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Research Proposal Title
The Effect of Staff Training on Quality of Patient Care in a Tertiary Hospital,
In the Eastern Health Cluster, Saudi Arabia

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Introduction

Due to rapid medical innovation and rising patient expectations, healthcare institutions globally prioritize high-quality care. Tertiary hospitals are exceptional in their complexity and importance. These referral clinics treat complicated patients using specialists and innovative technologies. Tertiary hospitals' operational complexity requires sophisticated infrastructure and a skilled and informed staff. Thus, healthcare performance requires ongoing personnel training (Yusuf, 2020). Staff training helps doctors, nurses, administrators, and support staff gain new skills, update existing knowledge, and follow clinical guidelines, technological improvements, and ethical standards. The goal is to improve professional performance and patient care. Workshops, simulations, online courses, mentorship, and hands-on procedural training are available to hospital staff. No matter the format, the goal is to prepare healthcare personnel for safe, efficient, patient-centered care (Yan et al., 2022).

The World Health Organization (WHO) emphasizes workforce development for health system strengthening. WHO says well-trained clinicians are more likely to follow evidence-based practices, connect with patients, and work in multidisciplinary teams. Patients are happier, medical mistakes are reduced, and clinical results improve. Several governments and health organizations have invested heavily in staff training to improve healthcare quality. Staff training has not been shown to improve patient care, especially in low nation tertiary hospitals. Most study has focused on primary or general hospitals, ignoring tertiary care dynamics (Westbrook et al., 2020). This study addresses this gap by examining how staff training influences tertiary hospital patient care. Tertiary hospitals handle complex medical conditions under clinical pressure, requiring technical expertise, emotional intelligence, and teamwork. Training programs must be effective in these situations. Training may not improve patient care, thus institutions may need to adjust their technique, content, or treatments (Wan et al., 2018).

This study analyzes many healthcare quality assessment framework-based care quality dimensions. These include responsiveness (staff meeting patient demands swiftly and effectively), reliability (delivering accurate and consistent care), empathy (expressing patients' feelings), and assurance. To determine how staff training affects clinical outcomes, the study evaluates these factors (Tilahun & Fritz, 2015). The complexity of patient requirements and focus on patient-centered care make this study relevant. Comorbidity patients and those who need specialty care in

tertiary settings have limited space for error. Continuous training becomes strategic, not simply legal. Hospitals must be accountable and enhance quality for accreditation, insurance, and patient advocacy groups. If effective, staff training can achieve these goals (Shie et al., 2022).

The report also answers hospital administrators' and lawmakers' evidence-based resource allocation requests. Due to healthcare budget constraints, training must be justified by benefits. A strong link between staff training and patient care quality would support training and possibly garner stakeholder support. Reevaluating training approaches to improve relevance and efficacy may be necessary if no substantial impact is detected (Shah, 2018). Finally, healthcare leaders in developing nations face structural difficulties like understaffing, high patient volumes, and inadequate training infrastructure, making the findings relevant. In such circumstances, effective, scalable, and context-appropriate training could improve healthcare delivery. This research aims to improve tertiary care by adding to the scientific literature and offering practical suggestions to hospital administrators, training coordinators, and healthcare planners (Seun-Fadipe et al., 2019). This study examines whether tertiary hospital staff training enhances patient care. Research on service quality indicators and healthcare personnel' perceptions and experiences influences policy and practice. Given the importance of staff competency in healthcare quality, this study may affect workforce development (Sarafis et al., 2016).

Research Problem

Public trust and institutional legitimacy depend on patient care quality in modern healthcare systems. Hospital administrators and governments have understood the need for structured training programs for healthcare personnel' professional growth throughout the past decade. Increase staff competence, reduce clinical errors, increase communication, and promote safety and patient-centered care. Well-trained staff can better fulfill patients' needs, follow clinical protocols, and collaborate to offer high-quality care. Many healthcare organizations, especially in developing nations, show significant variation in patient care results and service delivery standards despite extensive training (Reisi et al., 2018). Tertiary hospitals, the top level of national healthcare, are most affected. Specialist hospitals manage complex medical cases from primary and secondary care providers. Tertiary settings necessitate a professional and responsive workforce due to case severity and clinical accuracy. Many departments need skilled doctors, nurses, and support staff. However, extensive research has not demonstrated that these training

programs improve patient care. In many cases, actual data rarely supports the idea that training improves outcomes (Rajguru, 2018).

Staff training has been linked to patient care quality measures in few well-designed studies. Training is often done administratively without impact assessment. There is no standard definition of "effective training," and programs vary in duration, substance, delivery, and evaluation. This inconsistency makes objective training efficacy measurement and generalization across healthcare institutions difficult (Ragazzoni et al., 2020). Without accurate training-treatment data, hospital management must make strategic judgments on assumptions. This wastes money and people without improving patient satisfaction or healthcare performance. Staff training must be verified to determine its impact on care delivery as healthcare costs rise and hospital governance becomes more accountable (Piotrowski et al., 2021). Tertiary hospitals provide more sophisticated and diversified patient care, hence few studies have studied this topic. Therefore, this study fills a substantial knowledge gap by exploring whether staff training improves patient care in tertiary institutions (Oo et al., 2021). In the short the problem statement is “There is insufficient empirical evidence to establish whether staff training leads to measurable improvements in the quality of patient care in tertiary hospitals.”

Research Questions

The research questions of this work will be as follows;

- ❖ What is the current level of staff training in the selected tertiary hospital?
- ❖ What is the perceived quality of patient care from the perspective of healthcare providers?
- ❖ Is there a significant relationship between staff training and the quality of patient care?
- ❖ Which dimensions of care quality are most influenced by staff training?

Research Objectives

The research objectives of this study will be as follows;

- ❖ To assess the extent and type of staff training conducted in the tertiary hospital.
- ❖ To measure the current quality of patient care based on standard service dimensions.
- ❖ To examine the relationship between staff training and patient care quality.
- ❖ To provide recommendations for enhancing care quality through effective training programs.

Research Hypotheses

Main Hypothesis

H₀ (Null Hypothesis): There is no significant relationship between staff training and the quality of patient care in the tertiary hospital.

H₁ (Alternative Hypothesis): There is a significant relationship between staff training and the quality of patient care in the tertiary hospital.

Sub-Hypotheses

H_{1a}: Staff training has a significant effect on the *tangibility* dimension of patient care quality.

H_{1b}: Staff training has a significant effect on the *reliability* dimension of patient care quality.

H_{1c}: Staff training has a significant effect on the *responsiveness* dimension of patient care quality.

H_{1d}: Staff training has a significant effect on the *assurance* dimension of patient care quality.

H_{1e}: Staff training has a significant effect on the *empathy* dimension of patient care quality.

Importance of the Study

This study's theoretical contribution to healthcare quality research and practical application for hospital administrators, practitioners, and policymakers are significant. As global healthcare systems become increasingly complicated and resource-constrained, efficient, evidence-based management techniques are needed more than ever. Staff training is a popular method. Training programs are intuitively appealing and frequently deployed, but their effects on patient care outcomes are unknown, especially in developing country tertiary institutions. This study experimentally examines staff training and patient care quality to fill that gap, providing many benefits.

Theoretical Significance

This study improves healthcare management and Human Resource Development (HRD) theory. Much professional development literature is anecdotal or descriptive. Quantifying the relationship between staff training and patient care quality criteria including responsiveness, empathy, reliability, and assurance adds empirical rigor. The paper explains how training interventions improve service using systematic analysis. The study also uses SERVQUAL, a theoretical methodology for healthcare and other service quality assessment. To test its applicability in tertiary healthcare, the research uses this method to staff training and patient care. This helps validate and adapt theories in specific situations, which service quality literature lacks.

The study informs future research. It allows for additional research into what sorts of training work best, how to deliver them, and what contextual factors affect healthcare training outcomes. These findings may influence meta-analyses, comparative investigations across nations or healthcare levels, and longitudinal training impact sustainability research.

Practical Significance

Hospital administration, clinical supervisors, human resources, and national healthcare officials are affected by the study. Staff development programs, especially at tertiary institutions, are substantially funded but rarely reviewed. Learning how training influences care quality helps strategic planning and decision-making. The data may help hospital management assess the Return on Investment training program (ROI). Knowing if training improves patient outcomes helps justify spending, suggest curriculum changes, and prioritize skills or departments. It can also improve accountability and outcome-driven management by creating training efficacy performance indicators. Policymakers and healthcare planners can use the study's findings. Health workforce development investments must optimize returns when public funds are scarce. Structured training in national healthcare plans, accreditation standards, and hospital performance frameworks may benefit from this study. It may also encourage national and institutional training evaluation protocols. The study benefits healthcare professionals lastly. Knowing how training enhances care quality can excite staff, boost job satisfaction, and encourage learning. Staff are more inclined to participate in training when they consider it as vital and related to patient care goals, creating a cycle of improvement. Finally, this investigation may link theory and practice. It addresses a critical empirical evidence gap and offers stakeholders meaningful healthcare improvement ideas. Research may improve patient experiences, clinical outcomes, and healthcare resource use.

Literature Review

The Role of Continuous Professional Development (CPD) in Healthcare

Professionals in all healthcare fields require CPD to stay current. Modern medicine is continuously changing, and CPD keeps doctors up to date on new technologies, treatment methods, and clinical guidelines. Lifelong CPD enables healthcare professionals learn new skills, adapt to changing demands, and increase their knowledge. Lectures, workshops, online courses, peer learning, simulations, and certificates are examples. Institutional policies and national health agendas standardize clinical competencies and encourage best practices (Akinwale & George,

2020). Healthcare CPD boosts clinical performance. Frequent training prepares staff to handle complex patient demands, employ new medical equipment, and follow evidence-based policy. Patient safety and care efficiency improve. Medical errors, hospital-acquired infections, and adverse drug events are reduced via infection control, emergency response, and medication management training. CPD is necessary for healthcare quality assurance and professional development (Alkali & Bello, 2020).

Staff morale and motivation improve with CPD. Healthcare workers are strained by heavy workloads, emotional expectations, and patient complexity. Continuous learning demonstrates institutional commitment to employee growth, boosting value, belonging, and engagement. Supported and empowered workers are more likely to stay, be happy, and deliver proactive patient care. Communication, teamwork, and service delivery are compromised (An et al., 2020). Interdisciplinary collaboration is increasingly vital in tertiary care facilities, and CPD promotes it. Teaching nurses, pharmacists, lab technicians, and radiologists together reduces silos and improves care. This is essential for managing chronic illnesses and complex medical issues requiring multiple specialists. Respect, departmental standardization, and better integrated care pathways result from shared learning (Bahnassy, 2018). CPD helps healthcare companies develop leaders. To manage teams, resources, and quality, future leaders learn management, strategic planning, and ethics. Accountability and continuous improvement are essential for great patient care (Bailey et al., 2020).

CPD aligns healthcare organizations to regulatory and accrediting standards in addition to clinical and operational benefits. For license renewal or institutional accreditation, several national health authorities and professional bodies mandate ongoing training. CPD helps healthcare personnel achieve standards, reduce legal and professional risks, and create trust. CPD accomplishments can lead to job promotion and financial incentives, boosting professional growth (Cheng, Cui, et al., 2020). CPD uses e-learning and virtual simulations to make training more accessible and adaptive during digital transformation. Online modules allow employees evaluate knowledge at their own leisure, while simulation tools let them safely practice high-stakes tasks. Advances have made CPD more accessible, scalable, and cost-effective, especially in resource-constrained contexts (Cheng, Wong, et al., 2020).

Implementing CPD is tough despite its benefits. Examples include unreliable training, institutional support, scheduling constraints, and poor evaluation methods. Some see CPD as a

prerequisite rather than a learning opportunity. Overcoming these issues requires strategic needs assessments, alignment with company goals, sufficient budget, and regular feedback systems to monitor training impact (Copanitsanou et al., 2017). Finally, Continuous Professional Development boosts healthcare, worker, and organizational performance. It applies academics to real-world experience, upgrades staff skills, and promotes lifelong learning. Tertiary care, where the stakes are great, requires CPD to prepare healthcare staff for current patient care (Curry et al., 2019).

Staff Training and Its Impact on Patient Outcomes

Safe, efficient, patient-centered healthcare requires staff training. This training gives healthcare workers the skills, knowledge, and abilities to handle patients' complex needs and adapt to rapidly changing clinical environments. In tertiary hospitals with more advanced care, well-trained staff improves patient outcomes. Staff training enhances communication, empathy, teamwork, and adaptability to new technology and treatment recommendations beyond clinical proficiency (Dong et al., 2020). Staff training reduces medical errors. Healthcare professionals learn new protocols, Standard Operating Procedures (SOPs), and decision-making tools to avoid errors. Medication administration, infection control, and emergency response training greatly prevent poor outcomes. Professionals who know these methods prevent patient harm. It minimizes problems, hospital stays, and healing time (Galan et al., 2019). Training impacts healthcare worker-patient communication, another crucial element. Patient dissatisfaction is typically caused by inadequate communication, lack of empathy, or care process confusion. Soft skills like active listening, cultural sensitivity, and emotional intelligence improve provider-patient interactions. Effective communication builds trust, clarifies diseases and treatment plans, and improves care satisfaction. Misunderstandings that could lead to noncompliance or medical disputes are reduced (Goldsworthy, 2021).

Staff training enhances interdisciplinary healthcare teamwork. Hospitals serve patients with doctors, nurses, pharmacists, lab technicians, and administrative staff. Holistic patient care needs group communication and coordination. Handover, teamwork, and collaborative decision-making training break silos and enable care continuity. This is critical at tertiary hospitals, because patients rotate departments and need several specialists (Kanwal et al., 2022). Staff training boosts patient safety. Staff receive organized safety training on incident reporting, root cause analysis, and protocols. These activities foster a safety culture by encouraging near miss reports and risk

management. Staff that prioritize safety minimize complications, increase critical reaction times, and build patient trust (Kieft et al., 2014). Staff training influences operational efficiency, resource consumption, and clinical results. Well-trained healthcare staff use resources better, work faster, and make fewer mistakes. Faster procedure turnaround, better patient flow, and lower operational costs. Reduced wait times, faster diagnosis, and faster actions improve patient care and health (Li et al., 2020).

Patient empowerment is also taught. Education helps staff educate patients about their health and involve them in care decisions. This shared decision-making technique improves health, autonomy, and treatment adherence. Understanding a care plan helps patients follow medications, lifestyle changes, and follow-up appointments, increasing long-term outcomes (Lin et al., 2020). Training can improve patient outcomes, but it depends on several factors. Training quality and relevance, staff engagement, institutional assistance, and monitoring and evaluation are examples. Without a thorough post-training assessment, healthcare institutions may struggle to determine what works and what needs improvement. Training programs must have clear objectives, aligned with institutional goals, and performance indicators that reflect therapeutic efficacy (Mandell et al., 2019). Tertiary hospitals have high stakes, thus training is essential. Complex patient cases, new technologies, and multiple care providers demand knowledge and coordination. Staff training in such scenarios must incorporate specialist knowledge, scenario-based learning, and interdisciplinary teamwork (McGrath et al., 2019). Patient outcomes improve with staff training in error reduction, communication, safety, and operational efficiency. Effective training must be ongoing, structured, and reviewed. Strategic staff development boosts hospital clinical outcomes, patient satisfaction, and healthcare delivery (Mobolaji-Olajide et al., 2020).

Measuring Service Quality in Healthcare: The SERVQUAL Framework

Healthcare service quality is increasingly measured by administrative, policy, and research professionals. Quality care includes patient experience, expectations, and satisfaction, not just clinical outcomes. While mortality and infection control are crucial, they don't fully reflect patient happiness. Service industry concepts are used in healthcare to meet this demand. The SERVQUAL methodology is widely used to assess hospital and other service quality (Mobolaji-Olajide et al., 2020). Use the late 1980s SERVQUAL methodology to compare customer expectations and service opinions to evaluate service quality. Patients should be satisfied with hospital care. Tangibility, reliability, responsiveness, assurance, and empathy define service quality, says the

model. These dimensions capture crucial service experience features and provide a holistic healthcare quality view (Nilakantam et al., 2021). Tangible care is provided. This includes hospital cleanliness, staff appearance, medical equipment quality, and signage clarity. Clean, professional surroundings may improve patients' first impressions and hospital comfort. Service quality is affected by infection control, hygiene, and presentation training for staff (Olsen et al., 2019).

Healthcare professionals who consistently deliver accurate and reliable services are trustworthy. It comprises correct diagnosis, treatment compliance, and rapid care. Staff training promotes reliability and patient trust. Targeted training can reduce medical errors, treatment delays, and inconsistent information delivery due to outdated or inadequate knowledge (Piotrowski et al., 2021). Response indicates staff are willing and able to help patients swiftly. How soon nurses answer call buttons, receptionists answer questions, and hospital lab results are delivered are examples. Training staff to prioritize and communicate patient demands improves service quality. ERs and CCUs must be responsive since delays are dangerous (Ragazzoni et al., 2020). Healthcare staff must be knowledgeable, pleasant, credible, and build patient trust. Communication, staff qualifications, and professional behavior affect this dimension. Clinical competence, ethics, and patient communication training improve patient trust in doctors. Patients need reassurance throughout complex or high-risk surgeries (Rajguru, 2018).

Healthcare practitioners can identify and address patients' psychological needs with empathy. Personalized care, active listening, and compassion are included. Respected, understood, and emotionally supported patients rate their care higher. Staff empathy and service quality can improve with emotional intelligence, cultural competency, and patient engagement training (Reisi et al., 2018). SERVQUAL is useful in healthcare since it encompasses tangible and intangible service delivery characteristics. Patient views may highlight areas clinical performance assessments miss. A hospital with strong surgical outcomes but poor service quality may have unfriendly staff or poor communication. A facility with limited resources can achieve excellent service quality scores by establishing a patient-centered culture and training staff in interpersonal skills (Sarafis et al., 2016). Another SERVQUAL strength is adaptability. It works in outpatient clinics, inpatient wards, diagnostic centers, and emergency departments. SERVQUAL questionnaires can be completed by patients, family members, and staff to gather service quality data. Results can inform training, procedure, and policy adjustments (Seun-Fadipe et al., 2019).

SERVQUAL has downsides. Healthcare institutions may struggle to control patient expectations influenced by media and personal beliefs. The paradigm may struggle to explain complex clinical processes and medical technologies. SERVQUAL balances healthcare service quality assessment and improvement with clinical indicators and operational data (Shah, 2018). The SERVQUAL framework concludes with how staff training affects patient care. Addressing all five factors allows healthcare facilities to build comprehensive training programs that improve clinical skills and patient experience. A holistic approach is needed for service excellence in a competitive and accountable healthcare market (Shie et al., 2022).

Evidence from Tertiary Hospitals: A Review of Context-Specific Studies

Tertiary hospitals give the best national healthcare. These clinics refer patients with critical conditions to secondary and primary care. Tertiary hospitals must provide exceptional patient care due to their importance. Staff training is typically recommended to improve care quality in these situations. Tertiary hospital staff training research, especially in low- and middle-income countries, is scarce. This section discusses how tertiary hospital training affects healthcare delivery (Tilahun & Fritz, 2015). Many studies show tertiary hospitals have operational and clinical concerns. High patient loads, case complexity, limited resources, and accreditation pressure might influence staff performance and care results. Training is needed for institutional survival and patient safety, not just career promotion. Tertiary hospitals educate emergency procedures, clinical skills, medical technology, infection prevention, and soft skills like communication and teamwork (Wan et al., 2018). Regular and well-structured tertiary hospital training programs improve patient outcomes in advanced healthcare systems, said research. Simulation-based training minimizes intraoperative and postoperative mistakes at US and UK large metropolitan tertiary hospitals. Modern facilities, high-fidelity simulation labs, and qualified trainers make training programs flourish. Tertiary care clinical excellence requires ongoing learning (Westbrook et al., 2020).

The context is different in low-resource settings. Staff, equipment, money, and policy support are lacking in many developing country tertiary hospitals. Such scenarios may require sporadic training. Despite these obstacles, context-specific research on personalized training has showed promise. In a Nigerian tertiary hospital, brief, focused infection control training reduced hospital-acquired infections. A second Indian tertiary care study indicated that pain assessment technique training improved patient satisfaction and post-operative problems (Yan et al., 2022). Most tertiary hospital studies in poor nations are small, restricted, and lack rigorous methodology,

despite these promising outcomes. As observational rather than experimental, causation findings are difficult. These studies often focus on intensive care or surgery rather than the hospital's overall training influence. This makes it difficult to understand how training programs scale, how personnel respond, and how they improve care (Yusuf, 2020). The research also highlights the lack of rigorous training program evaluation. Hospital training is usually done without instruments or protocols to evaluate it. Assessments, follow-ups, and feedback are absent before and after training. Thus, training activities are hard to recognize even when care quality increases. This gap shows that tertiary healthcare needs evidence-based training design and strong evaluation methods (Akinwale & George, 2020).

Reisi et al. (2018) also shows that different tertiary hospital professional groups understand and absorb instruction differently. Doctors study technology, whereas nurses study communication, patient education, and time management. Administrative staff may need training in data, healthcare records, and digital tools. Without differentiation, training programs may not match group needs, limiting their effectiveness. Training must match healthcare staff duties and responsibilities to optimize patient care (An et al., 2020). Staff training may improve clinical results and patient satisfaction, according to limited tertiary hospital research. Context, study design, and implementation size affect evidence strength. Findings imply holistic, multi-departmental, and methodologically sound training effect research is needed. This will boost academic understanding and help hospital management decide on patient care training (Alkali & Bello, 2020).

Gaps in the Literature and Justification for the Current Study

Healthcare staff training research has grown, yet many gaps remain, particularly addressing its quantitative impact on patient care at tertiary hospitals. Though relevant, the available research often refers to general hospitals, is qualitative, or anecdotal and lacks statistical rigor. Many studies are done in high-income nations, hence context-specific studies are needed to understand healthcare delivery in low- and middle-income countries (Bahnassy, 2018). Very few quantitative studies link staff training to patient care quality. Most studies assume training increases patient safety, communication, and satisfaction, but few quantify or compare these effects. This lack of empirical data makes it hard for healthcare administrators and policymakers to assess training efforts' ROI, especially in resource-constrained settings where every investment must be justified by its impact (Bailey et al., 2020). Unreliable service quality measurements are another issue.

Many studies use proprietary evaluation frameworks or general satisfaction surveys, making cross-study comparisons difficult. Despite its broad use in service industries, hospitals rarely use the SERVQUAL model for organized staff training evaluation. This study addresses this gap by combining SERVQUAL's five dimensions—tangibility, reliability, responsiveness, assurance, and empathy—into the research design to give a clear and verified framework for assessing healthcare staff and possibly patients' service quality (Cheng, Cui, et al., 2020).

Kanwal et al. (2022) examine departmental or pilot initiatives rather than institution-wide training. These studies are useful, but they rarely consider training's systemic impact on the hospital. Emergency department and outpatient services may not be affected by surgical unit improvements. Limited hospital-wide evaluations constrain research and highlight the need for broader studies that evaluate training efficacy across functions and roles (Cheng, Wong, et al., 2020). Very few research evaluate how training benefits different hospital staff types. Medical, nursing, technical, and administrative workers have different duties and learning demands. Poor results result from a one-size-fits-all training strategy that ignores these differences. Researchers cannot determine which training treatments work best for specific groups without disaggregating outcomes by staff function. This study examines training effectiveness by surveying a variety of hospital staff (Copanitsanou et al., 2017).

Training efforts' long-term consequences are unknown. Short-term outcomes like knowledge growth or post-training test scores are studied most. Few evaluate whether these benefits improve patient care. Rare longitudinal research on training's effects over months or years is needed. Few healthcare administrators know how long training programs endure and how often to refresh workers (Dong et al., 2020). Nilakantam et al. (2021) have examined institutional and organizational factors affecting staff training efficacy. Without good leadership, infrastructure, and a development culture, even the best training programs might fail. Workload, personnel ratios, and administrative help affect training uptake and success, yet evaluation systems often ignore them. This study's analysis and interpretation will address these contextual factors for more realistic and practical outcomes (Curry et al., 2019).

Many studies don't offer policy or management guidance. They may agree that training is beneficial, but they rarely recommend prioritizing, structuring, or integrating it into strategic goals. This study fills that gap by analyzing if staff training improves patient care quality and offering tips on maximizing training programs (Galan et al., 2019). Overall, tertiary hospital staff training

research is useful but insufficient. Current gaps in methodology, measurement, scope, role differentiation, long-term evaluation, and practical applicability support this study. The research fills these gaps to create rigorous evidence that can improve patient outcomes and hospital management both academically and in practice (Goldsworthy, 2021).

Theoretical Framework

SERVQUAL, a well-established theoretical framework, compares consumer expectations to service quality perceptions in this study. Parasuraman, Zeithaml, and Berry's idea is employed in banking, retail, hospitality, and healthcare. Strong, its multidimensional structure includes physical and intangible service delivery components. SERVQUAL explains how service characteristics affect patient experience and care quality in healthcare (Kieft et al., 2014). SERVQUAL contains tangibility, reliability, responsiveness, assurance, and empathy. Each dimension offers a unique service excellence perspective. These characteristics meet the needs of complex, critical patients in hospitals, especially tertiary care. They represent the skills and attitudes healthcare personnel must demonstrate with patients and clinical teams daily. Staff training may alter these traits for professional development and quality improvement. It provides a coherent and systematic framework for examining how training interventions improve patient care (Li et al., 2020). Facilities, equipment, workers, and communication materials seem tangible. Hospital hygiene, medical equipment, staff dress, and informational signage are included. These evident elements often affect patients' first impressions of a hospital. Keep tangibility by following cleanliness guidelines, using medical equipment properly, and presenting professionally. Infection control, environmental standards, and patient-centered design training enhance this. Staff who learn the value of physical surroundings are more inclined to maintain their workstations, enhancing patient confidence in the institution's reliability (Mandell et al., 2019).

Healthcare provider reliability means they provide as promised. This is crucial to healthcare, where errors can be fatal. Hospital reliability factors include accurate diagnosis, treatment plan adherence, fast service, and patient communication. With updated clinical information, standard operating procedures, and evidence-based practices, medical staff training enhances reliability. Training personnel in best practices reduces performance variability and increases care predictability and reliability. Maintain high standards and decrease clinical gaps via refresher courses and competency evaluations (McGrath et al., 2019). Staff responsiveness indicates readiness to help patients swiftly. Hospital responsiveness can make or break a patient

experience, especially in tertiary care with high-acuity patients. It involves prompt patient responses, complaint resolution, and proactive procedure and wait time communication. Training enhances responsiveness by stressing time management, priority, and patient-firstness. Staff trained to anticipate patient needs and manage workflows can enhance this. Healthcare staff receive communication and customer service training to understand patients' emotions and respond quickly, improving treatment (Mobolaji-Olajide et al., 2020).

Staff expertise, decency, and trustworthiness are guarantees. Patients' perceptions of staff competency, communication professionalism, and psychological safety during treatment determine healthcare assurance. Tertiary hospital patients undergo difficult and sometimes life-changing procedures and require professional and trustworthy staff. Clinical skills, procedures, and patient communication training improve confidence. Simulation-based training lets doctors practice procedures in a controlled environment, improving their accuracy. Ethical training and informed consent workshops teach staff patient rights and responsibilities, building trust (Nilakantam et al., 2021). The SERVQUAL framework ends with empathy and individualized care. When hospital patients are vulnerable and scared, empathy can boost their happiness. This requires listening to patients, respecting their dignity, involving them in decision-making, and appreciating their unique conditions. When empathy cannot be taught, emotional intelligence, cultural competency, and interpersonal sensitivity can build it. Role-playing, introspective exercises, and peer and patient feedback help staff comprehend caregiving's human side. Empathetic leaders raise its importance across the institution (Piotrowski et al., 2021).

This study uses SERVQUAL to assess how staff training influences patient care quality and experience. This method offers controlled and measurable service delivery evaluation after training. This research can investigate professional progress and tertiary hospital quality results (Ragazzoni et al., 2020). Finally, the SERVQUAL model provides a comprehensive theoretical framework for staff training and patient care quality. This multidimensionality reflects healthcare service delivery complexity and matches most training program competencies. It drives research tool creation and interpretation, making it ideal for this study. SERVQUAL is used to generate insights that could improve training design, hospital policies, and patient outcomes (Reisi et al., 2018).

Research Methodology

Approach: Quantitative

This study uses quantitative methods to assess how staff training affects patient care in tertiary hospitals. The quantitative method was used since the research aims are to examine relationships between variables—staff training (independent variable) and perceived patient care (dependent variable). Quantitative research is ideal for testing hypotheses, generalizing sample results to populations, and producing statistically valid results. In this study, the quantitative technique uses questionnaires to gather and analyze numerical data. This approach allows the researcher to uncover trends, evaluate relationships, and draw empirical conclusions by measuring hospital staff replies on service quality factors like reliability, responsiveness, tangibility, assurance, and empathy. Quantitative approaches give objective measures that can be statistically examined to identify the degree and significance of connections between research variables, unlike qualitative methods that stress depth and narrative interpretation.

This setting benefits from quantitative methods' capacity to manage high sample sizes. A quantitative method allows for data collection from a larger and more representative sample in a hospital setting where doctors, nurses, and support staff care for patients. This makes the study findings more generalizable and credible. This technique also supports standardized measurement instruments like the Likert-scale questionnaire, which improves data interpretation reliability and eliminates subjectivity. Quantitative research supports evidence-based decision-making. To evaluate program success and allocate resources, hospital administrators, policymakers, and training coordinators need measurable data—percentages, correlations, and significance values. The quantitative nature of this study will yield actionable information that can impact tertiary healthcare training policies, staff development programs, and quality improvement activities. In conclusion, quantitative research is a rational and effective way to study how staff training affects patient care. Its focus on measurable data, hypothesis testing, and statistical analysis suits this study's goals and healthcare context.

Design: Descriptive and Correlational

Research is descriptive and correlational in this study. These two design patterns represent the hospital's current situation and explore staff training and patient care. Staff training and patient care quality in the selected tertiary hospital are described descriptively. Description of study population occupations, years of experience, and training program participation. It also gathers

healthcare staff baseline ratings on their institution's care. The descriptive component of the design provides an overview of existing conditions to define the framework for analysis and ensure that the data obtained represent healthcare practice. The correlational method allows researchers determine the strength and direction of the staff training-patient care relationship. This strategy helps when changing parameters or randomly allocating people is impractical or unethical, like in experimental research. This correlational study will examine whether training exposure or efficacy enhances patient care traits like responsiveness, reliability, assurance, tangibility, and empathy.

A correlational design allows researchers assess these associations' significance. Pearson's correlation and regression help quantify training progress and care results. Correlation implies link but not causality. However, statistically significant connections are necessary to understand how training interventions affect healthcare quality and where more research or intervention is needed. In conclusion, descriptive and correlational studies are balanced and enlightening. It facilitates context-specific data collection and meaningful variable linkages, meeting research goals.

Population: Doctors, Nurses, and Clinical Staff in the Selected Tertiary Hospital

This study targets tertiary hospital doctors, nurses, and other clinicians. These vital healthcare workers are best studied for how staff training affects care quality. Training impacts patient relationships, medical processes, interdisciplinary teams, and institutional protocols. Tertiary hospitals are usually complex, specialized, and busy. They provide advanced care and refer patients to lower-level hospitals. Complex care in these settings makes clinical staff expertise and readiness crucial to patient outcomes. Healthcare workers whose skills, knowledge, and behavior affect patient care are targeted by this study. There are three significant population subgroups. Diagnose, treat, and undertake complex treatments are doctors' initial duty. Clinical innovations, diagnostics, and surgery are common training demands. Second, nurses are the largest workforce in most hospitals and provide patient care, monitoring, education, and emotional support. Communication, documentation, patient safety, and clinical workflows are important training topics. Third, laboratory technicians, radiographers, pharmacists, and physiotherapists offer crucial clinical pathway diagnostic and therapeutic services. They need constant training for new technology and standards.

Targeting this cohort ensures the study gets training and patient care experiences and perceptions. Health professionals can evaluate how training improves professional competency and patient outcomes. The study's diverse roles highlight possible differences in training effects

across occupational categories, providing a more nuanced view of healthcare staff development. Clinical personnel only collect data pertinent to patient treatment, minimizing administrative or non-clinical staff unreliability. Using only professionals responsible for patient outcomes keeps the study focused, valid, and on track.

Sample Size: To Be Determined Using Cochran's Formula

Determining an appropriate sample size is a critical aspect of any quantitative research study, as it directly influences the reliability, validity, and generalizability of the findings. In this study, the sample size will be calculated using Cochran's formula, a widely accepted statistical method for estimating the ideal sample size when the population is large or the actual size is unknown. Cochran's formula is particularly useful in healthcare research where the target population—such as doctors, nurses, and clinical staff in a hospital—is heterogeneous, and the researcher aims for a high level of precision in estimating proportions within the population. The formula ensures that the sample is representative enough to allow inferences to be made about the broader staff population in the tertiary hospital without surveying every individual, which may be logistically unfeasible.

The formula is stated as:

$$n_0 = (Z^2 * p * q) / e^2$$

Where:

- **n₀** = required sample size
- **Z** = Z-score corresponding to the desired confidence level (e.g., 1.96 for 95% confidence)
- **p** = estimated proportion of the attribute present in the population (commonly set at 0.5 when unknown to ensure maximum variability)
- **q** = 1 – p
- **e** = margin of error (typically 0.05 for 5% precision)

Using this formula, if the researcher assumes a 95% confidence level and a 5% margin of error, with maximum variability ($p = 0.5$), the initial calculated sample size would be approximately 384 respondents. However, adjustments can be made depending on the actual population size of the hospital's clinical staff using the finite population correction (FPC) formula when needed. Once the initial sample size is calculated, it will be proportionally allocated across

different staff categories—doctors, nurses, and other clinical personnel—based on their respective numbers within the hospital. This stratification ensures that each subgroup is adequately represented in the final analysis, thereby enhancing the accuracy and relevance of the findings. It is also important to account for potential non-response or incomplete responses. To compensate for this, an additional 10–15% of participants may be added to the required sample size to ensure that the final dataset remains robust and usable after data cleaning. In conclusion, the use of Cochran’s formula ensures a scientifically sound basis for sample size determination in this study. It provides the statistical foundation needed to draw meaningful and generalizable conclusions about the effect of staff training on patient care quality in a tertiary hospital setting.

Sampling Technique: Stratified Random Sampling

This study will use stratified random sampling to avoid bias and ensure representation. This approach works effectively in healthcare research involving doctors, nurses, and other clinical workers with different training and patient care duties. Stratified random sampling better depicts the population by dividing it into meaningful groupings, or strata, and randomly picking individuals from each stratum in proportion to their population size. This study will stratify doctors, nurses, lab technicians, pharmacists, and radiologists. Each group handles patients at different levels and needs distinct training and expertise. The researcher stratifies the population to avoid over- or under-representation and include all key categories. This enhances findings generalizability and comparability. Simple random selection will select participants within each stratum after population stratification. By giving each subgroup member an equal probability of selection, group randomization lowers selection bias. This method produces a balanced, statistically sound sample, improving reliability and cross-professional conclusions.

Hospital workforce proportions will determine sample strata. If nurses make up 60% of the hospital's clinical staff, the study sample should be 60% nurses. Hospital staff can draw findings from this proportionate distribution. Data analysis is possible with stratified random sampling. It lets you compare how doctors and nurses rate patient care or how training impacts them. This analytical flexibility makes the study deeper and more actionable for hospital administration. This study uses stratified random sampling, which is reliable and acceptable. Representing all key staff types increases study accuracy, impartiality, and interpretability.

Data Collection Tool: Structured Questionnaire

Data will be collected using a structured Likert scale questionnaire. The standardized questionnaire approach ensures uniformity and simplifies quantitative analysis by asking all participants the identical items. This strategy easily collects large amounts of data while maintaining responder group consistency, making it popular in social science and healthcare research. The SERVQUAL questionnaire will evaluate staff training and patient care based on tangibleness, reliability, responsiveness, assurance, and empathy. The Likert scale, which goes from 1 (strongly disagree) to 5 (strongly agree), will assess respondents' agreement with these dimensions' claims. Staff impressions of training and its impact on care delivery are measured.

This may include “The training I receive is relevant to my day-to-day responsibilities” or “I have adequate opportunities to participate in professional development.” Patient care quality questions will include SERVQUAL traits as “Our hospital provides timely responses to patient needs” (responsiveness) and “Staff consistently follow proper hygiene and equipment protocols” (tangibility). Researchers can quantify subjective sensations and perceptions for statistical investigation using Likert scales. The questionnaire covers demographics (job role, years of experience), staff training, and service quality outcomes. Demographic questions provide subgroup analysis, such as whether nurses and doctors regard training differently. A small group of clinical staff not in the final sample will pilot-test the questionnaire to establish validity and reliability. Before full-scale administration, this pilot phase will identify unclear questions, assess scale internal consistency, and make necessary changes. Content validity is improved by aligning items with validated tools and reviewing them with academic and healthcare experts. Tertiary hospital staff training and patient care quality data can be collected using a Likert scale questionnaire that is practical, reliable, and analytically powerful.

Data Analysis: SPSS Software for Correlation, Regression, and Descriptive Statistics

After collecting data using structured questionnaires, SPSS (Statistical Package for the Social Sciences), a strong and widely used quantitative research software, will analyze them. SPSS has several statistical tools for precise, efficient, and complete data analysis. This study will use descriptive statistics, correlation analysis, and regression analysis to meet its aims and hypotheses. First, descriptive statistics will summarize the data and characterize the respondents' basic features and responses. Means, standard deviations, frequencies, and percentages illuminate sample demographics and staff views of training and patient care quality. Examples of descriptive

statistics are the average perceived effectiveness of training or staff agreement with specified service quality measures. Correlation analysis will determine the degree and direction of the SERVQUAL framework's association between staff training and patient care quality after the descriptive phase. This will employ the Pearson correlation coefficient, which is ideal for linear correlations between continuous variables. Negative correlations signify lower patient care quality, whereas positive correlations show higher staff training.

Regression analysis will investigate the variables' predictive relationship. In particular, linear regression will assess how well staff training predicts care quality changes. This statistical method will evaluate training's effect on each of the five SERVQUAL aspects while adjusting for demographic variables like years of experience and professional role. Regression analysis is useful because it identifies relationships and measures how much variance in the dependent variable (care quality) exists due to the independent variable (staff training). Each data set will be coded and entered into SPSS with correctness and consistency checks. The validity of the findings will be checked by evaluating statistical test assumptions including normality, linearity, and homoscedasticity. In conclusion, SPSS allows researchers to analyze data thoroughly and form conclusions about how staff training affects patient care quality.

Study Tools

This study will evaluate clinical staff training and patient care using a validated questionnaire. This questionnaire will employ the SERVQUAL paradigm to assess service quality across five dimensions: tangibleness, reliability, responsiveness, assurance, and empathy. Healthcare research uses these factors to measure staff and patient service performance. Additionally, emotional intelligence, communication effectiveness, and healthcare service quality instruments from the "Safari" questionnaire booklet will be used to alter SERVQUAL items. Integration of such instruments ensures that the survey captures both technical and interpersonal aspects of healthcare delivery, which focused training improves. Assessing worker attitudes on a five-point Likert scale from "strongly disagree" to "strongly agree," each questionnaire item will be rated. To ensure contextual relevance, the instrument may be modified to match the evaluated tertiary hospital's organization and training environment. A small group of healthcare professionals will pilot test items for clarity, relevance, and reliability before adoption. The final questionnaire will be comprehensive and standardized to analyze how staff training leads to good patient care as perceived by service providers. The study will produce reliable, comparable, and actionable data

to support evidence-based staff development program adjustments using an organized and theory-driven tool design technique. The tool of this research work will be as follows:

Demographics

1. What is your current role in the hospital?

1. Doctor
2. Nurse
3. Pharmacist
4. Lab Technician
5. Radiologist
6. Others

2. How many years of experience do you have in this profession?

1. Less than 1 Year
2. 1–5 Years
3. 6–10 Years
4. 11–15 Years
5. More than 16 Years

3. What is your highest educational qualification?

1. Diploma
2. Bachelor's degree
3. Master's degree
4. Doctorate (PhD/MD)
5. Others

4. Which department or unit do you currently work in?

1. Emergency
2. Surgery
3. Internal Medicine
4. Pediatrics
5. Intensive Care Unit (ICU)
6. Others

5. Have you participated in any staff training within the past 12 months?

1. Yes

2. No

Staff Training

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. The training provided aligns with my daily responsibilities.
2. The training sessions enhance my clinical skills and knowledge.
3. Training is delivered in a way that is engaging and easy to understand.
4. I am encouraged by my supervisors to participate in training.
5. Training opportunities are available on a regular basis.

Tangibility

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. The hospital provides modern medical equipment.
2. Patient rooms and facilities are clean and well-maintained.
3. Staff wear professional and identifiable uniforms.
4. Information materials are clear and useful.
5. The physical environment supports patient comfort and safety.

Reliability

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. Patients receive care as promised and without unnecessary delays.
2. Patient records are managed accurately and efficiently.
3. Staff are consistent in following care protocols and procedures.
4. Tasks and responsibilities are reliably completed during each shift.
5. Hospital services operate according to posted schedules.

Responsiveness

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. Staff respond quickly when a patient needs assistance.
2. Staff are available to answer patients' questions and concerns.
3. There is minimal waiting time for patient services.
4. Emergencies are handled swiftly and appropriately.
5. The hospital has an effective system for handling patient complaints.

Assurance

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. Staff demonstrate confidence and competence in their roles.
2. Patients feel safe when receiving care in this hospital.
3. Staff explain medical procedures clearly to patients.
4. Confidentiality of patient information is maintained.
5. Staff treat patients with courtesy and respect.

Empathy

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

1. Staff listen carefully to patient concerns.
2. Patients are treated as individuals, not just as cases.
3. Staff are sensitive to patients' emotional and psychological needs.
4. Special care is taken with elderly or vulnerable patients.
5. Visiting hours and family support policies are considerate of patient needs.

Study Limitations

Like every research endeavor, this study contains limitations that may limit its interpretation and generalizability. To provide transparency and a true understanding of the study's findings, these limitations must be stated. This study's context-specific focus is a negative. Research is conducted at one tertiary hospital, which may have different operational rules, staff demographics, and training frameworks. The findings may benefit similar hospitals but not primary or secondary healthcare centers. Self-reported data are another problem. Surveys ask healthcare personnel about patient care and training. Although structured surveys and Likert scale items standardize data collection, response bias remains. Participants may exaggerate or understate their ideas due to social desirability, judgment anxiety, and institutional allegiance. This subjective element may skew data and obfuscate training's impact on patient care.

Cross-sectional studies limit causation. Once-collected data can show correlations between staff training and perceived care quality, but not cause and effect. To track changes and prove causality, longitudinal studies are essential. Partial answers and non-responders reduce study sample size and statistical test power. Even with oversampling, missing data or low response rates—especially from overburdened healthcare staff—could add bias or reduce representativeness. External factors may have affected patient treatment quality that the study ignored. Examples include leadership, business culture, staffing ratios, equipment availability, and hospital policy changes. Since training is the exclusive focus, other effects may affect results.

These inherent limitations must be acknowledged when evaluating this research's conclusions, even though excellent design and data handling will decrease them.

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