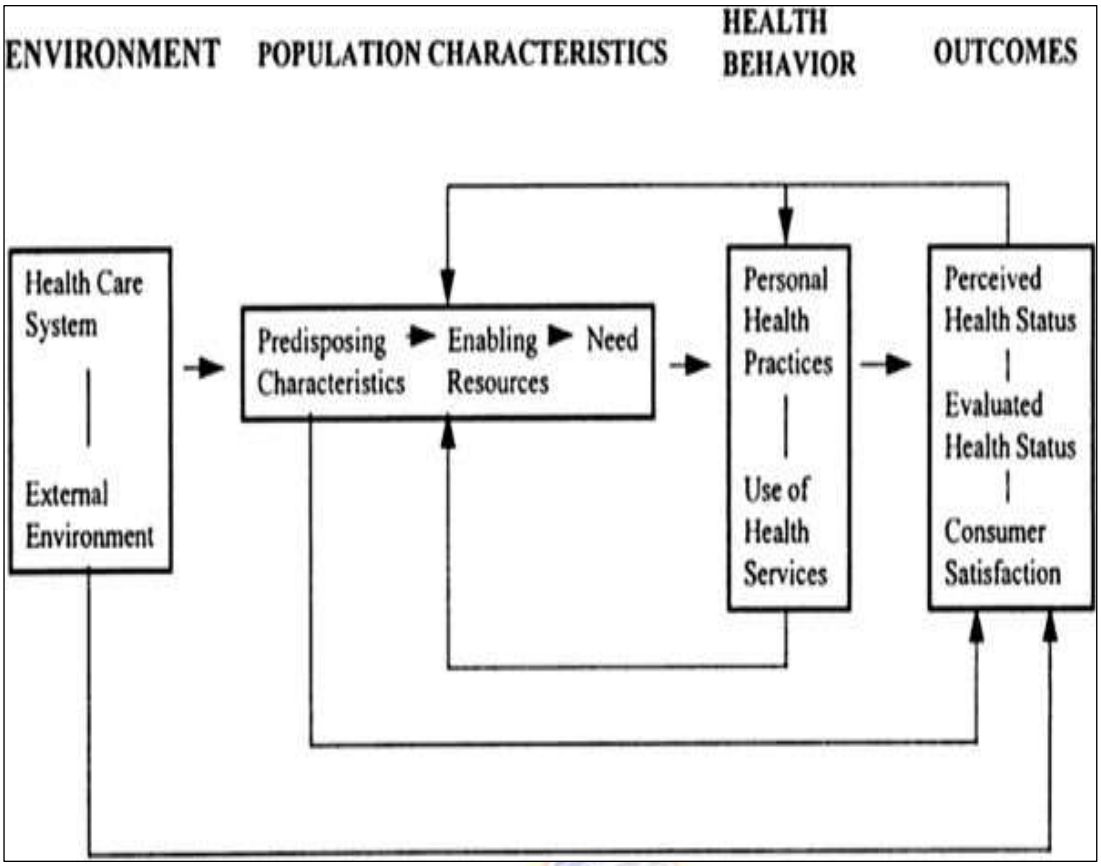

Figure 1: Andersen Model of Health Services Utilization

Source: (Tomiak, Berthelot, Guimond, & Mustard, 2000)

2.3.3. Donabedian Model for Assessment of Quality of Care

The design of Donabedian Model was to describe the ability to accommodate a wide range of healthcare service delivery settings (Lawson &Yazdany, 2012). For this study, the model focused on the structures and processes of healthcare delivery systems that if well modified can remarkably enhance the flow of patients as well as exchange of medical information. The model gives an illustration on how the administrators in charge of different levels of health facilities can ensure better coordination for healthcare delivery by efficient communication of medical test results from the laboratory technician to the healthcare provider in a trial to streamline patient care. The theory is relevant and applicable for this study as it addresses the structural processes and communication strategy as the key determinants of patient safety considered to be an outcome of quality

healthcare. However, there have been critics pointing out that the model fails to integrate fundamental factors, for instance the patient characteristics and environmental factors whose consideration is essential for assessing healthcare quality (Carayon. *et al*., 2006). The model is presented in Figure 2 below.

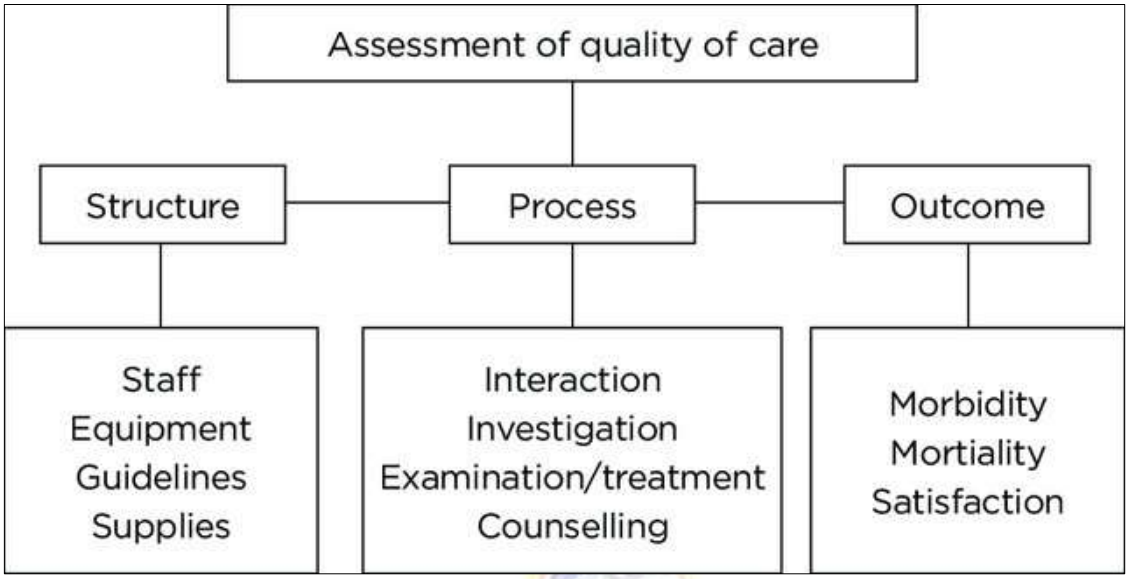

Figure 2: The Donabedian Model for Assessment of Quality of Care

Source: (Lawson &Yazdany, 2012)

2.4. Conceptual Framework

The conceptual framework adopted in this study incorporated the interaction between the independent variables namely organization processes, communication strategies, monitoring strategies as well as patient advocacy strategies on the patient safety practices (dependent variable). The intervening variables including policy, workforce training and resources may be beyond the healthcare providers' capacity, however, it may result from inadequacies within hospital management teams as a system and it may hinder implementation patient safety practices. This study was structured based on the following conceptual framework (Figure 3).

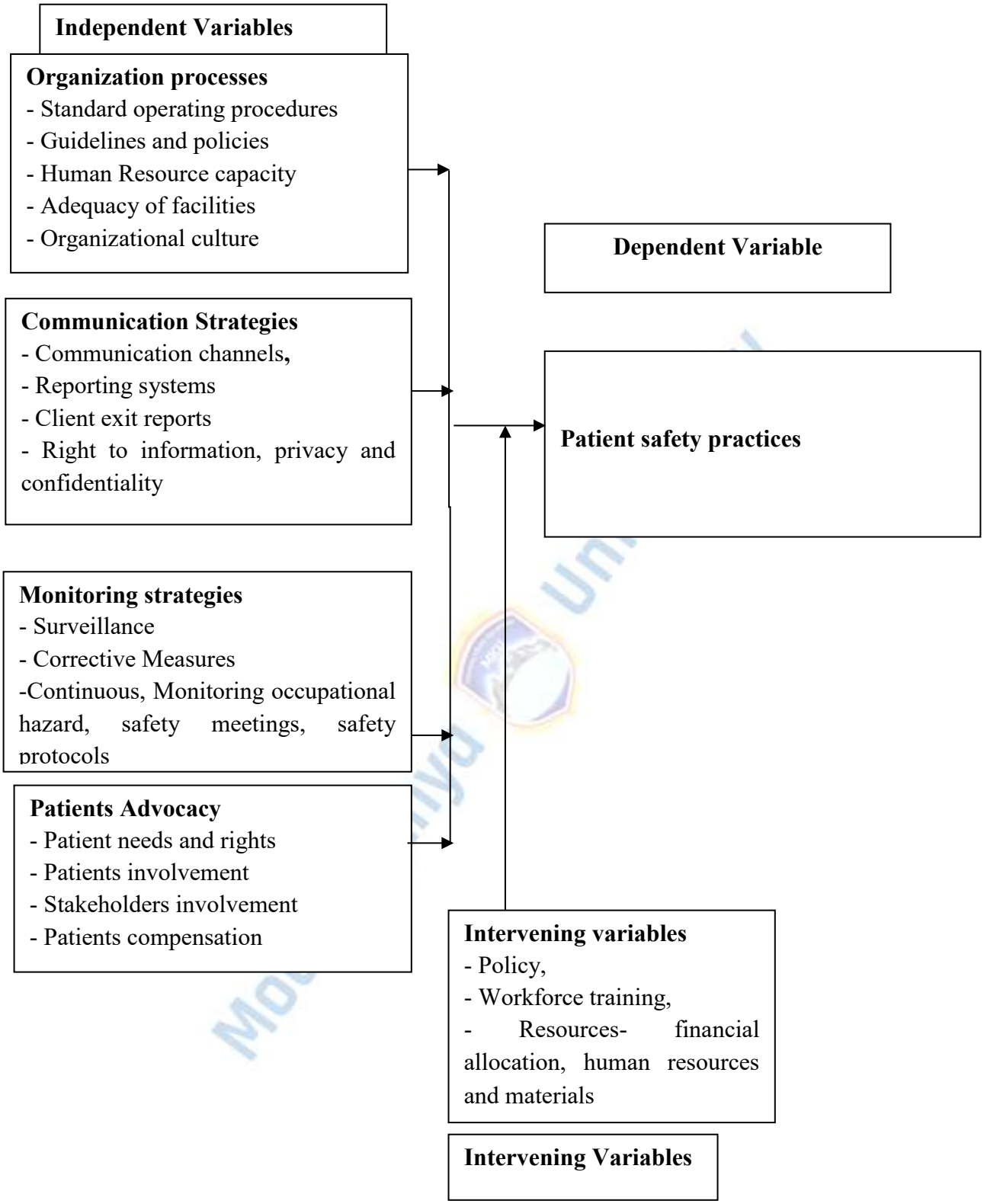

Figure 3: Conceptual framework on Strategies on patient Safety Practices

(Conceptualized from Literature Review)

2.5. Summary of Reviewed Literature

The study noted the usefulness of patients exit interviews prior to them getting discharged from the hospital. It has been observed that patient exit interviews with other conventional matrices facilitate collection of useful information that will be necessary for monitoring and evaluating the patient safety interventions. However, this has remained a big challenge in most healthcare facilities since healthcare providers are adamant in implementing it due to fear of victimization (Martin et al., 2015).

For achieving a better health service provision, existing gaps need to be identified and sealed. Knowledge gap in monitoring and evaluation in patient safety is one among the challenges faced by most of the implementers of patient safety issues. Fundamentally, it is concerned with having a clear knowledge of incidents that may occur, in relation to patient care, which includes clinical administration, clinical processes, documentation, Healthcare Associated Infections (HCAI), Medication Errors (ME), blood and blood products errors, nutrition, medical device, behaviour, patient accidents, infrastructure, resources and organizational management (McElroy et al., 2015).

From existing literatures, the above factors have not been adequately factored in patient safety practice, resulting to unsustainably in health services provision. Issues related to patient safety have become a general public concern and of policy makers at the state and county levels. According to reports from various sources including media and litigation processes, it has fueled patient safety partly, through the coverage of individuals who were victims of medical errors coupled with adverse drug effects. Fundamentally, focusing on patient safety means to maintain trust within all the systems in healthcare (Flott et al., 2017).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0. Introduction

This chapter covers the materials and procedures that were applied in the study. It provides detailed information on the research design, the study area location, the study population size and distribution, the techniques involved in sampling, the instruments used in the study, the procedure and nature of data collection, the techniques involved in the data analysis as well as the ethical issues considered under this study.

3.1. Research Approach

In this study, mixed methods research approach was used to attain triangulation by collecting data from different categories of respondents (Poni, 2014). The study employed the quantitative research approach due to its suitability in testing the relationships between study variables. It involved examination of the organizational processes on patient safety practices among healthcare providers, determination of the communication strategies on patient safety practices, evaluating monitoring strategies on patient safety practices and determining the patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya. Qualitative research approach was also used to facilitate an inductive inquiry that enabled the researcher to collect non-statistical data using interviews in an attempt to get in-depth information regarding patient safety practices. Under this, health facilities administrators were subjected to key informant interview to collect information on patients safety practices and factor influencing it (Auriacombe & Mouton, 2007).

3.2. Research design

Under this study, the cross-sectional descriptive research design was applied. Cross section refers to studying phenomenon at a point in time without repeating. The study

involved healthcare providers from different departments within the hospital as respondents.

3.3. Location of the study

This study was undertaken at Nakuru County. Main activities in the county include farming, business, and production industries. Nakuru County Referral Hospital is a Level 5 Hospital (L5H). It is the largest health facility in the region serving other six neighbouring counties as its referral Centre. It has a bed capacity of 600 with additional new maternity unit with a bed capacity of 250 (Health records report, 2019). The facility serves a catchment population of 2.3 million and offers services which range from curative (Medical, Surgical, Peadiatric, Orthopeadics, Mental and Renal units), promotive, preventive and rehabilitative services. It has 18 wards, 4 theatres, Mother and baby unit, Intensive Care Unit (ICU), various clinics and Comprehensive Care Centre (CCC).

3.4 Target Population

All healthcare providers at various levels in various departments in Nakuru County referral hospital was estimated to totals of 656 (Human resource report, 2019). The selection criteria involved those healthcare practitioners who formulate strategies (administrators) as well as those offering preventive, promotive and curative services and nurses involved in general service delivery. The healthcare providers who had not stayed at the facilities for a period of more than one year were excluded from the study. The study population was 656 healthcare practitioners whose distribution were as displayed in Table 3.1.

Table 3. 1: Study Population

Category	Population
Administrators	10
Nurses	422
Dentists	15
Medical officers	19
Orthopeadic	7
Nutritionists	11
Health records	15
Occupational therapists	9
Physiotherapy	15
Laboratory	36
Radiographers	12
Clinical officers	77
Pharmacists	8
Total	656

(Staff establishment report, 2019).

3.5 Sampling procedures

The selection of Key informants (KI) was accomplished through purposive sampling that included the administrators since they havd relevant information on strategy formulation based on their knowledge and experience of the phenomenon under study. Stratified random sampling method was used to select respondents from different cadres of healthcare providers who filled the questionnaire. This ensured a representative sample for each cadre considering that they were from different departments. Proportionate sampling was used to distribute the samples across all the cadres.

3.6 Sample size determination

The sample size for the studied population was based on the formula as described by Mugenda and Mugenda (2003), expressed as;

$$n = \frac{N}{1 + Ne^2}$$

Under this; n equals to the sample size, while **N** represents the targeted population, while ***e*** denotes the level of precision desired or the confidence level that was taken to be 5%. The calculations for the sample size are displayed as follows;

$$n = \frac{656}{1 + 656(0.05)^2} = 248.5 \approx 249$$

As recommended by Eng (2003) it is important to increase the size of the sample to cater for the non-response of the respondents. To ensure that the researcher gathered data from an acceptable number of respondents, it was necessary to increase the sample size from the formula by (20/80) % that is 25%. Thus, the researcher targeted 310 respondents which were used as the sample size (Kasiulevicius,2006).

The sample size distribution is presented in Table 3.2.

Table 3. 2: Distribution of Sample Size

Category	**Population**	**Proportion (%) (N_i/N)*100**	**Sample**
Administrators	10	1.5	5
Nurses	422	64.3	199
Dentists	15	2.3	7
Medical officers	19	2.9	9
Orthopeadic	7	1.1	3
Nutritionists	11	1.7	5
Health records	15	2.3	7
Occupational therapists	9	1.4	4
Physiotherapy	15	2.3	7
Laboratory	36	5.5	17
Radiographers	12	1.8	6
Clinical officers	77	11.7	36
Pharmacy	8	1.2	4
Total	**656**	**100**	**310**

3.7. Data collection Instruments and procedure

The data collection tools were structured questionnaire consisting of four sections; questions on the organizational processes on patient safety practices, communication strategies, monitoring strategies on patient safety practices and patient advocacy strategies on patient safety. The questionnaire consisted of both open and closed ended questions.

Key Informant Interview was used to get in-depth information from healthcare managers on strategies on patient safety. Observation checklists were also used to ascertain procedures and the condition for the physical amenities that are associated with patient safety practices. Self-administered questionnaires were used to collect quantitative data, observation checklists were used to record the procedures and available structures. Qualitative data was collected using Key Informant Interview (KII). Since the respondents are literate, they were requested to fill the questionnaires and participate in an interview. The questionnaires were administered to the respondents at Nakuru county referral Hospital, Kenya. The respondents were given time of up to 2-3days to enable them in responding.

3.7.1 Validity in Research

The face validity of the questionnaire was carried out by having subject matter experts from both the teaching fraternity and practicing academicians. These individuals were chosen based on their experience and authority on the subject strategies on patient safety practices for them to judge the relevance of the various questions in the questionnaire and their input incorporated.

3.7.2. Reliability of Research Instruments

The data collection instruments were piloted to a sample of healthcare providers with the same characteristics to the actual sample. It was carried out at Nyahururu hospital using

10% of the total tools. The Cronbach's alpha coefficient was used to determine reliability of the questionnaire. Cronbach's Alpha ranges in value from 0 to 1. The study yielded a coefficient of 0.873 which was greater than 0.7 and was considered a minimum acceptable level (Santos, 1999). This was useful in identifying overlooked constraints in the tool application, and to guide any adjustment before the actual study.

3.8 Data analysis and procedures

Data that was used in this study was both quantitative and qualitative. The Key Informant Interviews yielded qualitative data that was analyzed thematically using content analysis. Quantitative information was analyzed by means of descriptive statistics that include measures of frequency, percent, mean and standard deviation. For inferential statistics, Spearman's correlation analysis was used to determine the association between organizational process, communication strategy, monitoring strategy and patient advocacy strategies safety on patient safety practices using the 20th version of Statistical Package for the Social Sciences (SPSS). A confidence level of 95% ($P<0.05$) was considered significant. Data was presented in table forms, as well as pie charts and graphs forms.

3.9. Ethical Considerations

Permit for this study was obtained from the Kenyan National Commission for Science, Technology and Innovation (NACOSTI), and also through an introductory letter provided by the Mount Kenya University research committee and the health directorate of the County of Nakuru. Certificate of authorization was obtained from the Department of health services, Nakuru County. Permission to conduct the study within the hospital was obtained from the Medical superintendent, Nakuru county referral Hospital. Written consent was obtained from every respondent, and guaranteed of confidentiality.

Participation by the respondents was voluntary. The researcher ensured that anonymity was maintained by coding. No names were written on the questionnaire.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.0. Introduction

The chapter covers the study findings presentation and discussion. It comprises of background information, organization processes on patient safety, communication strategies on patient safety, monitoring strategies on patient safety, patient advocacy strategies on patient safety and patient safety practices as well as the key informants' opinions on strategies on patient safety.

4.1. Response Rate

The researcher sought to establish the response rate. The outcomes are shown in Figure 4.1.

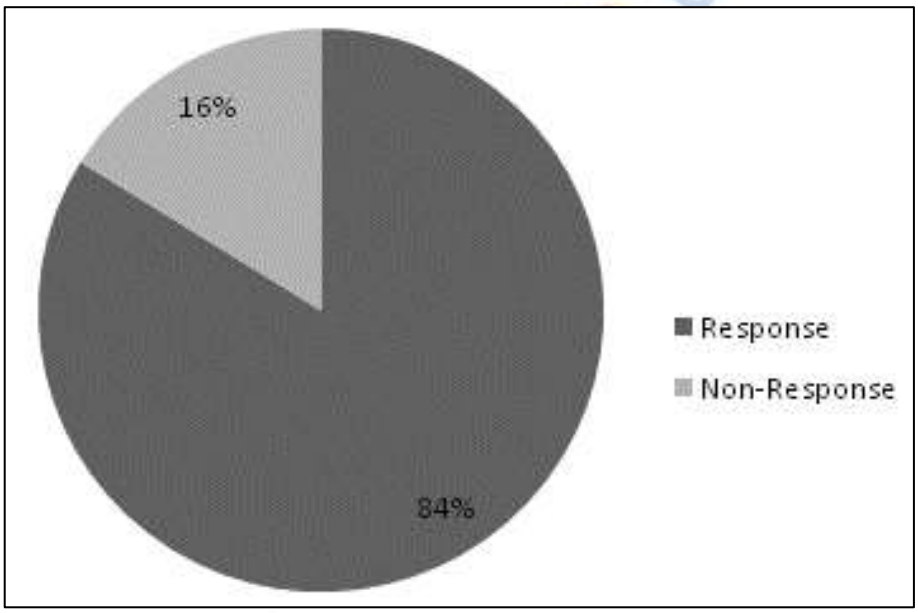

Figure 4. 1: Response Rate

The researcher distributed 310 questionnaires. A total of 259 questionnaires were recovered. This constituted to a response rate of 84 % with only 16 % non-responses. According to Kothari (2005), 50% response rate is considered to be adequate, 60% good

while 70% and above is termed to be very good for analysis. This indicates that 84% response rate was appropriate for further analysis.

4.2 Background Information

This section contains result findings and elaborates discussion on the distribution of the healthcare providers. It covers the gender, age, cadre, employment status as well as working duration of the health care providers.

4.2.1. Distribution of Respondents by Gender

The study was designed to evaluate the healthcare providers' nature of distribution and proportion of the gender. The response was categorized into male and female. The outcomes are shown in Figure 4.2.

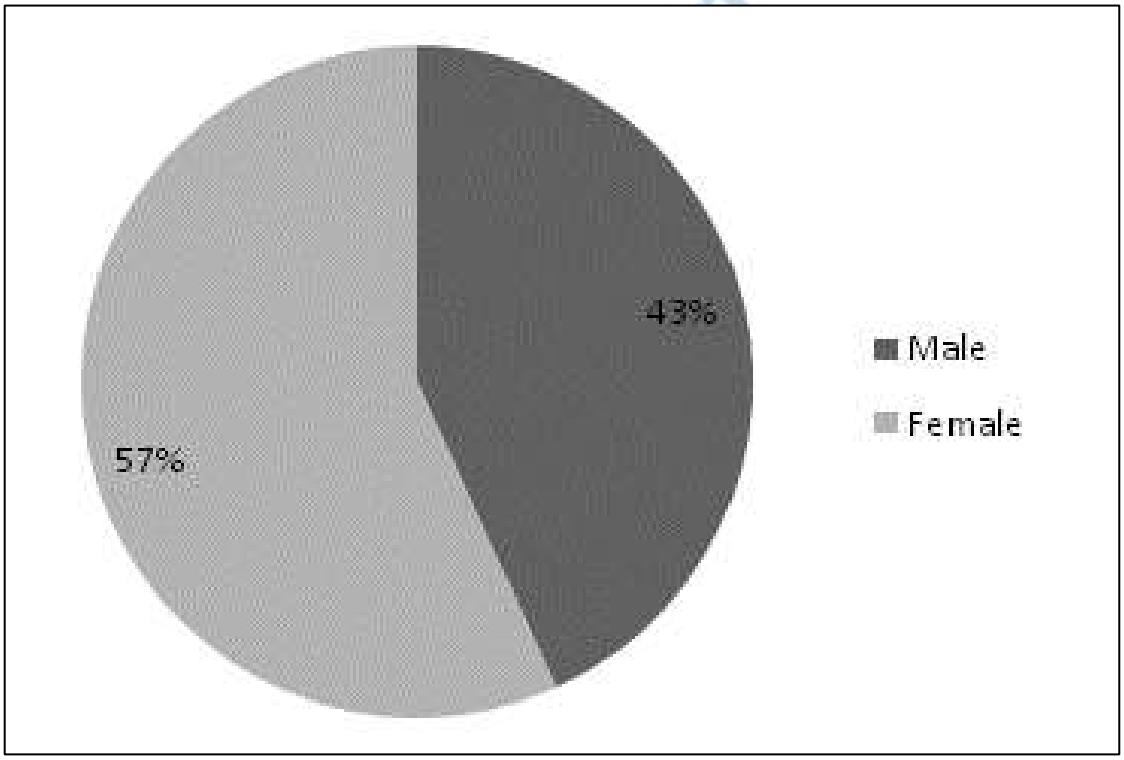

Figure 4. 2: Gender of Healthcare Providers

As indicated in Figure 4.2, majority of healthcare providers (57 %) were found to be female while 43 % were male. Since no gender exceeded a two thirds proportion, it was clearly revealed that there was gender balance in the representation of the gender among

healthcare providers. In the study area, even though the proposition of female gender was higher than males but the difference was within the proportion recommended by the one-third gender rule enshrined in the Kenya constitution. This also agrees with the findings by a study by Tenna et al., (2013) who found out that female healthcare worker in Ethiopia (87.6 %), Australia (87.6 %) and United States of America (92.4 %).

4.2.2. Distribution of Respondents by Age

The study aimed at evaluating the respondent's proportion based on the age. The response was categorized into intervals of 18 – 27, 28 – 32, 33 – 37, 38 – 42 and more than 42 years of age. The results are shown in Figure 4.3.

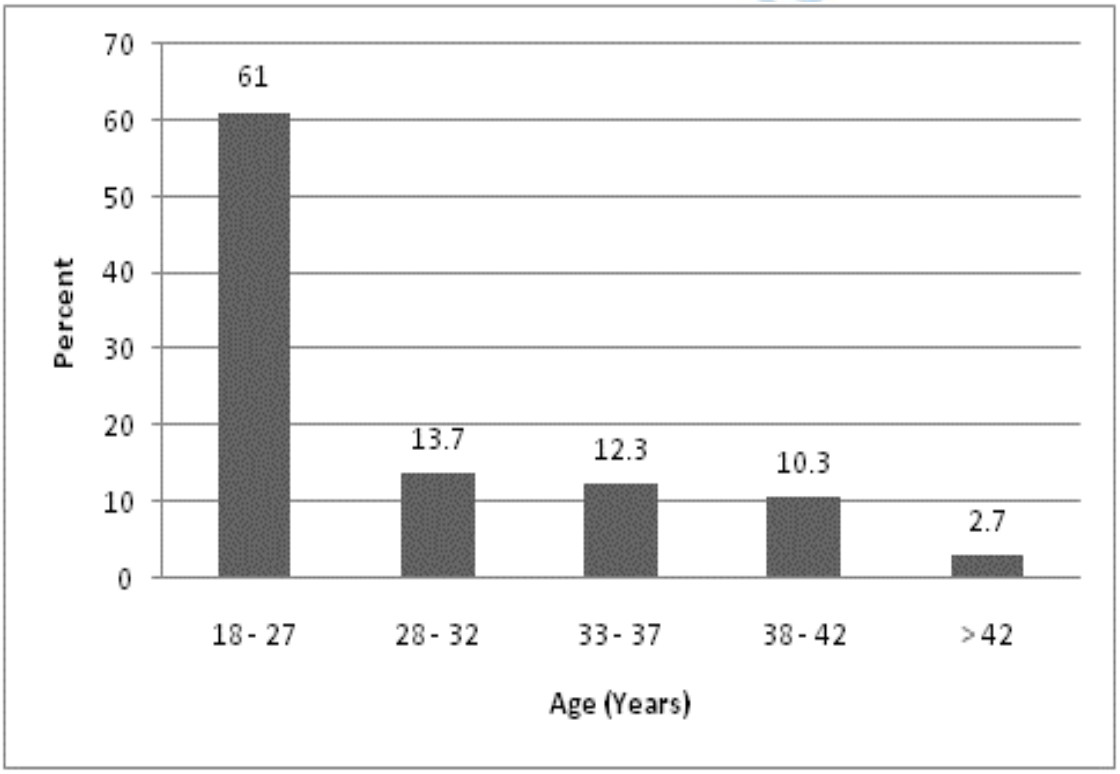

Figure 4. 3: Age of the Healthcare Providers

According to Figure 4.3, majority of the healthcare providers (61 %) stated were found to be 18 – 27 years old, followed by 13.7 % who were aged 28 – 32 years, 12.3 % were 33 – 37 years, 10.3 % were 38 – 42 years with only 2.7 % being older than 42 years. Since the age of the healthcare providers was positively skewed, it implies that the workforce

at the Nakuru County Referral Hospital is relatively younger. The age proportionality as depicted by the study is an indication of mixed work experiences, while ensuring proper majority of the young are available for the continuity in health service provision. This agrees with the results by Tenna et al (2013) who found that the mean of the healthcare providers was 30 years indicating a relatively young workforce.

4.2.3. Distribution of Respondents by Cadre

The researcher wanted to establish the cadre of the healthcare providers who contributed in the study. The response was categorized into nurse, clinical officer, nutritionist, doctor as well as others. The outcomes are shown in Figure 4.4.

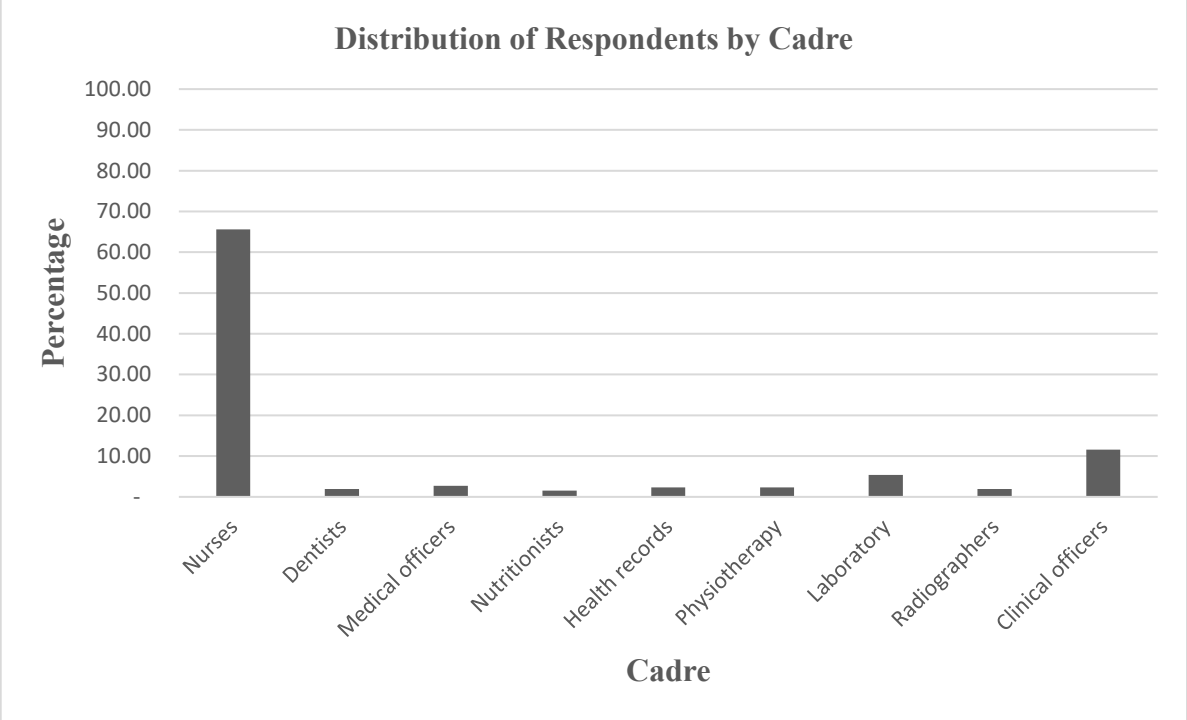

Figure 4. 4: Cadre of Healthcare Providers

According to Figure 4.4, majority of the healthcare providers (65.6 %) who participated in the study were nurses followed by 11.5 % who were clinical officers. On the other hand, 2.7 % stated to be medical officers with only 1.5 % being nutritionist, laboratory staff 5.4%, with health records officers and physiotherapists each 2.3% while

radiographers and dentists were 1.9 % each. This shows that the study targeted different cadres of healthcare providers since health safety of patients should be emphasized at all sectors and levels in the healthcare facilities and more so that of the statue of Buchan and Campbell (2018) that there are more nurses among the health care workers in Brazil.

4.2.4. Distribution of Respondents by Current Employment Status

The healthcare providers were requested to indicate their current employment status. The response was categorized into full time, part time, contract and volunteer. The outcomes are shown in Figure 4.5.

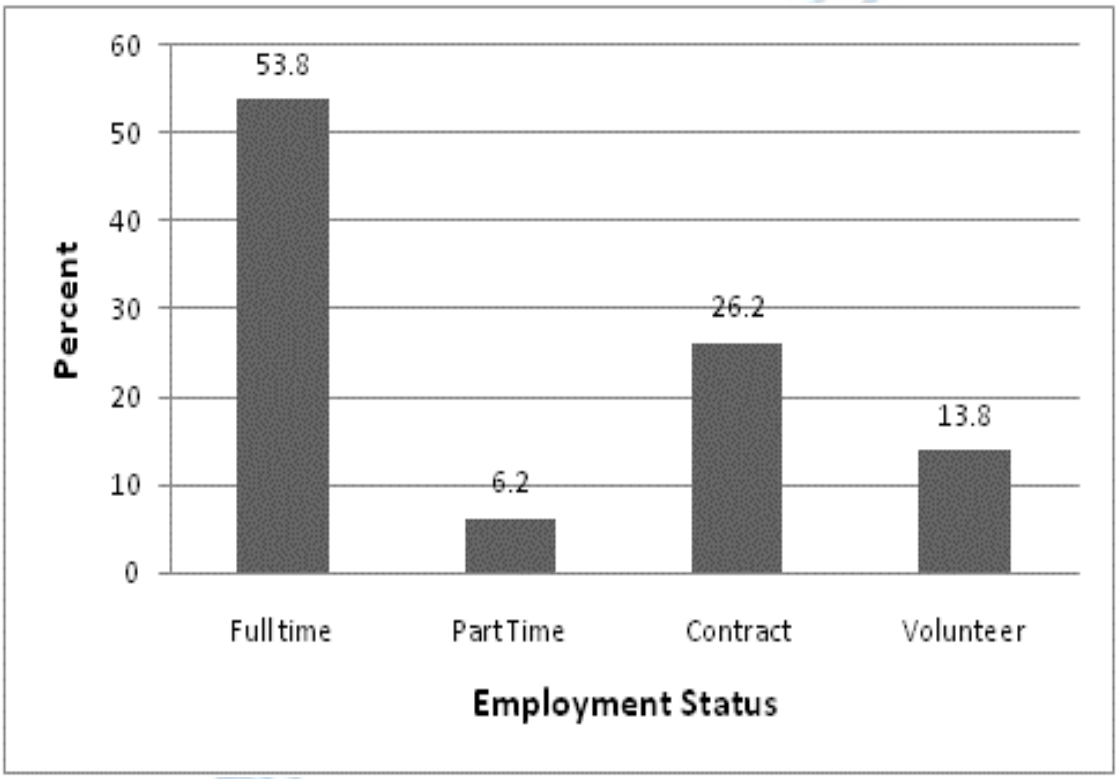

Figure 4. 5: Employment Status of Healthcare Providers

According to the study findings presented in Figure 4.5, it was established that majority of the healthcare providers (53.8 %) who participated in the study were employed as full-time staff with 26.2 % employed on contract. However, 13.8 % indicated that they were volunteers and only 6.2 % stated that they were part timers. This shows that the sample was representative as it consisted of employees of different kind. The higher number of

full-time workers also indicated the availability of health service providers who are on full time employment and able to dedicate to longer working hours. This also agrees with the WHO (2016) that recommends the need to employ more healthcare workers in permanent basis. Indeed, Quality in healthcare is a production of cooperation between the patient and the healthcare provider in a supportive environment. Personal factors of the provider and the patient, and factors pertaining to the healthcare organisation, healthcare system, and the broader environment affect healthcare service quality. Healthcare quality can be improved by supportive visionary leadership, proper planning, education and training, availability of resources, effective management of resources, employees and processes, and collaboration and cooperation among providers (Mosadeghrad, 2014).

4.2.5. Distribution of Respondents by Working Duration

The healthcare providers were inquired to indicate the duration they have been employed in the Nakuru County Referral Hospital. The response was categorized into intervals of; below one year, between one to two years, between two to three years, between three to four years, and above four years. The results are shown in Figure 4.6.

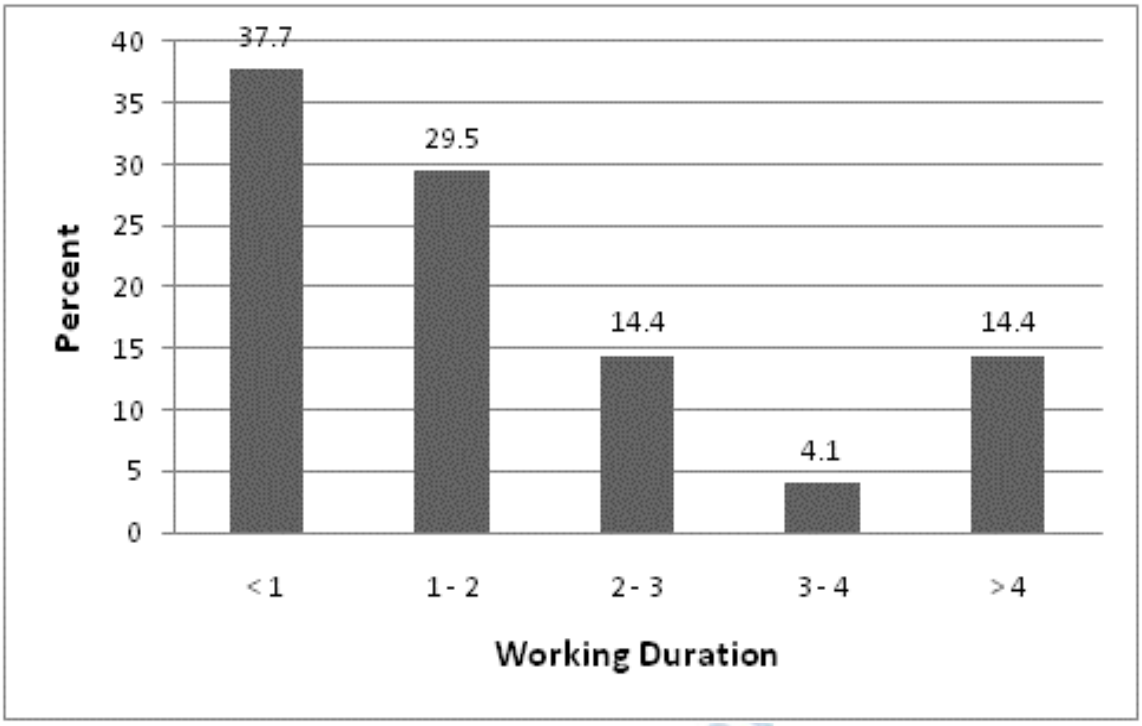

Figure 4. 6: Working Duration of Healthcare Providers

According to Figure 4.6, the study revealed that majority of the healthcare providers (37.7 %) had worked in Nakuru County Referral Hospital for less than 1 year, followed by 29.5 % had worked for a duration of 1 – 2 years, and 14.4 % for 2 – 3 years and similar proportion for 3 – 4 yearswhile4.1 % had been there for more than 4 years. The study revealed a high rate of turn-over among healthcare workers that the WHO (2016) that considers turn over as a crisis in the health sector. High rates of burnout and turnover in primary care are had been recorded to be the compelling problems and that burnout contributes to turnover among primary care clinicians, but not among staff. Although reducing clinician burnout may help to decrease rates of turnover, health care organizations and policymakers concerned about employee turnover in primary care need to understand the multifactorial causes of turnover to develop effective retention strategies for clinicians and staff (Willard-Grace et al., 2019).

4.2.6 Distribution of Respondents by Work Pattern

The healthcare providers were asked to indicate their work pattern. The response was

categorized into shifts, days only, evening only and night only. The results are shown in Figure 4.7.

Figure 4. 7: Working Duration of Healthcare Providers

According to Figure 4.7, majority of the healthcare providers (65.8 %) works in shifts while 28.1 % work during the day while 5.4 % work during the night. Only 0.7 % indicated working during the evening. This is in agreement with the WHO (2016) that emphasizes on the importance of employing enough healthcare staff to ensure the provision of health services to minimize incidents of medical errors. Other studies have highlighted the potential benefits for providers, patients, and health care organizations of designing work environments that value and support a broad range of employees as having essential contributions to make to the care process and their organizations (Weinberg et al., 2013).

4.4 Organizational Processes on Patient Safety Practices

The researcher sought to establish the extent of effectiveness of organization structure on patient safety practices among healthcare providers at Nakuru County Referral Hospital. The respondents' level of agreement with the statements on organization structure on the patient safety practices was sorted through the questionnaire survey. As provided in table 4.1, the response results were presented based on the five Likert Scale namely; Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA). The response was then analysed using descriptive statistics (mean (μ) and standard deviation (σ)) and inferential statistics (Spearman's Correlation). All the variables as per the statements on organizational processes had significant correlation with the patient safety practices and the need for implementation of quality improvement programmes having the strongest positive correlation with patient safety (R = 0.922).

Table 4. 1: Organizational Processes on Patient Safety Practices

Statement	SD	D	N	A	SA	μ	Σ	R value	P-Value
The hospital management leads in transformation of the vision towards patient safety practices	5.1	2.2	16.7	63.7	12.3	4	2.7	0.542	**0.004** **
There is implementation of quality improvement programmes	0	4.4	17.5	59.9	18.2	3.9	0.7	0.922	**0.028** **
There are adequate patient safety amenities	2.2	11	28.5	46.7	11.7	3.5	0.9	0.912	**0.004** **
There is consistency in provision of care through embracing ICT leading to positive healthcare outcomes	3.6	9.5	25.5	43.1	18.2	3.6	1	0.845	**0.025** **
There is adequate staff (number and specializations)	22.3	19	23	25.9	9.4	2.8	1.3	0.893	**0.034** **
There are effective systems concerned with reporting safety events that include near misses	6.4	18	24.1	42.6	8.5	3.3	1.1	0.644	**0.003** **
There are minimal/or no intentional or malpractice but systems operation or policy constrictions that are beyond practitioners' control	4.2	11	27.5	45.1	12.7	3.5	1	0.524	**0.012** **
There is compliance with professional bodies and care regulators	4.2	11	27.5	45.1	12.7	3.8	0.9	0.668	**0.045** **

(** Significant two tailed at 0.05, n=259)

The study findings revealed that the hospital management leads in transformation of the vision towards patient safety practices according to the views of majority of the healthcare providers (63.1 %) who agreed and 12.3 % who strongly agreed. On the other hand, 16.7 % of the healthcare providers were neutral and those in dispute were 5.1 % disagreeing and 5.1 % strongly disagreeing. The response was further summarized using descriptive

statistics that yielded 4.0 and 1.7 as the mean and the standard deviation respectively. Since the mean exceeded 3, it was clear that the management in Nakuru County Referral Hospital leads in transformation of the vision in achieving patient safety practices. The study established that there is implementation of quality improvement programmes as indicated by majority of the healthcare providers (59.9 %) who agreed and 18.2 % who strongly agreed. On the other hand, 17.5% of the healthcare providers were neutral. However, 4.4 % were in disagreement. The response was further summarized using descriptive statistics and inferential statistics that yielded 3.9 and 0.7 as the mean and the standard deviation respectively with R value of 0.922 and P value of 0.028. Since the mean exceeds 3, it indicated that there was implementation of quality improvement program in Nakuru County Referral Hospital, which also showed that there was an association between quality improvement programmes and patient safety as shown by R value of 0.922. This was in agreement with Vaismoradi, Jordan and Kangasniemi (2015) who retaliates that WHO recommends scope of patient safety as having diverse areas such as mitigation strategies, avoiding errors and other adverse effects during provision of healthcare. Indeed, should try to resolve methodological constraints associated with the measurement of quality systems as well as quantifying more factors associated with the implementation of quality improvement interventions (van Schoten et al., 2018).

The study findings indicate that there were adequate patient safety amenities as opined by majority of the healthcare providers (46.7 %) who agreed and 11.7 % who strongly agreed. On the other hand, 28.5 % of the healthcare providers were neutral with 11 % in disagreement and 2.2 % strongly disagreeing. The response was further summarized using inferential and descriptive statistics that yielded 3.5 and 0.9 as the mean and standard deviation respectively with an R value of 0.912 and P value of 0.004 meaning there is a strong correlation between adequate amenities with patient safety practices.

Since the mean exceeds 3, it is clear that there are adequate patient safety amenities in Nakuru County Referral Hospital. The researcher found out there is consistency in provision of care through embracing Information Communication and Technology (ICT) leading to positive healthcare outcomes as indicated by majority of the healthcare providers (43.1 %) who agreed and 18.2 % who strongly agreed. However, 25.5% of the healthcare providers were neutral while 9.5% disagreed and 3.6% strongly disagreed. The researcher then summarized the responses through inferential and descriptive statistics that yielded 3.6 and 1.0 as the mean and standard deviation respectively with an R value of 0.845 and P value of 0.025, this showed that there was correlation with patient safety. Since the mean exceeds 3, it indicated that there was consistency in provision of care through embracing ICT leading to positive healthcare outcomes in Nakuru County Referral Hospital. This agrees with Bedoya et al. (2017a or b) who recommend maintaining consistency in the implementation and sustainability of the strategies on patient safety practices. Therefore, the study confirmed that ICT offers various ways to improvise the Healthcare system. The healthcare field has to use ICT more intelligently to bring in more changes and elevate the healthcare to a much higher level which is important for the country's development.

The study findings indicate that there are minimal/or no intentional or malpractice but systems operation or policy constrictions that are beyond practitioners' control as opined by majority of the healthcare providers (45.1 %) who agreed and 12.7 % who strongly agreed. On the other hand, 27.5 % of the healthcare providers were neutral with 11 % in disagreement and 4.2 strongly disagreeing. The response was further summarized using descriptive statistics that yielded 3.5 and 1.0 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there are minimal/or no intentional or malpractice but systems operation or policy constrictions that are beyond practitioners'

control in Nakuru County Referral Hospital. The researcher established that there are effective systems concerned with reporting safety events that include near misses according to majority of the healthcare providers (42.6 %) who agreed and 8.5 % who strongly agreed. However, 24.1% of the healthcare providers were neutral while 18 % disagreed and 6.4 strongly disagreed. The researcher then summarized the response in descriptive statistics that 3.3 1.1 as the mean and standard deviation respectively. Since the mean slightly exceeds 3, it is clear that the study recorded a moderate effectiveness of the systems concerned with reporting safety events that include near misses in Nakuru County Referral Hospital. Bedoya et al. (2017a and b) postulated that it is important to institutionalize health service delivery and should become a priority in supporting sustainability of patient safety measures, and making patient safety an organizational culture.

As for the operations in Nakuru County Referral Hospital complying with professional bodies and care regulators, majority of the healthcare providers (45.1 %) agreed and 12.7 % strongly agreed. However, 27.5% of the healthcare providers were neutral with those in dispute being11 % who disagreed and 4.2% strongly disagreeing. The researcher then summarized the response in inferential and descriptive statistics that yielded 3.8 and 0.9 as the mean and standard deviation respectively with R values of 0.668. Since the mean exceeds 3, it is clear that there is compliance with professional bodies and care regulators in Nakuru County Referral Hospital. According to Hughes et al. (2006), patient safety practices depend on the organizational culture and other underlying factors, which may be influenced by both internal and external factors to the organization, for example, the policy environment, organization culture, leadership, availability of resources and professional bodies and care regulators.

On the other hand, the study findings indicate that there was no adequate staff in terms of numbers and specializations according to majority of the healthcare providers (22.3 %) who strongly disagreed and 19% who disagreed. However, 23% of the healthcare providers were neutral with 25.9 % being in agreement and 9.4 strongly agreeing. The response was further summarized using descriptive statistics and inferential statistics that 2.8 and 1.3 as the mean and standard deviation respectively and an R value of 0.893 this showed strong correlation between staffing and patient safety practices. Since the mean is less than 3, it is clear that there is no adequate staffing in Nakuru County Referral Hospital. For efficient provision of universal health care, there need for adequate and well specialized and qualified health service providers. To achieve this there is need for constant training and refresher courses. Based on this study, the finding on this is alarming since Needleman et al. (2002) emphasized on the importance of hospitals having accurate number of staff with the precise skill that work collaboratively to enhance the achievement of quality in relation to patient care.

4.5 Communication Strategies on Patient Safety Practices

The researcher sought to establish the extent of effectiveness of communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital. The respondents' level of agreement with the statements on communication strategy on the patient safety practices was sorted through the questionnaire survey. The results on communication strategies on patient safety practices were as presented in Table 4.2. The response results here were presented based on the five Likert Scale namely; Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA). The response was then summarized using descriptive statistics namely mean (μ) and standard deviation (σ) and inferential statistics (Spearman's Correlation). Most of the variables as per statements on communication

strategies on patient safety practices showed there is some significant correlation with patient safety with the statement that coordination ensures patient flow thus mitigates delayed diagnosis having the strongest positive significant correlation with patient safety practices (R= 0.893, P=0.021). Additionally, at the clinical practice level, strategies for improving nurse communication in the clinical field had been identified and applied in practice and has l eventually lead to a reduction in medical errors and improvements in patient safety, patient health and quality of care (Jang et al., 2022).

Table 4. 2: Communication Strategies on Patient Safety Practices

Statement	SD	D	N	A	SA	μ	σ	R values	P- Value
There is early clarification of information	2.1	15	25.2	45.5	11.9	3.5	1	0.326	0.082
There is efficient dissemination of vital information	2.1	7.7	26.1	48.6	15.5	3.7	0.9	0.854	**0.028****
There are formal standards that facilitate timely, accurate and complete handover information	2.1	11	25.4	49.3	12.7	3.6	0.9	0.734	0.125
There is adequate access to electronic records and prescribing systems	6.3	17	21.5	41.7	13.9	3.4	1.1	0.745	**0.033****
Coordination ensures patient flow thus mitigates delayed diagnosis, treatment and adverse events	7.1	14	26.2	42.6	10.6	3.4	1.1	0.893	**0.021****
There is adequate handing over of a detailed report on patient care	1.4	16	17.1	46.4	18.6	3.6	1	0.644	**0.003****
Vital information like medication, dosages, patient status and vital medical problems are well documented	1.4	3.5	21	49	25.2	3.9	0.9	0.524	0.072
Good interpersonal relationship and ethics are observed when handling	2.1	4.9	16.9	54.9	21.1	3.9	0.9	0.668	0.054

patients' information									
There are regular meetings to discuss and share ideas related to safety issues	7.1	13	26.2	37.6	16.3	3.4	1.1	0.934	**0.001****
Incident reports are well documented	2.9	11	16.4	45	24.3	3.8	1	0.421	**0.026****

(** Significant two tailed at 0.05, n=259)

The study findings as indicated on Table 4.2 revealed that there is early clarification of information according to the views of majority of the healthcare providers (45.5 %) who agreed and 11.9 % who strongly agreed. On the other hand, 25.2% of the healthcare providers were neutral and those in dispute were 15 % disagreeing and 2.1 % strongly disagreeing. The response was further summarized using inferential and descriptive statistics that yielded 3.5 and 1.0 as the mean and standard deviation respectively with R value of 0.326 showing some correlation to patient safety. Since the mean exceeds 3, it is clear that there is early clarification of information in Nakuru County Referral Hospital. This agrees with Kliger, 2015) who stated that patient safety practices will be achieved through early identification, clarification and dissemination of vital information and taking responsibilities for any action by healthcare providers within the team maximizes safe care.

As for the dissemination of vital information in Nakuru County Referral Hospital being efficient, majority of the healthcare providers (48.6 %) agreed and 15.5 % strongly agreed. However, 26.1% of the healthcare providers were neutral with those in dispute being 7.7 % who disagreed and 2.1 strongly disagreeing. The researcher then summarized the response in inferential and descriptive statistics that yielded 3.7 and 0.9 as the mean and standard deviation respectively with an R value of 0.854 and P value of 0.028 showing positive correlation on patient safety practices. Since the mean exceeds 3, it is

clear that there is efficient dissemination of vital information in Nakuru County Referral Hospital. The researcher established that there are formal standards that facilitate timely, accurate and complete handover information according to majority of the healthcare providers (49.3 %) who agreed and 12.7 % who strongly agreed. However, 25.4% of the healthcare providers were neutral while 11 % disagreed and 2.1 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.6 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there are formal standards that facilitate timely, accurate and complete handover information in Nakuru County Referral Hospital. This is in line with Manley et al. (2017) in a study that emphasizes on the importance to facilitate for care improvement communication and co-ordination, formal standardized forms that facilitate timely, accurate and complete handover information. Indeed, good communication also is not only based on the physical abilities of nurses, but also on education and experience (Kourkouta and Papathanasiou, 2014).

The study findings indicate that there is adequate access to electronic records and prescribing systems as opined by majority of the healthcare providers (41.7 %) who agreed and 13.9 % who strongly agreed. On the other hand, 21.5 % of the healthcare providers were neutral with 17 % were in disagreement and 6.3% strongly disagreeing. The response was further summarized using inferential statistics that yielded an R value of 0.745with a P value of 0.033 while descriptive statistics that yielded 3.4 and 1.1 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that the there is adequate access to electronic records and prescribing systems in Nakuru County Referral Hospital. Access to electronic records and prescribing systems enables an efficient multidisciplinary communication and sharing of significant information associated with patients' condition treatment and outcome (Hitchcock et al., 2014). It had

been Identified that among primary care practices, a good health record was strongly empirically associated with the workflow, policy, communication and cultural practices recommended for safe patient care (Tanner et al., 2015).

The researcher found out coordination ensures patient flow thus mitigates delayed diagnosis, treatment and adverse events as indicated by majority of the healthcare providers (42.6 %) who agreed and 10.6 % who strongly agreed. However, 26.2% of the healthcare providers were neutral while 14 % disagreed and 7.1% strongly disagreed. The researcher then summarized the response in inferential statistics which yielded an R value of 0.893 with a P value of 0.021 showing strong correlation with patient safety practices and descriptive statistics that 3.4 and 1.1 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there is coordination that ensures patient flow thus mitigates delayed diagnosis, treatment and adverse events in Nakuru County Referral Hospital. A well-coordinated care improves triage, patient flow and management thus mitigates delayed diagnosis, treatment and adverse events (Rooney & Schilling, 2014).The study revealed that there is adequate handing over of a detailed report on patient care as opined by majority of the healthcare providers (46.4 %) who agreed and 18.6 % who strongly agreed. On the other hand, 17.1% of the healthcare providers were neutral with 16 % in disagreement and 1.4 strongly disagreeing. The response was further summarized using descriptive statistics that 3.6 and 1.0 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that the there is adequate handing over of a detailed report on patient care in Nakuru County Referral Hospital. This consistent with Donaldson et al. (2017) ensures safety aware professionals always accurately discharge care settings and make sure that vital information like medication, dosages, patient status and vital medical problems are well documented for continuity and accountability in respect to safe patient care.

The researcher established that vital information like medication dosages, patient status and vital medical problems are well documented consistent with majority of the healthcare providers (49 %) who agreed and 25.2 % who strongly agreed. However, 21% of the healthcare providers were neutral while 3.5 % disagreed and 1.4 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.9 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that vital material like medication, dosages, patient status and vital medical problems are well documented in Nakuru County Referral Hospital. As for the Nakuru County Referral Hospital having good interpersonal relationship and ethics are observed when handling patients' information, majority of the healthcare providers (54.9 %) agreed and 21.1 % strongly agreed. However, 16.9% of the healthcare providers were neutral with those in dispute being 4.9 % who disagreed and 2.1 strongly disagreeing. The researcher then summarized the response in descriptive statistics that 3.9 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there is good interpersonal relationship and ethics are observed when handling patients' information in Nakuru County Referral Hospital.

The researcher found out there are regular meetings to discuss and share ideas related to safety issues as indicated by majority of the healthcare providers (37.6 %) who agreed and 16.3 % who strongly agreed. However, 26.2 % of the healthcare providers were neutral while 13 % disagreed and 7.1 strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.4 and 1.1 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there are regular meetings to discuss and share ideas related to safety issues in Nakuru County Referral Hospital. Inferential statistics yielded an R value of 0.934 with a P value of 0.001, this showed that there is a positive correlation with patient safety practices. This is in line with Hughes et

al. (2006) that advocate for regular technical support meetings and education with peer mentorship offers a learning experience that enhances in improving patient outcomes.

Similarly, the study established that incident reports are well documented according to majority of the healthcare providers (45 %) who agreed and 24.3 % who strongly agreed. However, 16.4% of the healthcare providers were neutral while 11 % disagreed and 2.9 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.8 and 1.0 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that incident reports in Nakuru County Referral Hospital are well documented. Accurate recording of the care process that features incidents provides reliable evidence for continuous monitoring and sustainable improvements (Starmer et al., 2014). In line with McElroy et al. (2015), an accurate and comprehensive record provides a shared understanding of stakeholders and other teams' safety values and therefore the development in sustaining those values. It has been observed that selection of a simple idea, which acknowledged the concerns of working with constrained consult times, led to its acceptance. Further, proactive engagements and reciprocity during all stages of health service implementation encouraged sustained partnership at work place. It has also been learnt that while encouraging a specific note format, visual reinforcements whether in the form of acronym display or visual reminder at team handover site, brought the maximum impact (Joshi et al., 2022).

4.6 Monitoring Strategies on Patient Safety Practices

The researcher sought to establish the extent of effectiveness of monitoring strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital. The respondents' level of agreement with the statements on monitoring strategies on the patient safety practices was sorted through the questionnaire survey. The results on monitoring strategies on patient safety practices are provided in table 4.3. The response

results here were presented based on the five Likert Scale namely; Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA). The response was then summarized using descriptive statistics namely mean (μ) and standard deviation (σ) and inferential statistics (Spearman's Correlation). Most of the statements showed some significant correlation with patient safety. The statement that continuous and constant surveillance with clear assessments and evaluation of patient safety practices having the strongest positive correlation with patient safety practices (R= 0.854, P= 0.028)

Table 4. 3: Monitoring Strategies on Patient Safety Practices

Statement	SD	D	N	A	SA	μ	σ	R values	P- Value
There is adherence to standardized clinical care protocols and guidelines	3.5	3.5	27.3	49	16.8	3.7	0.9	0.845	**0.022****
There is continuous and constant surveillance with clear assessments and evaluation of patient safety practices	6.3	12	18.3	48.6	14.8	3.5	1.1	0.854	**0.028****
There is accurate collection, storage, analysis and sharing of information on patient safety issues	3.5	13	24.3	43.1	16	3.5	1	0.931	**0.025****
There is the use of powerful system of monitoring and evaluating of quality and safety of care	3.6	17	26.6	43.2	9.4	3.4	1	0.756	**0.042****
There is the use of various sources of data to detect errors and weak patient safety measures	8.3	20	23.6	35.4	12.5	3.2	1.2	0.693	0.075
There is an open and safe reporting culture which enhances a focus on identifying what works and how it works	3.6	15	27.7	38.7	14.6	3.5	1	0.731	**0.012****

(** Significant two tailed at 0.05, n=259)

The study findings as indicated on Table 4.3 revealed that in Nakuru County Referral Hospital, there is adherence to standardized clinical care protocols and guidelines as

opined by majority of the healthcare providers (49 %) who agreed and 16.8 % strongly agreed. However, 27.3% of the healthcare providers were neutral with those in dispute being 3.5 % who disagreed with a similar proportion strongly disagreeing. The researcher then summarized the response in descriptive statistics that 3.7 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there is adherence to standardized clinical care protocols and guidelines in Nakuru County Referral Hospital. A standardized clinical care protocol and guidelines to support adherence to quality standardized care through adaptation of healthcare providers and managers to the knowhow and quick access to safety protocols (Thomas, 2015).

The researcher found out there is continuous and constant surveillance with clear assessments and evaluation of patient safety practices as indicated by majority of the healthcare providers (48.6 %) who agreed and 14.8 % who strongly agreed. However, 18.3% of the healthcare providers were neutral while 12 % disagreed and 6.3 strongly disagreed. The researcher then summarized the response in inferential statistics which yielded an R value of 0.854 and P value of 0.028, this shows there is a strong correlation with patient safety practices and descriptive statistics yielded 3.5 and 1.1 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that there is continuous and constant surveillance with clear assessments and evaluation of patient safety practices in Nakuru County Referral Hospital. This is significant in our current health system where with new technology, traditional methods of communication and tracking of trends should be enhanced electronically (Kerfoot, 2016). Continuous and constant surveillance with clear assessments and evaluation of patient safety practices is important for its sustainability. Outcome measures and indicators in a systems approach manner with integration of patient safety, accelerates change of insecure cultures and adapting to continuous enhancement strategies in various clinical settings.

The researcher established that there is accurate collection, storage, analysis and sharing of information on patient safety issues according to majority of the healthcare providers (43.1 %) who agreed and 16 % who strongly agreed. However, 24.3 % of the healthcare providers were neutral while 13 % disagreed and 3.5 % strongly disagreed. The researcher then summarized the response in descriptive statistics that 3.5 and 1.0 as the mean and standard deviation respectively, inferential statistics yielded an R value of 0.931 with a P value of 0.025 this showed strong correlation with strong significance on patient safety. Since the mean exceeds 3, it is clear there is accurate collection, storage, analysis and sharing of information on patient safety issues in Nakuru County Referral Hospital. Sharing information among various teams enables on individual behaviours reflection, clinical processes and interpersonal relations with various stakeholders with creation of opportunities for mentorship for staff and monitoring patient safety practices (Fleming & Wentzell, 2008). Aiming towards health care promotion, motivation of team members should be backed by strategies and practical skills in order to achieve goals and overcome challenges. There is need for values and principles of working as a team and provides team players with a practical approach to deliver quality patient care (Babiker et al., 2014).

As for the Nakuru County Referral Hospital using powerful system of monitoring and evaluating of quality and safety of care, majority of the healthcare providers (43.2 %) agreed and 9.4 % strongly agreed. However, 26.6% of the healthcare providers were neutral with those in dispute being 17 % who disagreed and 3.6 strongly disagreeing. The researcher then summarized the response in descriptive statistics that 3.4 and 1.0 as the mean and standard deviation respectively Since the mean exceeds 3, it is clear that there is the use of powerful system of monitoring and evaluating of quality and safety of care in Nakuru County Referral Hospital. The study revealed that there is the use of various

sources of data to detect errors and weak patient safety measures according to majority of the healthcare providers (35.4 %) who agreed and 12.5 % who strongly agreed. However, 23.6% of the healthcare providers were neutral while 20 % disagreed and 8.3 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.2 and 1.2 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear there is the use of various sources of data to detect errors and weak patient safety measures in Nakuru County Referral Hospital. In organizations with powerful system of monitoring and evaluating of quality and safety of care there is achievement of higher performance and improved quality (Martin et al., 2015).

Similarly, it was absolutely established that there is an open and safe reporting culture that enhances attention on identifying what works and the way it works in line with the bulk of the healthcare providers (38.7 %) who agreed and 14.6 % who strongly agreed. However, 27.7% of the healthcare providers were neutral while quarter-hour disagreed and three.6 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.5 and 1.0 because the mean and variance respectively. Since the mean exceeds 3, it is clear there is an open and safe reporting culture that enhances a spotlight on identifying what works and the way it works in Nakuru County Referral Hospital. A conducive and comfy environment depicts a way of safety and security from harm with collaboration between healthcare providers, patients, and visitors in care as vital in supporting the notion of safe and effective teams (Mollon, 2014).

4.6 Patient Advocacy Strategies on Patient Safety Practices

The researcher sought to establish the extent of effectiveness of patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital. The result on the patient advocacy strategies on patient safety practices are provided in table 4.4. The respondents' level of agreement with the statements on

patients' advocacy strategies on the patient safety practices was sorted through the questionnaire survey. The response results here were presented based on the five Likert Scale namely; Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA). The response was then summarized using descriptive statistics namely mean (μ), standard deviation (σ) and inferential statistics (Spearman's Correlation). Most of the statements on the variable patient advocacy strategies showed some significant correlation with the statement that the need for having the patient's consent is sought before a medical procedure is performed had the strongest significant positive correlation with patient safety practices (R= 0.958, P= 0. 005).

Table 4. 4: Patient Advocacy Strategies on Patient Safety Practices

Statement	SD	D	N	A	SA	μ	σ	R values	P- Value
Patients need and rights are well communicated	2.8	7.6	19.4	47.9	22.2	3.8	1	0.546	**0.001****
Healthcare services are delivered in accordance to the patient's needs are rights	2.1	7	17.6	52.1	21.1	3.8	0.9	0.765	**0.034****
Patients' consent is sought before a medical procedure is performed	1.4	4.3	10.8	46	37.4	4.1	0.9	0.958	**0.005****
Patients are adequately compensated incase a medical procedure is erroneously performed	19.7	19	33.1	23.2	4.9	2.7	1.2	0.945	**0.014****
The stakeholders are properly engaged on matters concerning patient safety	4.3	19.9	28.4	34.8	12.8	3.3	1.1	0.835	**0.002****
The family of the patient are adequately engaged on matters pertaining their patient	3.5	7.6	25	43.1	20.8	3.7	1	0.897	**0.045****
Patients are involved at key stages of decision making while receiving care	4.2	4.2	16	56.3	19.4	3.8	0.9	0.924	**0.021****

The study findings as indicated on Table 4.4 revealed that in Nakuru County Referral Hospital, patients' needs and rights are well communicated as opined by majority of the healthcare providers (47.9 %) who agreed and 22.2 % strongly agreed. However, 19.4% of the healthcare providers were neutral with those in dispute being 7.6 % who disagreed and 2.8 strongly disagreeing. The researcher then summarized the response in descriptive statistics that yielded 3.8 and 1.0 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that patients' needs and rights are well communicated in Nakuru County Referral Hospital. The researcher established that healthcare services are delivered in accordance to the patients' needs are rights according to majority of the healthcare providers (52.1 %) who agreed and 21.1 % who strongly agreed. However, 17.6% of the healthcare providers were neutral while 7.0 % disagreed and 2.1 % strongly disagreed. The researcher then summarized the response in inferential and descriptive statistics that yielded 3.8 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that healthcare services are delivered in accordance to the patients' needs and rights in Nakuru County Referral Hospital. It also showed some significance with some correlation this is according to an R value of 0.765 and P value of 0.034 yeilded using inferential statistics. A safe health system is achieved through the patient's perception in regard to their experience at different service delivery points across the health system (Hamric, & Epstein, (2017).

As for the patients' consent being sought before a medical procedure is performed in Nakuru County Referral Hospital, majority of the healthcare providers (46 %) agreed and 37.4 % strongly agreed. However, 10.8% of the healthcare providers were neutral with those in dispute being 4.3 % who disagreed and 1.4 strongly disagreeing. The researcher then summarized the response in inferential and descriptive statistics that yielded 4.1 and 0.9 as the mean and standard deviation respectively with an R value of 0.958 and P value

of 0.005 which showed a strong correlation and significance with patient safety. Since the mean exceeds 3, it is clear that patients' consent is sought in Nakuru County Referral Hospital before a medical procedure is performed. The study established that the stakeholders are properly engaged on matters concerning patient safety according to majority of the healthcare providers (34.8 %) who agreed and 12.8% who strongly agreed. However, 28.4% of the healthcare providers were neutral while 19.9 % disagreed and 4.3 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.3 and 1.1 as the mean and standard deviation respectively. Since the mean slightly exceeds 3, it is clear that the stakeholders in Nakuru County Referral Hospital are moderately engaged on matters concerning patient safety. Patient safety practices and other risk management practices may be expensive however unsafe care may be more expensive to the individual patient and family, and the healthcare system at large (Hollnagel et al., 2015).

The researcher found out that the family of the patient is adequately engaged on matters pertaining their patient according to majority of the healthcare providers (43.1 %) who agreed and 20.8 % who strongly agreed. However, 25% of the healthcare providers were neutral while 7.6 % disagreed and 3.5 % strongly disagreed. The researcher then summarized the response in descriptive statistics that yielded 3.7 and 1.0 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that the family of the patient is adequately engaged on matters pertaining their patient in Nakuru County Referral Hospital. As for the patients in Nakuru County Referral Hospital being involved at key stages of decision making while receiving care, majority of the healthcare providers (56.3 %) agreed and 19.4 % strongly agreed. However, 16% of the healthcare providers were neutral with those in dispute being 4.2 % who disagreed with a similar proportion strongly disagreeing. The researcher then summarized the response in

inferential statistics and yielded an R value of 0.924 with a P value of 0.021 showing a positive correlation with strong significance to patient safety. Descriptive statistics yielded 3.8 and 0.9 as the mean and standard deviation respectively. Since the mean exceeds 3, it is clear that patients are involved in Nakuru County Referral Hospital at key stages of decision making while receiving care. Studies revealed that patient's informational needs and goals that exist is what constitute patients' safety. For instance, patients' constructions of the meaning of the term or concept 'feeling of safety' has since elicited mixed reaction since it is thought to be technical aspects of healthcare (Mollon, 2014).

As for the patients being adequately compensated in Nakuru County Referral Hospital in case a medical procedure is erroneously performed, 23.2 % healthcare providers agreed and 4.9% strongly agreed. However, 33.1% of the healthcare providers were neutral while 19.0 % disagreed and 19.7 % strongly disagreed. The researcher then summarized the response in inferential statistics which yielded an R value of 0.945 with a P value of 0.014 this showed some strong correlation and significance between patient's compensation and patient safety. Descriptive statistics yielded 2.7 and 1.1 as the mean and standard deviation respectively. Since the mean was less than 3, it is clear patients are not adequately compensated in Nakuru County Referral Hospital in case a medical procedure is erroneously performed.

4.7 Patient Safety Practices

The researcher sought to establish the state of patient safety practices among healthcare providers at Nakuru County Referral Hospital. An observation checklist was used to score the state of patient safety practices in the hospital. The response was categorized into 5 Likert Scale namely; very poor (1), Poor (2), Moderate (3), Good (4) and Excellent (5).

The response was then summarized using descriptive statistics namely mean (μ) and standard deviation (σ). The results are indicated in Table 4.5.

Table 4. 5: Patient Safety Practices

	Percent (n = 11)						
Statement	**1**	**2**	**3**	**4**	**5**	**μ**	**Σ**
Signed consent form before surgery	0	0	0	0	100	5	0
Confirmation before surgery	0	0	0	27.3	72.7	4.7	0.5
Waste segregation procedures available	0	0	0	81.8	18.2	4.2	0.4
Well-kept patients information	0	0	27.3	54.5	18.2	3.9	0.7
Consent from patients before care	0	18.2	45.5	9.1	27.3	3.5	1.1
Communication on care given	0	18.2	54.5	18.2	9.1	3.2	0.9
Standard operating procedures on infection prevention	0	27.3	45.5	18.2	9.1	3.1	0.9
Labeling and tagging of patients/ uniform put on	9.1	27.3	36.4	9.1	18.2	3	1.3
Signage's and labeling within the hospital	0	45.5	36.4	9.1	9.1	2.8	1
Presence of incident reporting book	18.2	63.6	0	0	18.2	2.4	1.4
Continuous medical education on patient safety program	27.3	36.4	36.4	0	0	2.1	0.8
Surveillance and monitoring structures on patient safety	54.5	18.2	27.3	0	0	1.7	0.9
Patients' bill of rights displayed	63.6	27.3	9.1	0	0	1.5	0.7
Presence of bed rails	81.8	9.1	0	0	9.1	1.5	1.2
Patient safety committee	90.9	9.1	0	0	0	1.1	0.3

The study findings as indicated on Table 4.5 revealed that in Nakuru County Referral Hospital, patient safety was safeguarded by the signing of consent form before surgery according to 100 % of all the observations made. Similarly, 72.7 % of the observations considered the confirmation before surgery to be excellent with 27.3 % terming it to be

good. The researcher then summarized the observation in descriptive statistics that yielded 4.7 and 0.5 as the mean and standard deviation respectively. Since the mean was more than 3, it is clear that surgeries in Nakuru County Referral Hospital are performed after seeking consent and adequately confirmed. As for the availability of waste segregation procedures in Nakuru County Referral Hospital, 81.8 % of the observations made rated it good with 18.2 % rating it to be excellent. The researcher then summarized the observation in descriptive statistics that yielded 4.2 and 0.4 as the mean and standard deviation respectively. Since the mean was more than 3, it is clear that waste segregation procedures in Nakuru County Referral Hospital are available. This agrees with Margraff & Bertram (2014) who emphasizes on the importance of enforcing basic policies and protocols like hand washing after every activity and procedure, use of other infection prevention techniques, colour coding of infectious waste bins should be integrated in patient safety practices.

As for records keeping, the study revealed that patients' information in Nakuru County Referral Hospital is well kept according to 54.5 % of the observations that rated it good and 18.2 % excellent with 27.3 % citing moderate. The researcher then summarized the observation in descriptive statistics that yielded 3.9 and 0.7 as the mean and standard deviation respectively. Since the mean was more than 3, it is clear that patients' information in Nakuru County Referral Hospital is well kept. As for the patient involvement during care in Nakuru County Referral Hospital, seeking consent from patients before care was rated moderately in 45.5 % of the observations, excellent in 27.3 % and excellent in 9.1 % while 18.2 % observed it to be poor. The researcher then summarized the observation in descriptive statistics that yielded 3.5 and 1.1 as the mean and standard deviation respectively. Since the mean was more than 3, it is clear that in Nakuru County Referral Hospital, consent is sought from patients before care.

Similarly, the study established that communication on care is given in Nakuru County Referral Hospital. This was according to 54.5 % who rated it moderate with 18.2 % rating it good with a similar proportion rating it poor and 9.1 % citing excellent. The researcher then summarized the observation in descriptive statistics that yielded 3.2 and 0.9 as the mean and standard deviation respectively. Since the mean was more than 3, it is clear that in Nakuru County Referral Hospital, communication on care is given. As for standard operating procedures on infection prevention in Nakuru County Referral Hospital, 45.5 % rated it moderately, 27.3 poor, 18.2 % rating it good and 9.1 % citing excellent. The researcher then summarized the observation in descriptive statistics that yielded 3.1 and 0.9 as the mean and standard deviation respectively. Since the mean was slightly more than 3, it is clear that in Nakuru County Referral Hospital, there are moderate operating procedures on infection prevention. In line with responding to increase in concerns on quality of patient care and safety practices, the Ministry of health introduced initiatives geared towards improving the regulatory environment and healthcare quality improvement. This was achieved through the gazettement of Joint health inspection regulatory checklist in 2012 (Pal, Buncombe, Falzon & Olsson, 2013).

Similarly, the study revealed that there was moderate (36.4 %) labeling and tagging of patients/ uniform put on while 27.3 % stated that it is poorly done, 18.2 % excellent while 9.1 % cited moderate and similar proportion stating that it was very poor. The researcher then summarized the observation in descriptive statistics that yielded 3 and 1.3 as the mean and standard deviation respectively. Since the mean was equal to 3, it is clear that in Nakuru County Referral Hospital, there is moderate labeling and tagging of patients/ uniform put on. As for signage and labeling within the hospital, it was rated poor in 45.5 %, 36.4 % moderate with 9.1 % showing that it is good and similar proportion citing excellent. The researcher then summarized the observation in descriptive statistics that

yielded 2.8 and of 1 as the mean and standard deviation respectively. Since the mean was less than3, it was clear that signage and labeling within the in Nakuru County Referral Hospital is poorly done. According to 63.6 % of the observations, the presence of incident reporting book was rated poor and very poor in 18.2 % with a similar proportion rating excellent. The researcher then summarized the observation in descriptive statistics that yielded a 2.1 and 1.4 as the mean and standard deviation respectively. Since the mean was less than 3, it was clear that incident reporting book in Nakuru County Referral Hospital was poor. Patient safety practice can be achieved through proper documentation, focusing on the whole system, processes and integrating good practice in all the facility operations ranging from the managerial level to the lower levels regardless of the facility size (Pal et al., 2013).

As for continuous medical education in Nakuru County Referral Hospital on patient safety program, 36.4 % rated it moderately with a similar proportion rating it poor and lastly 27.3 % saying it is very poor. The researcher further summarized the observation in descriptive statistics that yielded 2.1 and 0.8 as the mean and standard deviation respectively. Since the mean was less than 3, it is clear that in Nakuru County Referral Hospital, there is no continuous medical education on patient safety program. Similarly, the researcher made observations on the display of patients' bill of rights in Nakuru County Referral Hospital on patient safety program. It was rated very poor by 63.6 % while 27.3 % rated it poor and lastly 9.1 % saying it was moderate. The researcher further summarized the observation in descriptive statistics that yielded 1.5 and 0.7 as the mean and standard deviation respectively. Since the mean was slightly less than 3, it is clear that in Nakuru County Referral Hospital, there is no adequate display patients' bill of rights. Mistakes during delivery of healthcare are made not only because of lack of proper

training, but also because the systems, structures, processes and tasks are carried out in a poorly designed states (WHO Patient safety report, 2010).

According to 54.5 % of the observations, surveillance and monitoring structures on patient safety in Nakuru County Referral Hospital was rated very poor in 54.5 % with 18.2 rating poor while 27.3 % observed that it is moderate. The researcher then summarized the observation in descriptive statistics that yielded 1.7 and 0.7 as the mean and standard deviation respectively. Since the mean was less than 3, it was clear that there is poor surveillance and monitoring structures on patient safety in Nakuru County Referral Hospital. According to 81.8 % of the observations, presence of bed rails in Nakuru County Referral Hospital was rated very poor by81.8 % with 9.1% rating it poor while similar proportion said it is excellent. The researcher further summarized the observation in descriptive statistics that 1.5 and 1.2 as the mean and standard deviation respectively. Since the mean was less than 3, it was clear that there is poor presence of bed rails in Nakuru County Referral Hospital. As for patient safety committee in Nakuru County Referral Hospital, 90.9 % rated it very poor with 9.1 % saying it is poor. The researcher further summarized the observation in descriptive statistics that yielded 1.1 and 0.3 as the mean and standard deviation respectively. Since the mean was less than 3, it is clear that in Nakuru County Referral Hospital, there is no adequate patient safety committee. These findings were alarming as they fall short of the recommendations by Bedoya et al., (2017b) who emphasizes on the institutionalization of health service delivery should become a priority in supporting sustainability of patient safety measures, and making patient safety a priority and embracing it as an organizational culture.

4.8 Key Informants' Opinions on Strategies on Patient Safety Practices

The researcher conducted a face-to-face interview with the administrators in various sectors in the Nakuru County Referral Hospital since they were considered to have

relevant information on strategy formulation based on their knowledge and experience of the phenomenon under study. According to the key informants, patient safety practices is perceived by health workers with fear since it is considered to be a crime that one can be punished if found liable. The study further inquired what happens to healthcare providers following medical errors reported through incident reports. The administrators stated that since the incidents are not reported, it is difficult to follow up with the perpetrators. This is contrary to Donaldson et al. (2017) who stated that handing over of a detailed report on patient care is an important procedure in healthcare system. It involves moving the accountability for patient care and information required to provide care from one professional team to another. Patient safety aware professionals always accurately discharge care settings and ensure that vital information like medication, dosages, patient status and vital medical problems are well documented for continuity and accountability in relation to safe patient care.

The key informants were asked to indicate the common errors reported in the unit that they were in charge of. They stated that incidents are not reported by the healthcare providers due to fear of victimization. It was also found that patients are rarely involved in patient safety practices. They said that involvement is only done in the theatre. As for the mechanisms of handling medical errors and patient safety events in the unit, the administrators stated that it is done during review meeting for preventable errors so as to avert future occurrence. The review meeting also creates a platform where information obtained through incidents reports is utilized. Patient participation is achieved through providing relevant information on how patients may be involved in safety practices, strengthening safety and early detection of failures (Hwang et al., 2019).

The researcher sought to establish how often the patient safety issues are reviewed in Nakuru County Referral Hospital. The administrators stated that reviews are rarely done.

It was found that there is a committee overlooking patient safety practices in this facility. However, the committee does not meet regularly. The researcher also found that there are no guidelines on monitoring and evaluation standards of patient safety practices. This is contrary to Hughes et al. (2006) who report that regular technical support meetings and education with peer mentorship offers a learning experience that enhances in improving patient outcomes. Some of the most critical factors that impact the quality of health are teamwork and organizational and behavioral learning. Reporting errors and safety awareness, gender and demographics, work experience, and staffing levels have also been identified as essential factors (Azyabi et al., 2021).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter entails the summary on the findings from the study, the study conclusions, the study recommendations as well as suggested areas necessary for further studies.

5.1 Summary of Study Findings

This section provides the summary of key study findings that have been as formulated as per the study objectives.

5.1.1 Organizational Processes on Patient Safety Practices among Healthcare Providers

The extent of effectiveness of organization structure and processes on patient safety practices among healthcare providers at Nakuru County Referral Hospital was characterized by hospital management leading in transformation of the vision to create patient safety practices, need for implementation of quality improvement programmes having strong correlation as well as adequate patient safety amenities as shown in Table 4.1. There was also consistency in provision of care through embracing ICT leading to positive healthcare outcomes. There are minimal/or no intentional malpractice but systems operation or policy constrictions that are beyond practitioners' control. There are effective systems concerned with reporting safety events that include near misses. There is compliance with professional bodies and care regulators. However, Nakuru County Referral Hospital was found not to have adequate staff in terms of numbers and specializations.

5.1.2 Communication Strategies on Patient Safety Practices among Healthcare Providers

The extent of effectiveness of communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital was characterized by early clarification of information and efficient dissemination of vital information as presented in Table 4.2. There are formal standards that facilitate timely, accurate and complete handover information, adequate access to electronic records and prescribing systems, with coordination that ensures patient flow thus mitigates delayed diagnosis, treatment and adverse events having the strongest correlation. Vital information like medication, dosages, patient status and vital medical problems are well documented. There is good interpersonal relationship and ethics observed when handling patients' information as well as regular meetings to discuss and share ideas related to safety issues. It was also found that incident reports are well documented in Nakuru County Referral Hospital.

5.1.3 Monitoring Strategies on Patient Safety Practices among Healthcare Providers

The extent of monitoring strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital was characterized by adherence to standardized clinical care protocols and guidelines as well as continuous and constant surveillance with clear assessments and evaluation of patient safety practices Table 4.3. There is accurate collection, storage, analysis and sharing of information on patient safety issues. There is the use of powerful system of monitoring and evaluating of quality and safety of care as well as various sources of data to detect errors and weak patient safety measures. There is open and safe reporting culture which enhances a focus on identifying what works and how it works in Nakuru County Referral Hospital.

5.1.4 Patient Advocacy Strategies on Patient Safety Practices among Healthcare Providers

The extent of patient advocacy strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital was characterized by patients' needs and rights that are well communicated and healthcare services are delivered in accordance to the patients' needs are rights according to the findings presented in Table 4.4. The patients' consent is sought before a medical procedure is performed and stakeholders are properly engaged on matters concerning patient safety according. The family of the patient is adequately engaged on matters pertaining their patient. On the other hand, patients in Nakuru County Referral Hospital are moderately involved at key stages of decision making while receiving care while patients were found not to be adequately compensated in Nakuru County Referral Hospital in case a medical procedure is erroneously performed.

5.2 Conclusions

From the study findings, it was evident that Nakuru County Referral Hospital has effective organization structure on patient safety practices. The management leads in transformation of the vision towards patient safety practices, there is need for implementation of quality improvement programmes as well as adequate patient safety amenities. The operations were also consistent by embracing ICT leading to positive healthcare outcomes as well as minimal/or no intentional or malpractice but systems operation or policy constrictions that are beyond the practitioners' control. Nakuru County Referral Hospital was also found to comply with professional bodies and care regulators. This is in line with Hughes et al. (2006), who indicated that patient safety practices depend on the organizational culture and other underlying factors, which may be influenced by both internal and external factors to the organization, for example, the

policy environment, organization culture and leadership, availability of resources and professional bodies with other care regulators. Nakuru County Referral Hospital was found not to have adequate staff in terms of numbers and specializations that contradicts Needleman et al. (2002) who emphasized on the importance of hospitals having right number of staff with the right skill mix teams working collaboratively hence enhancing achievement of quality in relation to patient care.

Nakuru County Referral Hospital was found to be effective in communication strategies on patient safety practices with early clarification of information and efficient dissemination of vital information facilitating timely, accurate and complete handover of information, adequate access to electronic records and prescribing systems and coordination that ensure smooth patient flow thus mitigates delayed diagnosis, treatment and adverse events. Vital information like medication, dosages, patient status and vital medical problems were also documented accordingly. Patients' information was handled ethically with incident reports being well documented. A well-coordinated care improves triage, patient flow and management thus mitigate delayed diagnosis, treatment and adverse events (Rooney & Schilling, 2014). According to McElroy et al. (2015), a correct and inclusive record provides a shared consideration of stakeholders and other teams' safety values and the growth in sustaining those values.

Nakuru County Referral Hospital was found to have good monitoring strategies on patient safety practices among healthcare providers. There is adherence to standardized clinical care protocols and guidelines as well as continuous and constant surveillance with clear assessments and evaluation of patient safety practices, accurate collection, storage, analysis and sharing of information on patient safety issues. Monitoring and evaluating uses a powerful system. This agrees with Kerfoot (2016) who points out that continuous and constant surveillance with clear assessments and evaluation of patient safety practices

is important for its sustainability. Outcome measures and indicators in a systems approach manner with integration of patient safety, accelerates change of insecure cultures and adapting to continuous enhancement strategies in many clinical settings.

The patient advocacy strategies on patient safety practices in Nakuru County Referral Hospital were found to be good. The patients' needs and rights are well communicated and healthcare services are delivered in accordance to the patients' needs. Additionally, consent is sought before a medical procedure is performed as well as involving stakeholders and families on matters concerning their patient. However, there were gaps in involving patients at key stages of decision making while receiving healthcare services. Most importantly, patients were found not to be adequately compensated in Nakuru County Referral Hospital in case a medical procedure is erroneously performed. Patient advocacy issues are important as they enhance the achievement of safe health system through the patient's perception in relation to their experience at different service delivery points across the health system (Illingworth, 2015).

5.3 Recommendations

From the study results, the following recommendations are provided;

i. The hospital administration should ensure there are uniform and standardized protocols on patient safety. There is need for implementation of quality improvement programmes with coordination of communication and prescribing systems which ensures patient flow thus mitigates delays in service delivery.

ii. There is need for policy reviews so as to ensure that patient safety issues are reviewed so as to mitigate practices that can endanger the patients. The hospital administration should ensure compliance by making sure that healthcare providers record and report incidents that occur when giving care to patients. There is the need to establish clear guidelines on monitoring and evaluation

standards of patient's safety practices, this enables strengthening of patient safety as an organizational culture.

iii. The hospital should improve on involving patients at key stages of decision making while receiving healthcare services since they are key recipients of healthcare. There is need to train staff on various aspects of patient safety at all stages which include from basic training, on job training coupled with continuous medical education.

iv. There should also be clear guidance that ensures that patients are adequately compensated in cases of harm or injury related to the medical care given. There is need for having patient's consent sought before a medical procedure is performed. Need to strengthen review committees and ensure that they meet regularly so as to address emerging concerns on patient safety so as to create a patient safety culture and that patient safety to be considered among the target objectives with each department generating reports on safety issues.

5.4 Suggestion for Further Study

This study was limited on gathering the opinions of the healthcare providers and their administrators alone. The study did not collect information from patients. The researcher therefore recommends that a study should be conducted to establish the knowledge, attitudes and practices on patient safety targeting clients and patients seeking healthcare services. Nevertheless, this study will enable the healthcare providers identify gaps that will facilitate them to serve their clients safely.

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APPENDICES

Appendix I: Informed Consent Form

Dear Respondents

I am Fancy J. Kipkech, a student at the Mount Kenya University, currently doing Masters in Health Systems Management. I am in the process of carrying out research titled '**Assessment of the strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital**'. The patients attending Nakuru County Referral Hospital and similar health facilities stands to benefit as the study will inform on strategies of ensuring that they receive healthcare services safely in safe environment thus shortened hospital stay, improved healthcare which is responsive to the needs of the population. I humbly request you to spare some of your precious moments to complete the attached questionnaire. The responses you provide are going to be used just for the study and not anywhere else. Be assured that your responses are treated confidentially and to push your privacy and you're at liberty to point or fail to point your name, indicate or fail to point the name of your institution on this study questionnaire. you're required to easily provide honest and adequate answers in line with the instructions given within the questionnaire.

If you agree, you will use approximately 2-3 hours to fill the study questionnaire to the best of your knowledge. Your participation in this study is voluntary and you can withdraw if you are not willing to participate.

If you have read the above passage or have been read to you and you agree to participate, kindly append your signature to show your willingness to take part in the study.

Signature---------- Date----------

Witness: Name----------Signature----------Date----------

Appendix II: Questionnaire

INSTRUCTIONS

i. Kindly provide your responses by either ticking in the box or writing your responses in the spaces provided.
ii. You are not expected to write your name on the questionnaire

SECTION A: Bio-Data

1. Gender
   i. Male [ ]
   ii. Female [ ]
2. Age
   i. 18 -27 [ ]
   ii. 28-32 [ ]
   iii. 33-32 [ ]
   iv. 33-42 [ ]
   v. 43- And above [ ]
3. Cadre
   i. Nurse [ ]
   ii. Clinical officer[ ]
   iii. Nutritionist [ ]
   iv. Doctor [ ]
   v. Others Specify _____
4. Employment status
   i. Full time [ ]
   ii. Part time [ ]
   iii. Contract [ ]
   iv. Volunteer [ ]
5. What is the duration you have been working in your current work station?
   i. Less than 1 year [ ]
   ii. 1-2 years [ ]
   iii. 2-3 years [ ]
   iv. 3-4 years [ ]
   v. 4 years and above [ ]

6. Work pattern
   i. Shifts [ ]
   ii. Days only [ ]
   iii. Evening only [ ]
   iv. Night only [ ]

SECTION B: Organizational processes related to Patient Safety Practices

The following are statements related to the extent of effectiveness organization structure on patient safety practices among healthcare providers at Nakuru County Referral Hospital. Please rate them according to your understanding by ticking (√) where it is appropriate. Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA).

Statement	**SD**	**D**	**N**	**A**	**SA**
The hospital management leads in transformation of the vision towards patient safety practices					
There is implementation of quality improvement programmes					
There are adequate patient safety amenities					
There is consistency in provision of care through embracing ICT leading to positive healthcare outcomes					
There is adequate staff (number and specializations)					
There are effective systems concerned with reporting safety events that include near misses					
There are minimal/or no intentional or malpractice but systems operation or policy constrictions that are beyond practitioners control					
There is compliance with professional bodies and care regulators					

Section C: Communication Strategies on Patient Safety Practices

The following are statements related to the extent of effectiveness of communication strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital. Please rate them according to your understanding by ticking (√) where it is appropriate. Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA).

Statement	**SD**	**D**	**N**	**A**	**SA**
There is early clarification of information					
There is efficient dissemination of vital information					
There are formal standards that facilitate timely, accurate and complete handover information					
There is adequate access to electronic records and prescribing systems					
Coordination ensures patient flow thus mitigates delayed diagnosis, treatment and adverse events					
There is adequate handing over of a detailed report on patient care					
Vital information like medication, dosages, patient status and vital medical problems are well documented					
Good interpersonal relationship and ethics are observed when handling patients information					
There are regular meetings to discuss and share ideas related to safety issues					
Incident reports are well documented					

Section D: Monitoring on Patient Safety Practices

The following are statements related to the extent of effectiveness of monitoring on patient safety practices among healthcare providers at Nakuru County Referral Hospital. Please rate them according to your understanding by ticking (√) where it is appropriate. Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA).

Statement	**SD**	**D**	**N**	**A**	**SA**
There is adherence to standardized clinical care protocols and guidelines					
There is continuous and constant surveillance with clear assessments and evaluation of patient safety practices					
There is accurate collection, storage, analysis and sharing of information on patient safety issues					
There is the use of powerful system of monitoring and evaluating of quality and safety of care					
There is the use of various sources of data to detect errors and weak patient safety measures					
There is an open and safe reporting culture which enhances a focus on identifying what works and how it works					

Section E: Patients Advocacy on Patient Safety Practices

The following are statements related to the extent of effectiveness of patient advocacy on patient safety practices among healthcare providers at Nakuru County Referral Hospital. Please rate them according to your understanding by ticking (√) where it is appropriate. Scale one Strongly Disagree (SD), scale two Disagree (D), scale three Neutral (N), scale four Agree (A) and scale five Strongly Agree (SA).

Statement	**SD**	**D**	**N**	**A**	**SA**
Patient's needs and rights are well communicated					
Healthcare services are delivered in accordance to the patient's needs and rights					
Patients consent is sought before a medical procedure is performed					
Patients are adequately compensated incase a medical procedure is erroneously performed					
The stakeholders are properly engaged on matters concerning patient safety					
The family of the patient are adequately engaged on matters pertaining their patient					
Patients are involved at key stages of decision making while receiving care					

Appendix III: Check List

The observations are to be scored in an ascending order scale of; one showing Very Poor, two showing Poor, three showing Moderate, four showing Good and five showing Excellent.

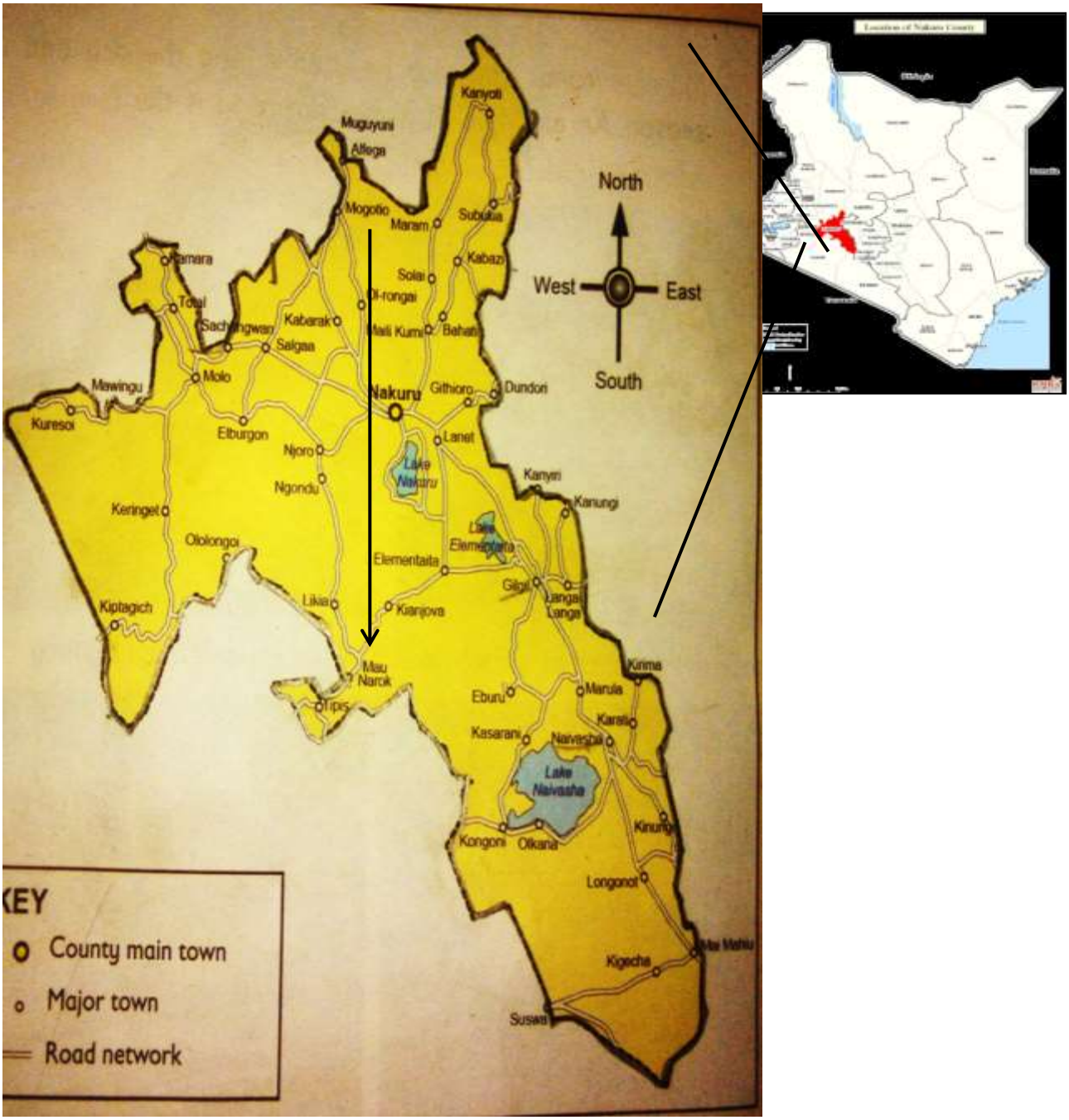
S/No.	Patient safety practice	Scores				
1	Labeling and tagging of patients/ uniform put on	1	2	3	4	5
2	Consent from patients before care	1	2	3	4	5
3	Patients' bill of rights displayed	1	2	3	4	5
4	Communication on care given	1	2	3	4	5
5	Standard operating procedures on infection prevention	1	2	3	4	5
6	Waste segregation procedures available	1	2	3	4	5
7	Signage's and labeling within the hospital	1	2	3	4	5
8	Presence of bed rails	1	2	3	4	5
9	Signed consent form before surgery	1	2	3	4	5
10	Confirmation before surgery	1	2	3	4	5
11	Presence of incident reporting book	1	2	3	4	5
12	Patient safety committee	1	2	3	4	5
13	Surveillance and monitoring structures on patient safety	1	2	3	4	5
14	Well kept patients information	1	2	3	4	5
15	Continuous medical education on patient safety program	1	2	3	4	5

Appendix IV: Key Informants Interview Schedule

1. What is the general view or perception on patient safety practices among health workers?
2. What are the common errors reported in the unit?
3. Are patients involved in patient safety practices?
4. How often do health workers report adverse events in the unit?
5. How do you handle medical errors and patient safety events in the unit?
6. How many errors have been reported in past 12 months?
7. How is information obtained through incidents reports utilized?
8. What happens to healthcare providers following medical errors reported through incident reports?
9. How often do you review patient safety issues?
10. Is there a committee overlooking patients safety practices in this facility? If yes how often do they meet?
11. How is information on patients safety communicated?
12. What is used to track patient's safety practices?
13. How do you monitor and evaluate the standards of patient's safety practices?

Appendix V: Map of Study Area

Source; County health information system



Appendix VI: Research Permit

THIS IS TO CERTIFY THAT:
MISS. FANCY JEPKEMBOI KIPKECH
of MOUNT KENYA UNIVERSITY, 0-20100
Nakuru,has been permitted to conduct
research in *Nakuru County*

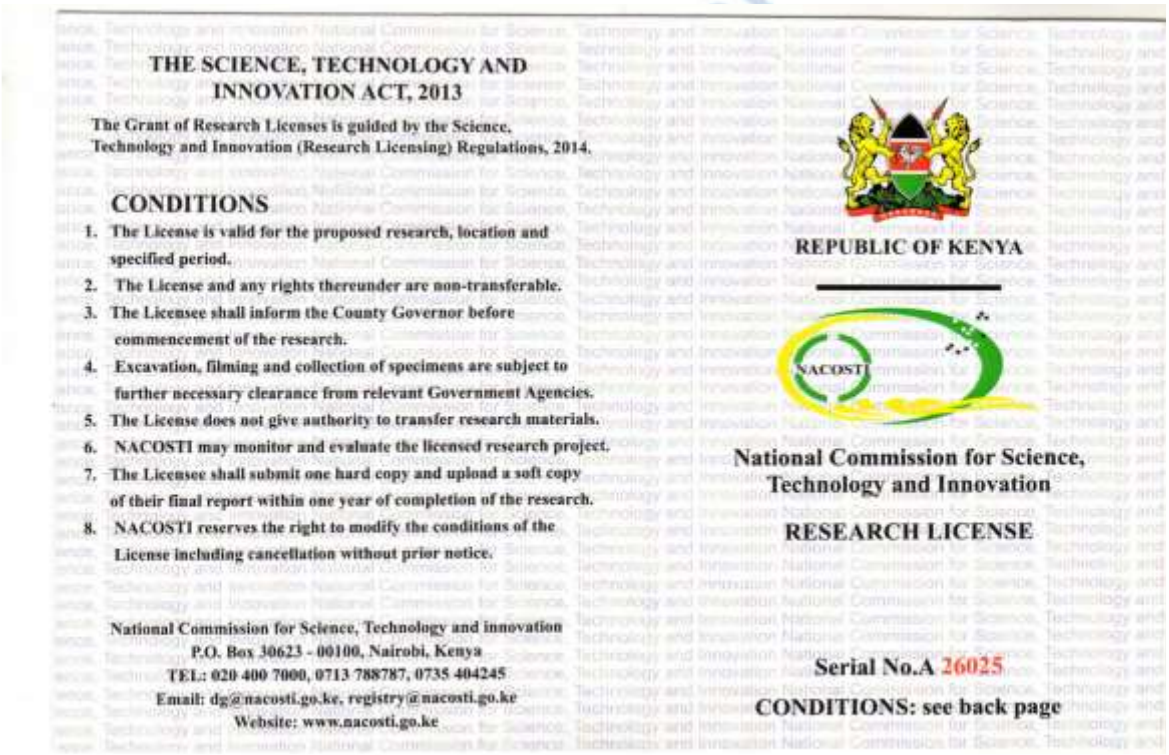
on the topic: *ASSESSMENT OF STRATEGIES ON PATIENT SAFETY PRACTICES AMONG HEALTHCARE PROVIDERS AT NAKURU COUNTY REFERRAL HOSPITAL, KENYA*

for the period ending:
23rd July,2020

.....
Applicant's

Permit No : NACOSTI/P/19/86878/31944
Date Of Issue : 25th July,2019
Fee Recieved :Ksh 1000

.....
Director General



THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 26025

CONDITIONS: see back page

Appendix VII: Authorization From NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref No. **NACOSTI/P/19/86878/31944**

Date: **25th July, 2019**

Fancy Jepkemboi Kipkech
Mount Kenya University
P.O. Box 342-01000
THIKA.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Assessment of strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya."*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **23rd July, 2020.**

You are advised to report to **the County Commissioner, the County Director of Health Services, and the County Director of Education, Nakuru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA., MSc, MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

Appendix VIII: Authorization from Ministry of Interior and Co-Ordination of National Government

THE PRESIDENCY

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

COUNTY COMMISSIONER
NAKURU COUNTY
P.O. BOX 81
NAKURU.

Ref No. CC. SR.EDU 12/1/2/VOL.V/31

3rd September, 2019

Deputy County Commissioner
NAKURU WEST

RE: - RESEARCH AUTHORIZATION – FANCY JEPKEMBOI KIPKECH

The above named from Mount Kenya University has been authorized to carry out research on **"assessment of strategies on patient safety practices among healthcare providers"** at Nakuru County Referral Hospital in Nakuru West Sub County for a period ending 23th July 2020.

Please accord her all the necessary support to facilitate the success of her research.

MARY W. MWANGI
FOR: COUNTY COMMISSIONER
NAKURU COUNTY

Appendix IX: Authorization from County Director of Education

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telegrams: "EDUCATION",
Telephone: 051-2216917
When replying please quote

Ref.CDE/NKU/GEN/4/21/VOL.VI/51

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

3rd September,2019

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION –FANCY JEPKEMBOI KIPKECH – PERMIT NO. NACOSTI/P/19/868778/31944

Reference is made to letter NACOSTI/P/19/868778/31944
27th August, 2019.

Authority is hereby granted to the above named to carry out research on "***Assessment of strategies on patient safety practices among health care providers at Nakuru County Referral Hospital***" for a period ending ***27th August, 2020***

Kindly accord her the necessary assistance.

For: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

AKOKO OKAYO
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU

Copy to:

Mount Kenya University
P.O Box 342-01000
THIKA

Appendix X: Authorization from County Director of Health

DEPARTMENT OF HEALTH SERVICES

NAKURU COUNTY

Email:copublichealth.nakuru@gmail.com

CHIEF OFFICER, PUBLIC HEALTH
NAKURU COUNTY
P.O BOX 2870-20100
NAKURU
3rd September, 2019

REF: CGN/CPH/HR/VOL.1/5/2019/131

TO
MISS FANCY JEPKEMBOI KIPKECH
MOUNT KENYA UNIVERSITY
NAKURU

RE: RESEARCH PERMISSION

This letter serves as an authorization from the Department of Health Services Nakuru to allow the researcher to conduct research on **"Assessment of strategies on patient safety practices among healthcare providers at Nakuru County Referral Hospital, Kenya."**

The Department has no objection to the said research.

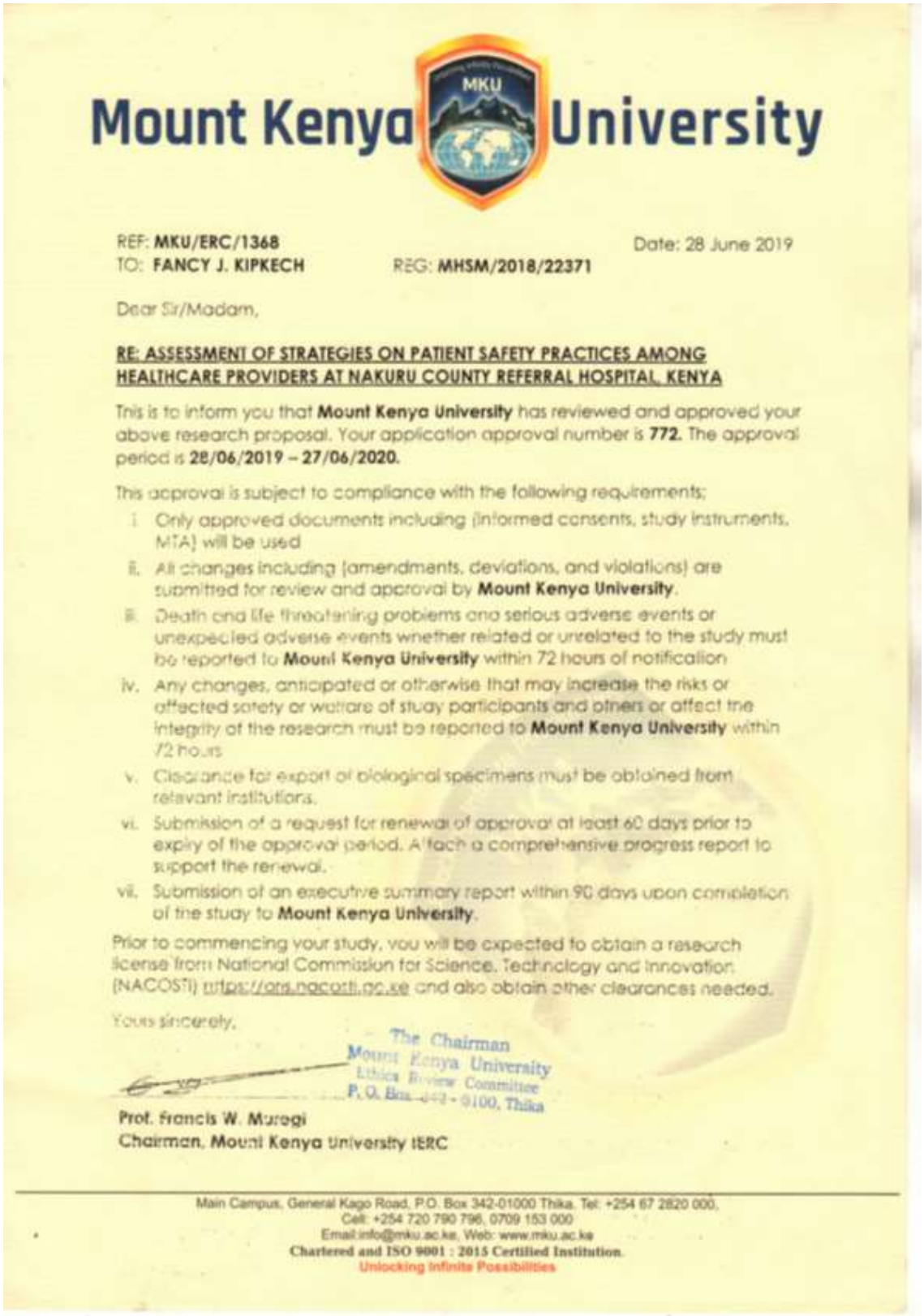
Thank you.

CHIEF OFFICER
PUBLIC HEALTH SERVICES
NAKURU COUNTY

SAMUEL KING'ORI
CHIEF OFFICER, HEALTH SERICES
NAKURU

C.C:
- All facility In/charges, Nakuru County

Appendix XI: Ethical Clearance



Mount Kenya University

REF: **MKU/ERC/1368** Date: 28 June 2019
TO: **FANCY J. KIPKECH** REG: **MHSM/2018/22371**

Dear Sir/Madam,

RE: ASSESSMENT OF STRATEGIES ON PATIENT SAFETY PRACTICES AMONG HEALTHCARE PROVIDERS AT NAKURU COUNTY REFERRAL HOSPITAL, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **772.** The approval period is **28/06/2019 – 27/06/2020.**

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 **Mount Kenya University.**
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 **Mount Kenya University** 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 **Mount Kenya University** 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 **Mount Kenya University.**

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,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 9100, Thika

Prof. Francis W. Muregi
Chairman, Mount Kenya University IERC

Main Campus, General Kago Road, P.O. Box 342-01000 Thika. Tel: +254 67 2820 000,
Cell: +254 720 790 796, 0709 153 000
Email:info@mku.ac.ke, Web: www.mku.ac.ke
Chartered and ISO 9001 : 2015 Certified Institution.
Unlocking Infinite Possibilities

Appendix XII: Letter of Introduction from the University

Mount Kenya University

SCHOOL OF POSTGRADUATE STUDIES

MHSM/2018/22371

28th June, 2019

The Director, Research Coordination Division
National Commission for Science, Technology & Innovation
Utalii House, 8th & 9th Floor
P.O Box 30623- 00100
NAIROBI

Dear Sir/Madam,

RE: FANCY J. KIPKECH – REGISTRATION NO. MHSM/2018/22371

The purpose of this letter is to introduce the above named student who is pursuing **Master of Public Health** in the **Department of Epidemiology & Biostatistics** in the **School of Public Health.**

The title of her research is *"Assessment of Strategies on Patient Safety Practices among Healthcare Providers at Nakuru County Referral Hospital, Kenya."*

She has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data for her research between **July and September, 2019.**

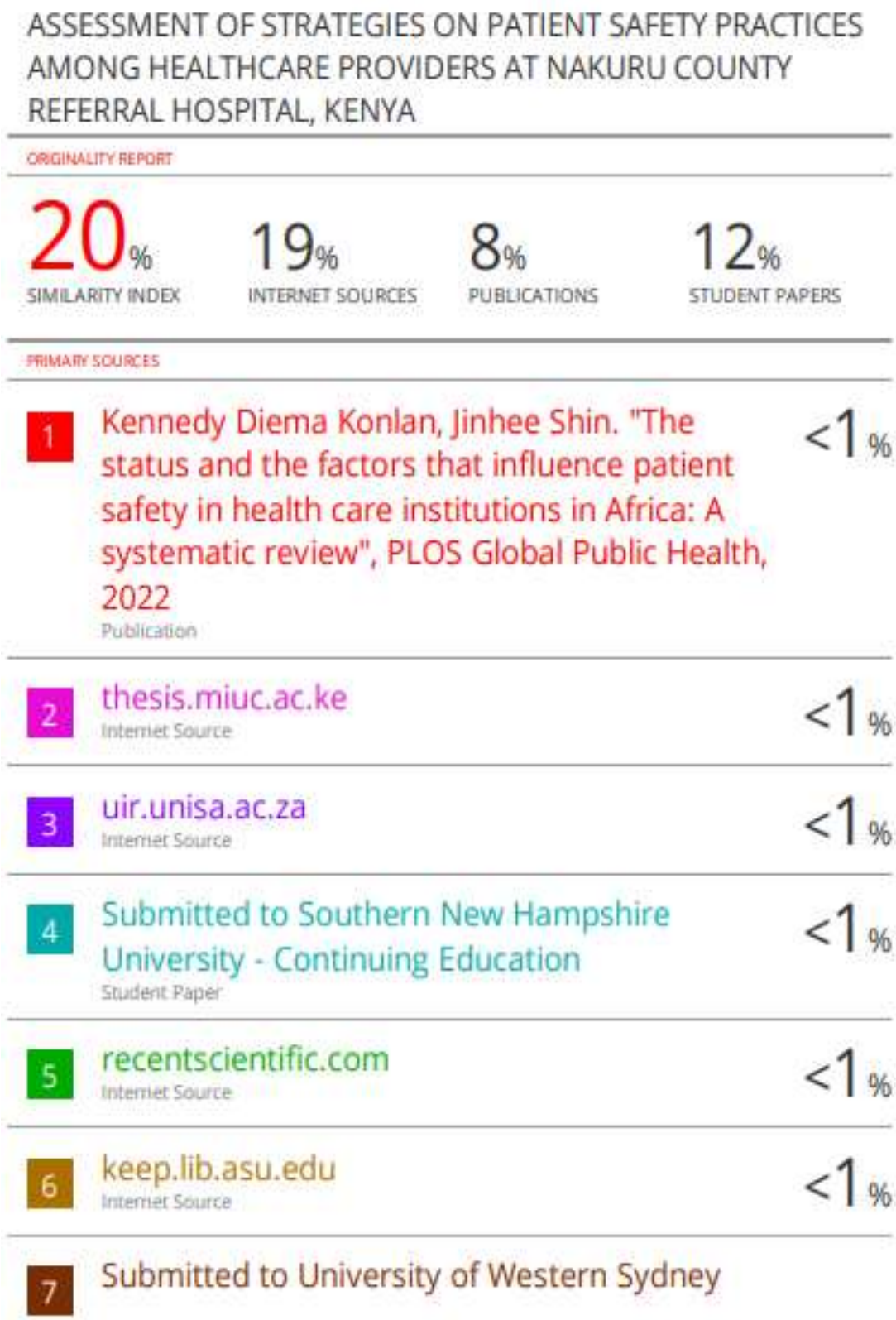
Any assistance accorded to her will be highly appreciated.

Thank you.

Mount Kenya University
Dean, School of Postgraduate Studies
P. O. Box 342 - 01000
Thika

Dr. Samuel M. Karenga, Ph.D
Dean, School of Postgraduate Studies
Enc.

Appendix XIII: Similarity Index



ASSESSMENT OF STRATEGIES ON PATIENT SAFETY PRACTICES AMONG HEALTHCARE PROVIDERS AT NAKURU COUNTY REFERRAL HOSPITAL, KENYA

ORIGINALITY REPORT

20%	19%	8%	12%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Kennedy Diema Konlan, Jinhee Shin. "The status and the factors that influence patient safety in health care institutions in Africa: A systematic review", PLOS Global Public Health, 2022 Publication	<1%
2	thesis.miuc.ac.ke Internet Source	<1%
3	uir.unisa.ac.za Internet Source	<1%
4	Submitted to Southern New Hampshire University - Continuing Education Student Paper	<1%
5	recentscientific.com Internet Source	<1%
6	keep.lib.asu.edu Internet Source	<1%
7	Submitted to University of Western Sydney	