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WHAT CONTRIBUTES TO EFFECTIVE MANAGEMENT SYSTEM IN HOSPITALS: A SURVEY ON TWO COUNTRIES

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ABSTRACT

WHAT CONTRIBUTES TO EFFECTIVE MANAGEMENT SYSTEM IN HOSPITALS: A SURVEY ON TWO COUNTRIES

Background: To superior the benefits of the health care system, the most practical way is to provide an effective management system in the hospital. We live in a challenging world that has tons of issues including various kinds of diseases. To cover all dangerous diseases, we need reliable and efficient hospitals for all human beings. Effective and efficient hospitals rely on the systematic management system which is used wisely in both public and private sectors of health care.

Purpose: The objective of this study is to analyze the impact of a well-functioning hospital management system on various outcomes, including the performance of doctors, satisfaction of patients, occurrences of medication errors, financial aspects, efficiency of surgical instruments, and the overall environment within the hospital.

Method: Over 135 potential respondents in Turkey and Myanmar were provided with a standardized questionnaire. The study was analyzed using a quantitative research methodology.

Conclusion: The research examined the impact of an effective management system in hospitals on positive outcomes. The study included 135 respondents who visited the hospital at least once. The majority of respondents were female (71.1%) and aged between 36 and 45 (34.1%). The results revealed both positive and negative relationships between various factors, such as doctor performance, patient satisfaction, medication error, financial issues, surgical instruments, and hospital environment, and total quality management. Financial issues and hospital environment had the most significant positive influence on total quality management. The study emphasized the importance of considering these factors to achieve effective management, improve cost-effectiveness, and gain competitive advantages in healthcare.

Keywords: Effective Management System, Hospital, Positive Results, Influence, Doctor, Patient, Medication Error, Financial Issue, Surgical Instrument.

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SYMBOLS

H1a, H1b, H1c, H1d, H1e, H1f, H2: Research Hypotheses

P: Possibility Value

SD: Standard Deviation

VIF: Variance Inflation Factor

R Square: The Coefficient of Determination

MLR: Multi Linear Regression

ABBREVIATIONS

DP: Doctor's Performance

PS: Patient Satisfaction

ME: Medication Error

FI: Financial Issues

SI: Surgical Instruments

HE: Hospital Environment

TQM: Total Quality Management

HIS: Healthcare Sector Improvement

FHL: Financial Health Literacy

RFID: Radio-Frequency Identification

CSSD: Central Sterile Supply Department

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1 INTRODUCTION

Hospitals play a crucial role in providing healthcare services and have a significant impact on public health. They consume a considerable portion of health system resources, making it vital to have well-managed and efficient operations. Achieving optimal management in hospitals necessitates the training and development of skilled managers. The effectiveness and efficiency of hospitals heavily rely on the competent utilization of resources through key management functions like planning, organizing, and directing. To carry out these functions successfully, managers need a diverse range of competencies encompassing knowledge, skills, behaviors, and attitudes applicable to different managerial roles.

The management of hospitals significantly impacts the quality of patient care. To ensure optimal care for patients, hospital managers need to possess competence and experience in both hospital administration and patient care. Effective communication with both staff and patients is essential for their role. A crucial aspect of hospital management revolves around the efficient utilization of resources, including financial and human resources. Managers must allocate resources in a manner that maximizes patient care while ensuring proper training and support for the staff. Establishing and nurturing a positive hospital culture is another vital aspect of management. This entails fostering a culture focused on delivering excellent patient care, promoting teamwork, collaboration, and creating a welcoming and respectful environment for patients.

The interaction between hospital management and patients has a direct impact on the quality of care provided. A high rate of avoidable deaths and hospital admissions reflects poor quality of care. To address this, hospital managers should adopt a holistic approach and prioritize reducing post-discharge re-admissions. It is crucial for managers to maintain comprehensive medical records, particularly for high-risk patients. The role of a hospital manager is to oversee the health and well-being of patients within the healthcare system. As a healthcare executive, they need to possess knowledge and expertise in both operational and financial aspects of the industry.

Healthcare managers often prioritize their knowledge and experience in critical analytics over interpersonal expertise, leadership training, and communication skills required to effectively manage a healthcare facility. However, it is important to recognize

that the physical environment of a hospital can directly impact patient outcomes. Factors such as the design and layout of the hospital can contribute to lowering anxiety and stress, reducing recovery time after surgery, and enhancing natural recovery.

Health literacy is a vital component of healthcare alongside the physical setting. It pertains to a person's capacity to grasp and effectively use health-related knowledge for making informed choices regarding their medical care. This includes understanding healthcare services, treatment alternatives, and making plans for end-of-life situations. While health literacy and the hospital environment are separate entities, they are equally significant in enhancing patient outcomes and ensuring the provision of exceptional healthcare. (Santana et al. 2021)

2 GENERAL INFORMATION

2.1 THEORETICAL APPROACH

The purpose of the research is to examine the relationship between the effective and quality management influence on the positive outcomes of the health care services.

2.1.1 Significance of the Research

Research plays a crucial role in enabling hospitals to establish structured healthcare processes, leading to smooth and efficient service delivery. Hospital management is a challenging task that requires precision and high efficiency. Implementing a well-designed Hospital Management System not only enhances efficiency but also improves decision-making capabilities for the management. In today's context, operating modern super-specialty hospitals without such systems is impractical. A comprehensive hospital management system serves as the foundation of contemporary hospitals by ensuring reliability, efficiency, security, and profitability.

Conceptual Framework and Hypothesis Development

Independent Variable: Doctor's Performance, Patient Satisfaction, Medication Error, Financial Issues, Surgical Instruments, Hospital Environment

2.1.2 Doctor's Performance

As healthcare professionals, organizations, and educational institutions face growing expectations for accountability, there is a need to identify and address underperformance in a structured and transparent manner at an early stage. Effective remediation processes also require clear guidelines and structure. While the impact of underperformance on organizational health is well-established in different contexts beyond the National Health Service (NHS), there is a lack of comprehensive research and documentation on the assessment and management of underperformance among doctors. It is clear that the well-being of both doctors and the organizations they serve are interconnected. (Cohen and Rhydderch 2006)

Having reliable, precise, useful, and effective approaches to measure the performance of physicians is of utmost importance to support these efforts. Since 1993, the utilization of multisource feedback (MSF) or 360-degree assessment has grown in prominence within healthcare systems worldwide as a method for evaluating various facets of professional performance. MSF involves obtaining external evaluations of physicians' performance in their different responsibilities from three groups: 1) peers with comparable experience, 2) non-physician colleagues like nurses, allied healthcare professionals, or administrative staff, and 3) patients. (Hall et al. 1999)

The relationship between the physical and mental well-being of physicians and the organizations they work for is evident, although the intricacies of this interaction are not fully understood at present. Existing evidence suggests a connection between personality traits and job performance, indicating that occupational psychology can help in understanding the behavioral patterns associated with subpar performance. In the past, prior to the late 1980s, it was widely believed that personality had little to no influence on performance. However, the introduction of the five-factor model of personality challenged this notion and demonstrated that personality can be accurately measured and serves as a reliable predictor of job performance. Effective management of hospital staff has a significant impact on improving healthcare outcomes. (Neal, Griffin, and Hart 2000) (West et al. 2006)

In the NHS, the management of hospital-based clinicians seldom relies on evaluating their individual clinical performance, which could potentially account for differences in the quality and efficiency of clinical practice. (Black 2013)

The assessment of performance measures the caliber and efficiency of an individual's performance, which enables improvements in clinical practice through the provision of feedback, establishing of objectives, and continuous monitoring. (Soong et al. n.d.)

Theatrical performance techniques can be utilized to create reproducible situations for doctor-patient interactions. These scenarios can have a notable impact on the pain tolerance of a specific group of individuals subjected to experimental pain. Through the implementation of the Cold Pressor Test (CPT), a well-recognized experimental pain model, the research demonstrates that a performance style that incorporates effective verbal and non-verbal engagement, authoritative demeanor, and

suggestion, inspired by traditional healing rituals, leads to a significant increase in the positive response to a placebo drug. This stands in contrast to a performance style that emulates a typical doctor visit in the Israeli public health system, which is characterized by relatively impersonal and curt communication. (Czerniak et al. 2016)

Doctors are inclined to respond positively to performance assessment and management through contemporary human resource management systems. These strategies align more with a culture of "empowerment and facilitation" rather than "command and control" and emphasize intrinsic motivational tactics over extrinsic ones. Within the context of individual performance reviews, there are instances of such approaches being developed and assessed. (Trebble et al. n.d.)

Below is Table 1 that describes some literatures and articles to explain the theoretical approach of the doctor performance in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 1 Theoretical Approach Table of Doctor's Performance in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Measuring a doctor's performance: personality, health and Well-being	Cohen and Rhydderch 2006)	The ultimate goal should be to establish a remediation approach that is grounded in empirical evidence.	Case study review	Evidence from 200 studies	The examination of the initial 50 cases managed by the NCAS verified that underperformance is a multifaceted problem. Referrals were initiated due to various reasons, including issues pertaining to clinical care, behavior and attitude, health and well-being, and organizational matters.
2	Assessment of physician performance	Hall et al. 1999	The primary objective of the College	Questionnaire instruments	308 physician volunteers	The goal of the PAR program is to support

	in Alberta: The Physician Achievement Review		of Physicians and Surgeons of Alberta is to uphold and ensure exceptional levels of medical practice that align with societal demands. Its mission is centered around providing guidance to the medical profession and safeguarding the welfare of the public.	Statistical methods Pilot Study		physicians in Alberta in recognizing and evaluating different aspects of their situations and practices that they may want to reassess, enhance, or modify. This is done with the intention of benefiting their patients and enhancing their own professional fulfillment.
3	The Impact of Organizational Climate on Safety Climate and Individual Behavior	Neal, Griffin, and Hart 2000	This study investigated how the overall organizational atmosphere impacts both the perception of safety within the workplace and the subsequent performance in ensuring safety.	Questionnaire	525 employees from 32 workgroups	The study confirmed that organizational climate predicts safety climate and that knowledge and motivation affect compliance, participation, and safety performance. Safety climate acts as a mediator between organizational climate and safety performance.
4	Reducing patient mortality in hospitals: The role of human resource management	West et al. 2006	This study explores the relationship between human resource management practices in healthcare organizations and the quality of patient care by utilizing organizational behavior	primary research question questionnaire	137 acute hospitals	The results indicate that managers and policymakers should prioritize enhancing the effectiveness of HR management systems within healthcare organizations as a crucial approach to enhancing the quality of patient care.

			theory and research.			
5	A novel approach to improving emergency department consultant response times	Soong et al. n.d.	A new intervention that involved education, goal setting, and real-time performance feedback to enhance the timeliness of patient admissions in the general internal medicine (GIM) department.	multifaceted approach a time-series design	The emergency department has over 50000 visits	A low-cost intervention with goal setting, education, and performance feedback improves physician behavior, reducing response times in the emergency department and alleviating overcrowding.
6	Manipulating the Placebo Response in Experimental Pain by Altering Doctor's Performance Style	Czerniak et al. 2016	To consistently regulate and alter the manner and content of a simulated doctor-patient interaction, and to reliably influence the placebo response in pain experiments.	experimental methodology	76 men, 46 women Age 18-45 years All are in good health.	guiding doctors' verbal and non-verbal behavior to establish a connection and enhance trust in treatment, it is possible to achieve positive effects on the magnitude of the response to placebo pain relief. The researchers also show that individuals who are not responsive to the placebo effect are similarly unaffected by the manner in which the doctors perform.
7	Individual performance review: the development of a framework and evaluation of doctors' attitudes to its value and implementation	Trebble et al. n.d.)	To create an IPR framework for consultants and assess their attitudes towards its value, process, and content.	research methodology three-cycle action, qualitative methods	22 consultants (predominantly with medical management roles)	In a qualitative study, consultants in medical management positions expressed negative views towards the current performance evaluation system, perceiving it as ineffective, merely a

						formality, and met with skepticism.

Source: Created from the used Literature

2.1.3 Patient Satisfaction

Patient satisfaction is important in healthcare because it saves money by reducing the need for medical tests and treatments. Patients prefer healthcare providers who are friendly, skilled, and accessible. Understanding patient expectations, personality, and regional differences are essential to ensuring satisfaction. High-quality healthcare improves health outcomes, compliance, loyalty, and referrals. Healthcare providers need to focus on patient satisfaction to remain competitive and successful. (Lai, Tsai, and Weng 2004)

Patient satisfaction is associated with favorable outcomes, including enhanced adherence to treatment, decreased healthcare utilization, reduced malpractice lawsuits, and improved prognosis. However, there is a dearth of standardized tools and a conceptual framework for measuring consumer satisfaction consistently. Consequently, there has been a rise in surveys that concentrate on the patient experience, encompassing factors such as waiting times, basic amenities, and communication with healthcare professionals. These surveys pinpoint areas in healthcare where quality improvement is needed. (Bleich, Ozaltin, and Murray 2009)

Scholars have suggested that enhancing healthcare quality according to patients' viewpoints can enhance the value they receive for their investment by improving safety, accessibility, fairness, and comprehensiveness of care. Conversely, healthcare providers may perceive quality improvement as a means to operate more efficiently, delivering effective services to a larger consumer base while maintaining satisfactory levels of customer retention. (Patwardhan and Spencer 2012)

Gordo's research, which utilized information from the German Socio-Economic Panel, demonstrates a significant connection between extended periods of unemployment and patient satisfaction. In contrast, when it comes to short-term unemployment, the relationship with patient satisfaction is less pronounced and varies based on gender. (Gordo 2006)

Lastly, the study found that nurses play a critical role in ensuring patient satisfaction and high-quality care by providing explanations and information about treatment and showing respect and communication. Patients reported high satisfaction with overall hospital care and nursing care and would recommend the hospital. Nurse managers can use patient satisfaction data to improve nursing care based on patient expectations. (Karaca and Durna 2019)

Below is the Table 2 which describes some literatures and articles to explain the theoretical approach of the patient satisfaction in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 2 Theoretical Approach Table of Patient' Satisfaction in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Determining factors of patient satisfaction for frequent users of emergency services in a medical center	Lai, Tsai, and Weng 2004	This study aimed to compare overall satisfaction with emergency department (ED) care between frequent and infrequent ED users, as well as identify the factors that contribute to satisfaction among frequent ED users.	Ordinal logistic regression analysis	200 frequent users, 200 infrequent users.	In emergency care, frequency ED users get less rating than infrequent ED users for the satisfaction.
2	How does satisfaction with the health-care system relate to patient experience?	Bleich, Ozaltin, and Murray 2009	To explore the various factors that impact individuals' satisfaction with the healthcare system, going beyond their personal experiences as patients.	Additive ordinary least-squares regression models	2003 the World Health Survey in 21 European Union countries	A robust correlation was observed between patient experience and satisfaction with the healthcare system, explaining 10.4% of the variation in satisfaction.

3	Are patient surveys valuable as a service-improvement tool in health services? An overview	Patwardhan and Spencer 2012	This article reviews the role of patient surveys in improving healthcare quality. It explores different types of surveys, their benefits, limitations, and wide-ranging application to identify service gaps.	questionnaire	670 parents	Conducting patient experience surveys and utilizing the findings to enhance care quality are separate processes. The effectiveness of patient surveys in improving quality relies on effectively executing both of these processes.
4	Effects of Short- and Long-Term Unemployment on Health Satisfaction: Evidence from German Data	Gordo 2006	To examine the impact of both short-term and long-term unemployment on individuals' satisfaction with their health.	Longitudinal survey Multivariate Analysis	active in labour market, ages between 21 and 65 years old	Long-term unemployment has emerged as a significant issue for the German government, requiring attention and action. Certain individuals remain unemployed for extended periods due to a lack of motivation to seek alternative employment, partly influenced by the generous financial assistance provided by the state.
5	Patient satisfaction with the quality of nursing care	Karaca and Durna 2019	The aim of the study is to find out the care of the nursing to the patients and other concerning factors	A cross-sectional, descriptive survey study.	635 patients	The patients should have got information from the nurse in all aspects of the illness, diagnosis and treatment to provide patient please and to show the quality of nurse care.

Source: Created from the used Literature

2.1.4 Medication Error

Medication errors are preventable incidents that can occur during the administration of medication, leading to improper usage or harm to the patient. These

errors can happen under the supervision of healthcare professionals, patients, or consumers.

Medication errors are highly prevalent and pose significant risks to patients, potentially resulting in severe consequences such as illness or death. These errors can occur at any stage of the medication use process and stem from various factors, including incorrect diagnosis, prescribing mistakes, and inadequate drug distribution practices. It is crucial to address medication errors to enhance patient safety, particularly in primary care settings where a substantial portion of prescribing takes place. Unfortunately, under-reporting of medication errors is common, particularly in developing countries. (Kohn, Corrigan, and Donaldson n.d.-a)

Medication errors remain an ongoing concern in hospitals worldwide, possibly stemming from the lack of experience among healthcare professionals and the challenge of high nurse-to-patient ratios. One potential approach to address this issue involves offering focused training to junior staff members regarding medication prescription and administration. Additionally, implementing improved management strategies to tackle nurse workload could be beneficial. These interventions have the potential to mitigate medication errors and enhance patient safety within hospital settings. (Isaacs et al. 2021)

Medication errors pose a significant challenge within hospital environments, comprising approximately one-third of all medical errors. These errors have the potential to result in unfavorable consequences for patients, such as elevated mortality rates, extended hospital stays, and heightened healthcare expenses. It is of utmost importance to tackle this issue in order to enhance patient safety and elevate the quality of healthcare provided. (Keers et al. 2013)

According to Morimoto, medication errors encompass a comprehensive range of mistakes that can occur throughout various stages of the medication process. These stages include drug ordering, where errors may arise during the prescription and selection of medications; transcribing, where inaccuracies may occur during the transfer of prescription information; dispensing, which involves the packaging and labeling of medications for patients; administering, which involves the actual delivery of medications to patients; and monitoring, where errors can occur during the oversight and evaluation of medication effects. Understanding and addressing errors at each of these

stages is crucial for promoting medication safety and preventing harm to patients. (Morimoto 2004)

Despite increasing global awareness of medication errors, healthcare providers still have limited knowledge and hold misconceptions about this issue. Medication errors can occur at various stages of patient care, with ordering or prescribing being the most common point of occurrence. These errors often result from mistakes such as incorrect medication, dosage, or frequency being prescribed. Nurses and pharmacists play a crucial role in identifying such errors, but prevention is key to effectively addressing this prevalent and preventable problem. Generally, medication errors tend to happen at one of the following stages: ordering/prescribing, documenting, transcribing, dispensing, administering, and monitoring. Among these, the ordering or prescribing stage experiences the highest frequency of medication errors. (Scahill et al. 2015)

Below is Table 3 that describes some literatures and articles to explain the theoretical approach of the medication errors in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 3 Theoretical Approach Table of Patients' Satisfaction in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Hospital medication errors: A cross-sectional study	Isaacs et al. 2021	To determine the occurrence, temporal patterns, categories, and contributing factors related to Medication Errors (MEs) within a significant regional hospital located in Australia.	A 5-year cross-sectional study	a single, 290-bed regional teaching hospital which has 260 000 people in the region.	This study showcases an alternative approach and indicates that addressing the lack of experience among healthcare professionals and improving nurse-patient ratios are key obstacles that need to be addressed.
2	Prevalence and nature of medication administration errors in	Keers et al. 2013	To conduct a comprehensive analysis of available research	direct observation method	Ten electronic databases, 91 unique studies	In future studies, it is important to address the significant

	health care settings: A systematic review of direct observational evidence		findings concerning the occurrence and characteristics of medication administration errors (MAEs) in various healthcare environments.			variations in methodologies used across different research investigations in order to achieve a higher level of consistency, enabling more meaningful comparisons and facilitating the development of effective interventions.
3	Adverse drug events and medication errors: detection and classification methods	Morimoto 2004	to reduce the possibility of risk in medications	review of practice data, self-reports by health professionals, and patient surveys.	27617 patients	Medication errors are prevalent in healthcare settings and can occur at any stage of the medication use process. Estimates indicate that a significant proportion of adverse drug events (ADEs) are associated with medication errors.
4	Mapping the terrain: A conceptual schema for a mental health medication support service in community pharmacy	Scahill et al. 2015	Mental health problems are a significant concern in primary care, and community pharmacies could play a crucial role, but there is a lack of information available.	the literature synthesis	A broad conceptualization	

Source: Created from the used Literature

2.1.5 Financial Issues

The pressure to cut costs in healthcare can lead to a slip in quality of patient care. Financial management is crucial for patient safety and quality in healthcare systems. Health systems face fixed costs and increasing spending due to population growth, aging, and rising labor costs. More care is being provided in outpatient settings, but most revenue still comes from facilities-based care. Acquiring outpatient facilities can lead to deficits for hospitals, and aligning incentives can be challenging. Financial literacy is important in making sound financial decisions regarding housing, investments, and long-term savings. (James et al. 2012)

In 2008, the Turkish Ministry of Health conducted a study to assess the financial performance of 839 public hospitals. The findings revealed that a small proportion of hospitals, specifically 28 (3.34%), demonstrated good financial performance. However, the majority of hospitals, accounting for 811 (96.66%) of them, exhibited poor financial performance, highlighting the urgent need for effective solutions to address their financial challenges. (Koyuncugil and Ozgulbas 2012)

The concept of financial health literacy (FHL) entails comprehending the financial aspects associated with healthcare decisions and integrating them with other life choices and financial planning to optimize the quality of life during the aging process. While FHL shares some common ground with health insurance literacy, it goes beyond that by encompassing the financial dimensions of treatment options. The exorbitant cost of healthcare presents a pressing concern, as numerous Americans struggle to afford necessary medical services and accumulate medical debt. This predicament can lead to changes in behavior that contribute to severe health issues and escalate the long-term cost of care. Developing countries also encounter obstacles in healthcare financing due to financial limitations, ineffective resource allocation, and a lack of management capacity. (Paez et al. 2014)

The interconnection between a hospital's financial system and the payment system is a well-recognized and essential aspect of healthcare management. The financial resource allocation system employed by hospital managers reflects their approach to

distributing resources and aims to align with the hospital's goals through appropriate allocation within the payment system.

However, inadequacies in budgeting and financial management can pose significant challenges in the development and implementation of organizational programs, ultimately impeding the achievement of organizational objectives. Effective budgeting is crucial for ensuring the availability of resources, promoting financial stability, and optimizing the utilization of funds.

To address these challenges, it becomes imperative to provide practical training and support to hospital managers, particularly senior and middle managers. Equipping them with the necessary skills and knowledge in evidence-based program formulation and effective cost management can enhance their ability to make informed decisions and improve organizational efficiency and productivity.

In a study evaluating the performance of hospital managers in Sari, Iran, their performance in budgeting tasks was rated as moderate. This finding highlights the need for targeted interventions and training programs to enhance the budgeting skills of hospital managers, enabling them to effectively allocate resources, plan for organizational programs, and overcome financial challenges. By strengthening their budgeting capabilities, hospital managers can contribute to the financial sustainability and success of healthcare organizations.(Bastani et al. 2021)

Below is Table 4 which describes some literatures and articles to explain the theoretical approach of the financial issues in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 4 Theoretical Approach Table of Financial Issues in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	The Impact of Health and Financial Literacy on Decision-Making in Community-Based Older Adults	James et al. 2012	To investigate the relationship between health and financial literacy and decision-	longitudinal study of aging.	older persons of 525 community dwelling	The findings of the study indicate that overall, health and financial literacy demonstrated a negative correlation with age and

			making abilities in older adults.			depressive symptoms. However, there was a positive correlation observed between literacy and education, global cognition, and income. No significant correlation was found between literacy and chronic medical conditions.
2	Early warning system for financially distressed hospitals via data mining application	Koyuncugil and Ozgulbas 2012	To develop a Financial Early Warning System (FEWS) for hospitals by using data mining.	data mining method	839 hospitals	Among the hospitals analyzed, the study found that only 28 (3.34%) demonstrated favorable financial performance, while the remaining 811 (96.66%) had inadequate financial performance.
3	Development of the health insurance literacy measure (HILM): Conceptualizing and measuring consumer ability to choose and use private health insurance	Paez et al. 2014	This article presents the creation of the Health Insurance Literacy Measure (HILM), a self-assessment tool designed to evaluate consumers' competence in choosing and utilizing private health insurance.	the conceptual model to test in cognitive interviews for 2 rounds	937 respondents	Through exploratory factor analysis, two scales were identified for the Health Insurance Literacy Measure (HILM): one for selecting health insurance and another for utilizing health insurance. Each scale comprises two subcategories: confidence and likelihood of behavior.

Source: Created from the used Literature

2.1.6 Surgical Instruments

Advancements in technology are bringing about rapid changes in various aspects of healthcare. The intricate design of medical instruments, along with evidence-based practices, has resulted in the need for complex and specific reprocessing guidelines provided by instrument manufacturers. The safety of patients relies on the appropriate care and thorough reprocessing of these instruments. This article addresses the current challenges faced by sterile processing and operating room professionals in the reprocessing of medical and surgical instruments. Scalpels, forceps, scissors, retractors, and clamps are extensively utilized, while certain surgical procedures necessitate a more specialized set of instruments. Regular inspection and testing of instruments are crucial to ensure their suitability for the intended use, with even minor errors posing a potential danger to patients. Proper handling and storage procedures are essential to prevent breakage and contamination. Surgical instrument processing plays a vital role in enhancing surgical safety within hospital settings. However, it remains an area that has received limited research attention thus far. Errors in surgical instrument processing can lead to prolonged operative times, increased costs, and heightened risks of surgical infections and perioperative complications. Our objective was to investigate the errors encountered in the packaging of surgical instruments. Recent studies highlighting significant complications arising from inpatient surgical procedures have drawn public attention to the need for improved surgical quality, as these complications have been linked to hospital fatalities. (Kable, Gibberd, and Spigelman 2002)

Different approaches have been implemented to enhance surgical quality in clinical settings. These methods include the use of surgical team checklists, evidence-based protocols, and focusing on surgeon performance. (Nicolay et al. 2012)

To the best of our knowledge, there is limited research focusing on enhancing the quality and safety of surgical sterile instrument processing. Hospitals handle a significant volume of instruments each year, increasing the likelihood of errors during various stages of instrument processing. These processes involve tasks such as manual cleaning, utilizing automated washers, assembling instrument sets, packaging them for sterilization, and ultimately sterilizing the sets. Effective management of surgical instruments plays a crucial role in reducing the risks associated with miscounting and malfunctioning in the operating room. In China, the majority of hospitals have established

a centralized department called the Central Sterile Supply Department (CSSD) to centrally manage and monitor the packaging of recycled surgical instruments. The Central Sterile Supply Department (CSSD) utilizes surgical instrument tracking systems to centrally manage and oversee the processes of recycling, cleaning, sterilization, inspection, packaging, and delivery. These tracking systems have proven to be effective in minimizing errors related to the packaging of surgical instruments, such as instances of missing or mismatched instruments. (Blackmore et al.2013)

For the past twenty years, healthcare facilities have had access to surgical instrument tracking systems. However, in the last decade, there has been notable progress in these tracking systems, largely driven by the integration of newer technologies such as faster information technology systems, smartphones, and tablets in the healthcare sector. These advancements have enabled the evolution of tracking systems from their previous role of managing instrument count sheets and providing basic traceability to offering more advanced and sophisticated features. (Zhu et al. 2019)

The implementation of two-dimensional (2D) barcodes and adhesive dots has revolutionized the identification process of surgical instruments in sterile processing. These advancements enable staff members to accurately track each instrument's history, facilitating decisions regarding repair needs and optimizing instrument set usage. Furthermore, healthcare facilities now have access to radio-frequency identification (RFID) technology, which offers additional benefits. RFID technology enables the identification, tracking, and management of portable medical devices, ensuring clarity regarding device ownership within the healthcare facility. Surgical instrument tracking systems utilizing these technologies have demonstrated numerous advantages, including time savings, improved quality of care, enhanced safety for both patients and staff, and cost reduction. Nevertheless, occasional packaging errors still occur, and the underlying causes remain unclear. Thus, the present study aims to enhance safety monitoring in surgical instrument processing by identifying the specific types of errors occurring in the packaging stage. (Zare Mehrjerdi 2011)

Below is Table 5 that describes some literatures and articles to explain the theoretical approach of the surgical instruments in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 5 Theoretical Approach Table of Surgical Instrument in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Adverse events in surgical patients in Australia	Kable, Gibberd, and Spigelman 2002	To ascertain the rate of adverse events (AEs) among patients undergoing surgical procedures in Australia.	a structured questionnaire	28 hospitals in Australia., selected randomly, 14 179 medical records in total	The significant rate of adverse events (AEs) observed in surgical procedures emphasizes the importance of implementing monitoring and intervention strategies.
2	Systematic review of the application of quality improvement methodologies from the manufacturing industry to surgical healthcare	Nicolay et al. 2012	To identify and assess the application and efficacy of various quality improvement (QI) methodologies in the domain of surgical practices.	Reviews of systematics, Meta-Analyses statement.	1595 articles	The implementation of industry-based quality improvement (QI) methodologies can lead to substantial enhancements in surgical care, encompassing benefits such as the reduction of infection rates and the improvement of operating room efficiency.
3	Errors in packaging surgical instruments based on a surgical instrument tracking system: an observational study	Zhu et al. 2019	To investigate the errors in packaging surgical instruments	A surgical instrument tracking system	33,839 surgical instrument packages	The use of incorrect instrument specifications was the main mistake. It needs to make additional efforts to establish a standardized packing procedure for instruments within the same category. Moreover, greater attention should be given to minimizing error rates during high-risk periods or in the surgical department.
4	Radio frequency identification:	Zare Mehrjerdi 2011	This article provides an overview of	literature review and case studies.	seven cases	RFID solutions can enhance the functionality and

	the big role player in health care management		RFID in healthcare management, highlighting its role in comprehensive patient, employee, equipment, medication, and record management. It explores the technology, presents new cases, and discusses its applications.			efficiency of healthcare management systems by effectively managing patients, employees, equipment, medications, and records. This helps to lower operating costs, improve tracking and tracing capabilities, and prevent resource loss in any situation.

Source: Created from the used Literature

2.1.7 Hospital Environment

Creating a hygienic environment is an integral part of reducing infections within healthcare facilities. To enhance patient outcomes, healthcare providers can implement technology such as electronic hand hygiene monitoring systems, which utilize UV lighting and scanning to detect lingering bacteria on practitioners' hands. Despite the importance of proper hygiene practices, it is challenging to ensure that everyone's hands are completely germ-free. Additionally, a healing environment plays a significant role in reducing patients' stress during hospitalization and aiding their personal recovery and recuperation. The concept of environment encompasses various external factors such as the physical, natural, social, and behavioral aspects. Health, being a state of complete physical, mental, and social well-being, requires healthcare facilities that prioritize the well-being of each staff member. This includes maintaining fully staffed teams, providing paid time off and routine breaks, and offering insurance coverage for mental health care. When healthcare professionals feel energized, grounded, and satisfied in their work environment, they are more likely to deliver better care to their patients. However, the significance of the environment in healthcare facilities is often overlooked by doctors, nurses, and other healthcare providers. Attention to details like flooring, private rooms, and breaks for workers can contribute to improved patient outcomes. These strategies serve as a valuable starting point for healthcare facilities aiming to promote patient health, expedite recovery, and support their team members. Research suggests that the built

environment of hospitals can influence the healing process and directly impact patient outcomes by reducing anxiety and stress, shortening recovery periods through exposure to nature views, facilitating social interaction with well-positioned furniture, and minimizing pathological behavior by creating a supportive and stable environment for patients. However, there is a lack of extensive research on patients' perceptions of the internal areas of hospitals in the UK. (Pattison, Robertson RGN, and M 1996), (Beauchemin, Hays, and Frcpc 1998; Ulrich 1984)

Recent findings by Lawson and Phiri support the association between positive patient outcomes and favorable hospital surroundings, consistent with prior studies conducted in the United States. Further investigation is needed to understand patients' perceptions and attitudes towards hospital environments, as well as the factors contributing to their overall experience. The physical environment of a hospital directly impacts staff well-being, productivity, and satisfaction, particularly when considered during the early design stages. Involving healthcare providers in the design process is crucial for creating an effective therapeutic environment. Previous research primarily focused on user satisfaction with hospital physical environments within specific contexts and their relation to service delivery. Studies highlight a significant correlation between health outcomes and the physical environment in which individuals reside or receive treatment. (Gesler, Bell, Curtis, Hubbard, & Francis, 2004; Rollins, 2004; Ulrich et al., 2008; Whitehouse et al., 2001).

In recent times, there has been a growing emphasis on the architectural design of healthcare facilities (Reiling, 2007). The concept of "place making," which aims to create an optimal psychological fit between individuals and their physical environments, has garnered renewed interest within the design community, particularly among healthcare designers (Prasad, 2008). Place making signifies a shift away from solely focusing on the geometric design of spaces and towards a more comprehensive approach that considers user perception and behavior in the physical context. One manifestation of place making is the incorporation of research-based evidence into hospital design, as seen in the concept of "sense-sensitive design" (Mazuch, 2005). Previous research on post-occupancy evaluations of buildings (Dinç, 2009), user satisfaction (Crow et al., 2002), and indoor thermal comfort has indirectly or directly highlighted the importance of integrating user perception and preferences for their physical surroundings in building design. (De Dear, 2004)

Below is Table 6 which describes some literatures and articles to explain the theoretical approach of the Hospital Environment in some areas. It shows literatures and articles of the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 6 Theoretical Approach Table of Hospital Environment in What contributes to Effective Management System in Hospitals: A Survey on Two Countries

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	The effect of ward design on the well-being of post-operative patients	Pattison, Robertson RGN, and M 1996	The Hospital Anxiety and Depression scale and the Disturbance Due to Hospital Noise questionnaire.	questionnaire	64 patients	The bay ward offers a more favorable patient environment, although it has certain drawbacks that can be alleviated with high staffing levels and modern facilities. Visibility to nurses is lower in the bay ward.
2	Findings from the NAO survey of NHS consultants	Lindsay, O'reilly, and Varey 2013	The report of the National Audit Office (NAO) among hospital consultants in NHS acute trusts in England.	Design and piloting of the questionnaire	approximately 33,500 consultants	

Source: Created from the used Literature

H1a: Doctor's Performance had an impact on Total Quality Management

H1b: Patient Satisfaction had an impact on Total Quality Management

H1c: Medication error had an impact on Total Quality Management

H1d: Financial Issues had an impact on Total Quality Management

H1e: Surgical Instruments had an impact on Total Quality Management

H1f: Hospital's Environment had an impact on Total Quality Management

2.1.8 Dependent Variable: Healthcare Sector Improvement

High-quality healthcare is of paramount importance in preventing diseases, promoting wellness, and enhancing the overall well-being of individuals. The healthcare sector is a complex and diverse industry that encompasses a wide range of businesses and organizations. It involves the provision of medical services, the manufacturing of medical equipment and drugs, the facilitation of healthcare delivery, and the provision of medical insurance.

The healthcare industry operates within a comprehensive framework that combines various sectors within the economic system to deliver a spectrum of healthcare services. This includes curative, preventive, rehabilitative, and palliative care, as well as the development and commercialization of goods and services that contribute to the maintenance and restoration of health.

To effectively meet the healthcare needs of individuals and populations, the modern healthcare industry is composed of three main branches: services, products, and finance. These branches encompass numerous sectors and categories, including hospitals, clinics, diagnostic laboratories, pharmaceutical companies, medical device manufacturers, health insurance providers, and healthcare technology companies. Each sector plays a vital role in supporting the delivery of quality healthcare and ensuring optimal patient outcomes.

The delivery of healthcare services relies on interdisciplinary teams of trained professionals and paraprofessionals. These teams include doctors, nurses, pharmacists, laboratory technicians, therapists, and administrative staff, among others. Their collaborative efforts aim to address the diverse health needs of individuals, promote disease prevention, provide timely and effective treatment, and support patients in their journey towards improved health and well-being.

One crucial aspect of delivering quality healthcare is enhancing communication among healthcare providers. Effective communication ensures that vital information is shared accurately and promptly, leading to better coordination of care, improved patient safety, and enhanced health outcomes. It enables healthcare professionals to work together seamlessly, exchange critical data, collaborate on treatment plans, and provide holistic care that addresses the unique needs of each patient.

The healthcare sector plays a vital role in society by promoting and maintaining the health and well-being of individuals. It encompasses a wide range of businesses and organizations that collaborate to deliver high-quality medical services, manufacture essential healthcare products, facilitate healthcare delivery, and ensure financial sustainability. Through interdisciplinary teamwork and effective communication, the healthcare industry strives to meet the diverse healthcare needs of individuals and populations, ultimately improving health outcomes and enhancing overall well-being.

In conclusion, it is crucial to ensure that healthcare providers are well-informed about treatment guidelines and recommended services to improve overall health. Limited access to healthcare services, resulting from lack of insurance or geographical distance from providers, prevents some individuals from receiving necessary care. Interventions aimed at improving healthcare access, such as reducing costs, enhancing insurance coverage, and promoting telehealth utilization, can help more people access the care they need. The absence of healthcare access places individuals at a higher risk, making diseases, malnutrition, and pregnancy considerably more dangerous without proper support. Hospitals and medical centers that are still functioning often face overwhelming numbers of patients, placing strain on healthcare professionals and causing severe shortages of essential medical supplies. Concerns have been raised regarding the quality of services and health outcomes delivered under such circumstances. (Warren et al. 2013)

According on the information in above, research hypothesis H2 is as follows:

H2: Total Quality Management had an impact on Healthcare Sector Improvement

The conceptual model for this study is represented in Figure 1, which describes the connections between the variables.

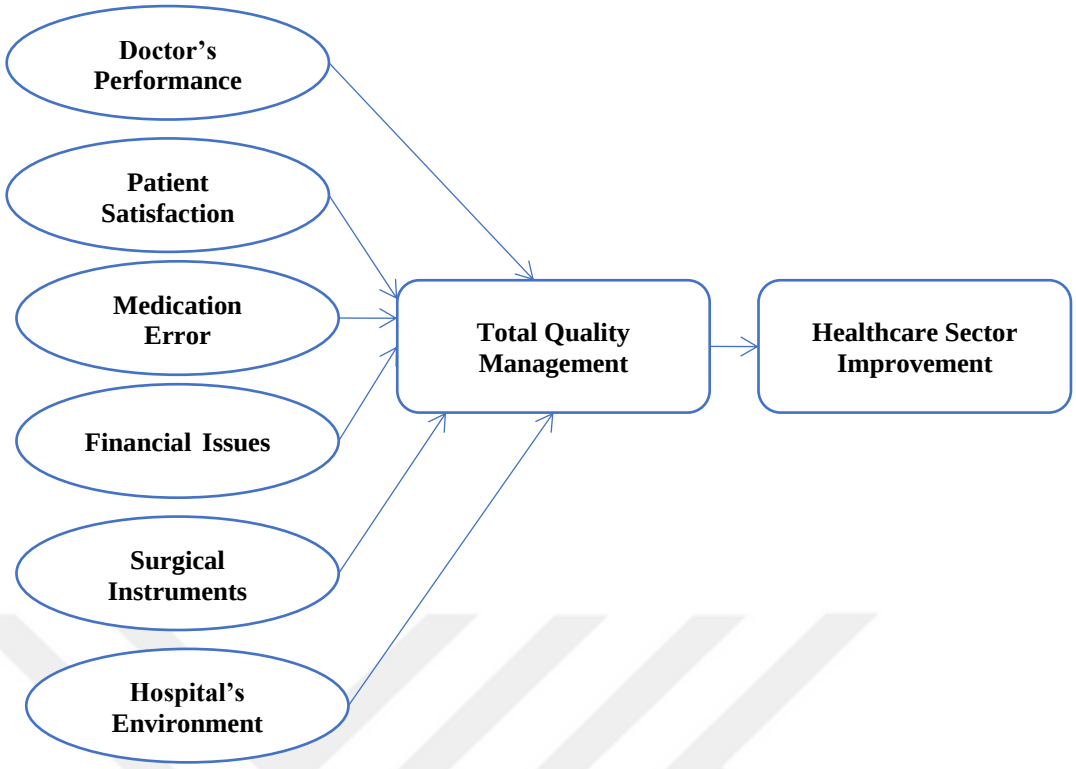

Figure 1: The Conceptual Model

2.2 LITERATURE REVIEW

The review of literature, which covered articles published from 2000 onwards, was conducted by searching through various platforms such as Research gate, PubMed, ScienceDirect, Mendeley, Google, and Google Scholar. The search process involved using relevant keywords to find the relevant articles.

2.2.1 Hospital Management

Hospital management is considered one of the most intricate management models available due to its direct involvement with people's health and well-being. To ensure proper functionality, numerous processes are essential to minimize risks, provide a secure environment, and deliver high-quality services.

2.2.1.1 What is Hospital Management?

The term "Hospital Management" encompasses a wide range of responsibilities and can be approached from various perspectives. It primarily involves overseeing all

aspects of a hospital and coordinating its different elements. This includes ensuring patient care, maintaining records, managing medicine inventory, and upholding cleanliness standards. Becoming a hospital management professional necessitates diligent attention to every element within the hospital. RNpedia.

Understanding the importance of hospital management is crucial as these experts are responsible for supervising the operations of healthcare facilities. They collaborate with doctors, nurses, and other healthcare professionals to ensure seamless coordination among different departments within institutions such as hospitals, nursing homes, and clinics. Indeed. (2023)

2.2.1.2 Historical overview of Hospital Management?

The concept of Hospital Management Systems emerged in the field of hospital management as early as the 1960s. Since then, they have continuously progressed and adapted to technological advancements, contributing to the modernization of healthcare facilities. In the present era, healthcare management begins by empowering patients to manage their needs through mobile devices, providing them with greater control and convenience. Mocdoc. (2018)

2.2.1.3 What is a computer system of Hospital Management?

A hospital management system is a computerized system designed to facilitate efficient information management in healthcare. It assists healthcare providers in effectively carrying out their duties by managing data across various departments, including clinical, financial, laboratory, inpatient, outpatient, operation theater, materials, nursing, pharmaceutical, radiology, pathology, and more. Mocdoc. (2018)

2.2.1.4 How does Hospital Management work?

Hospital management is a demanding and high-pressure field that requires quick decision-making. Analytical managers utilize both qualitative and quantitative data to make efficient and agile decisions, enabling them to identify strengths and address weaknesses for improved outcomes. To achieve successful hospital management, it is crucial to address sector challenges through eight important steps. These steps encompass meeting patient expectations for excellence in service, including humanization,

comfortable facilities, security, and relationships, among other factors. Hospital management must stay attuned to the changing reality and understand the characteristics of their target audience, while prioritizing constant employee training. Ultimately, employees play a direct role in shaping the patient experience, and their expertise is crucial, even alongside state-of-the-art infrastructure and equipment.

Training programs for hospital employees should encompass technical, behavioral, and communication skills, as qualities like empathy, transparency, and quality service are highly valued today. Implementing a quality management system enables detailed access to financial operations, including expenses, profits, taxes, and more. This financial awareness allows medical establishments to strategize effectively, benefiting both the hospital and patients by ensuring intelligent spending. While it is important to have the necessary tools for managing patient care and improving staff quality, managing the physical infrastructure is also crucial. By implementing a hospital management system and integrating interconnected devices, notifications can be received promptly regarding faulty medical equipment, ventilation issues, lighting problems, and other concerns. However, the effective capture and management of permissions remain challenges for hospital management systems. (Hakimzada et al. 2008)

The shift from traditional managers to graduates of Health Services Management in hospital settings represents a transformative change in hospital management. This shift entails implementing reforms in hospital structures, processes, resources, culture, and performance. These reforms have the potential to generate significant positive outcomes, including improved satisfaction among both patients and staff, as well as heightened effectiveness in the hospital's actions and activities.

Consequently, achieving optimal management of hospital affairs necessitates the cultivation of new management approaches and the training of competent managers. The efficiency and effectiveness of a hospital largely rely on its management and the efficient utilization of its resources. Successful management of hospitals can contribute to the development of a positive organizational culture.

The lack of competent and capable managers with the necessary knowledge and experience is a significant contributing factor to the challenges faced by hospitals. These managers play a crucial role in utilizing available resources effectively, ensuring staff and client satisfaction, and delivering efficient services in a timely manner. Inadequate

performance by hospital managers can result in delays in treatment, disease progression, increased patient mortality, escalated costs, and wasted human and financial resources.

Another study indicates that hospital managers who possess expertise in their respective fields exhibit better performance when their organizational position aligns with their area of study. The decision-making process of managers greatly influences hospital performance, and the absence of sound management principles hinders the achievement of the center's goals, which primarily aim to enhance community health.

By providing effective recommendations for patient management and establishing standard clinical procedures, clinical guidelines can enhance healthcare quality and reduce unnecessary, harmful, or ineffective interventions. These guidelines adhere to scientific principles and serve as a valuable resource for managing patients' issues, ultimately improving overall health outcomes. (Bastani et al. 2021)

Many institutions continue to utilize consent forms in paper format, which are typically scanned and stored within document management systems. However, these systems do not possess the necessary functionality to perform systematic searches that can effectively identify potential research candidates. (Bergmann et al. 2007)

The current systems do not possess the capability to extract information regarding potential research candidates using specific elements of the consent form, such as consent for tissue usage or demographic characteristics. Additionally, researchers have extensively investigated patient comprehension as a crucial component of the consent process, recognizing its substantial implications. (Betti et al. 2011)

Converting paper-based consent forms into electronic formats effectively addresses the challenges mentioned earlier. It allows for indexing, searching, and retrieving consent data, thereby facilitating the identification of potential research participants and ensuring patient intent. Additionally, electronic formats enable the inclusion of educational media to enhance patient comprehension. Over the past decade, significant research has focused on developing advanced electronic consenting infrastructure. This research aims to strike a balance between privacy and compliance concerns, making electronic consenting more practical and feasible in the present medical landscape. (Flory and Emanuel 2004)

Advancements in modern medicine have brought forth more complex treatment methods and care processes, offering opportunities for improved care, but also raising the potential for adverse events and patient harm. While complete elimination of risks in patient care is not feasible, effective clinical risk management is crucial for hospitals to enhance patient safety. The healthcare landscape is constantly evolving, with technological advancements and shifting patient demographics, presenting considerable challenges for healthcare providers. Within this dynamic environment, there have been concerns regarding the quality of care and patient safety, highlighting significant shortcomings that require attention and resolution. (Briner et al. 2010)

Below is Table 7 which describes some literatures and articles to explain the literature review of the Hospital Management in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 7 Literature Review Table of Hospital Management

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	The nature and occurrence of registration errors in the emergency department	Hakimzada et al. 2008	The paper examines the necessity of information technology (IT) solutions for addressing these issues and explores the consequences of alternative policies.	Ethnographic techniques Short-term Observational Short-term Qualitative study	approximately 70,000 patients.	Efficient and accurate patient registration is crucial as the first step in providing care in the Emergency Department (ED). Failing to achieve both of these objectives can result in negative consequences and adverse outcomes.
2	"An E-Consent-Based Shared EHR System Architecture for Integrated Healthcare Networks." *International Journal of Medical Informatics*	Bergmann et al. 2007	Our objective is to specify and develop an architecture for a virtual shared health record that utilizes a patient-centered integration	A literature survey summarizes considerations of current architectural approaches.	Complemented by a methodical analysis in two regional settings, a formal architecture model was specified and implemented.	The presence of an electronic consent system ensures that the patient retains control over access to the shared record.

			and authorization model.			
3	Effect of the Informed Consent Process on Anxiety and Comprehension of Patients Undergoing Esophageal and Gastrointestinal Surgery	Betti et al. 2011	To assess the anxiety levels, recall, and understanding of the information provided to patients undergoing esophageal and gastrointestinal surgery.	Questionnaire Survey, the State-Trait Anxiety Inventory test	61 patients	Most patients experienced a notable reduction in their state anxiety scores.
4	Interventions to Improve Research Participants' Understanding in Informed Consent for Research: A Systematic Review	Flory and Emanuel 2004	To examine existing research on interventions aimed at enhancing the comprehension of information disclosed to research participants during the informed consent process.	informed consent and understanding in clinical research.	30 studies describing 42 trials	Among the 12 trials conducted on multimedia interventions, 3 demonstrated a notable enhancement in understanding. Out of the total 15 trials conducted, 6 exhibited a significant improvement in comprehension. It is worth noting, however, that 5 out of these 6 trials had certain limitations in terms of quality, which raises concerns regarding their practical applicability.
5	Assessing hospitals' clinical risk management: Development of a monitoring instrument	Briner et al. 2010	To assess CRM in hospitals	Interviews with CRM practitioners, a pilot evaluation	138 participating Swiss hospitals	We have created a tool for evaluating the progress of Customer Relationship Management (CRM) in hospitals.

Source: Created from the used Literature

2.2.2 Healthcare Organizations

A healthcare organization is a complex entity that encompasses various institutions, facilities, and professionals working together to deliver medical services and promote health and well-being. These organizations can include hospitals, clinics, nursing homes, rehabilitation centers, and other healthcare providers. They play a crucial role in the healthcare system by providing diagnosis, treatment, and preventive care to individuals and communities.

Healthcare organizations are responsible for managing resources, such as medical equipment, facilities, and human resources, to ensure the efficient delivery of healthcare services. They often have administrative and managerial structures that oversee operations, finance, quality assurance, and compliance with regulations and standards.

These organizations strive to provide high-quality care and meet the healthcare needs of their patients. They may specialize in specific medical fields or offer a comprehensive range of services. Collaboration among healthcare professionals within the organization and coordination with external stakeholders, such as government agencies, insurers, and community organizations, are key components of effective healthcare organization.

In addition to delivering medical care, healthcare organizations may also engage in research, education, and community outreach initiatives to advance medical knowledge, train future healthcare professionals, and promote public health.

Overall, healthcare organizations play a vital role in the healthcare system, working towards the goal of improving health outcomes and enhancing the well-being of individuals and populations they serve.

The prevalence of clinical risks, including adverse events, near misses, errors, and other incidents in patient care, has raised serious concerns among healthcare organizations. These risks not only directly harm patients but also have significant socioeconomic implications. When such incidents occur, healthcare organizations face challenges that impact their reputation, financial stability, and overall ability to deliver high-quality care. Therefore, it is crucial for healthcare organizations to prioritize the identification and mitigation of clinical risks, aiming to safeguard patient safety and uphold their socioeconomic standing. This approach would enhance healthcare quality,

promote the safety of patients, visitors, and staff, and reduce the costs associated with the healthcare system. (Verbano, C., & Turra, F. 2010).

According to the Institute of Medicine's (IOM) report in 2000, the majority of clinical risks were found to stem from deficiencies and inadequacies within the healthcare system itself. The systemic approach recognizes that errors occur as a result of the system and its processes, emphasizing that the environment created by these factors contributes to the occurrence of errors. (Kohn, Corrigan, and Donaldson n.d.-b)

As a result, it was determined that the system should provide a safety network, and endeavors should be focused on risk management. (Vries n.d.)

To ensure patient safety, it is crucial to have systematic interventions in place to control and minimize the impact of clinical risks that cannot be completely eliminated. One effective approach to tackle these challenges is the implementation of a clinical risk management (CRM) system. This comprehensive system incorporates various tools, frameworks, procedures, and initiatives designed to identify, analyze, prevent, monitor, and manage clinical risks. By implementing a CRM system, healthcare organizations can proactively address potential risks, enhance patient safety, and maintain a high standard of care. (Briner, Manser, and Kessler 2013)

Critical incidents refer to unforeseen and sudden events or situations that require quick decision-making and immediate responses. Numerous studies have highlighted the significance of crisis management and disaster planning for organizations in Iran at present. (Yarmohammadian et al. 2011)

It is evident that within the realm of management, crisis management, relief efforts, and emergency response play a pivotal role in healthcare systems, particularly in hospitals as the primary providers of services. Consequently, there is a necessity for a comprehensive plan to effectively address such incidents. (Sztajnkrycer, M. D. 2004)

Establishing essential frameworks to identify safety risks and enhance the quality of care is of utmost significance for all healthcare organizations. Key operational challenges that can potentially impact the effectiveness of the system include insufficient staff engagement in education, reporting, and analysis; underreporting and limited usefulness of aggregated data; constraints in human and financial resources; punitive

approaches; and managerial obstacles in finding solutions. (Lindsay, O'reilly, and Varey 2013)

Below is Table 8 that describes some literatures and articles to explain the Literature Review of the Healthcare Organization in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 8 Literature Review Table of Healthcare Organization

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Surgical patient safety: analysis and interventions	Vries n.d.	Previous patient safety research lacked continuity and consisted of small projects. It called for a research program to address adverse event reporting, medication safety, and complex care/communication.	Literature search	74,485 patient records 257 articles	Nearly 10% of hospitalized patients experience adverse events, many of which can be prevented. Focusing on interventions related to operations and medication can significantly reduce these incidents.
2	Clinical risk management in hospitals: Strategy, central coordination and dialogue as key enablers	Briner, Manser, and Kessler 2013	To identify crucial factors that promote clinical risk management (CRM) in hospitals, providing guidance for healthcare organizations in ensuring patient safety in this critical domain.	A cross-sectional survey	2007 to 2008 in 324 Swiss hospitals	Three essential factors were recognized: establishing a central coordination function for CRM, facilitating effective communication among various hospital departments, and formulating strategic objectives for CRM.
3	Are hospitals ready to respond to	Yarmohammadian et al. 2011	To examine the needs, obstacles, and approaches related to the	non-random purposeful method in qualitative	Senior hospital manager	It is advised that authorities at various levels

	disasters? Challenges, opportunities and strategies of Hospital Emergency Incident Command System (HEICS)		implementation of the Hospital Emergency Incident Command System (HEICS) in hospitals affiliated with Isfahan University of Medical Sciences (IUMS).	research, snowball technique, semi-structured interview	s of IUMS	of the healthcare system promptly create the necessary conditions for the implementation of such a system. This can be achieved by actively promoting and supporting the implementation of the system.

Source: Created from the used Literature

2.2.3 Healthcare Sector

The existing healthcare system faces challenges such as medication shortages (Danhoundo, Wiktorowicz, and Yaya 2017; Mubyazi et al. 2012), lack of patient respect in public health facilities (Reader and Gillespie 2013), healthcare workers prioritizing donor-funded activities for personal financial incentives (Ridde 2010; Vian et al. 2013), and instances of drug and bed net theft (Akwataghibe et al. 2013; Ferrinho et al. 2004). These factors significantly impact the functioning of health services. In the context of healthcare, social accountability involves the active participation of citizens as service users who are directly affected by healthcare decisions. It acknowledges their potential to drive change in health policies, services, and provider behavior through collective influence and action (Fox 2015).

An effectively operating healthcare system relies on various essential elements, which encompass a skilled and motivated healthcare workforce, well-maintained infrastructure, and a dependable supply of medicines and technologies. These components are underpinned by sufficient financial resources, robust health plans, and evidence-based policies. It is important to note that the structure and functioning of healthcare systems differ from one country to another, influenced by factors such as economic development and political systems. Regardless of whether a country has a private, public, or mixed healthcare system, healthcare remains a global priority and a

matter of concern. Challenges related to the quality, delivery, and cost of healthcare services are encountered universally. Recognized as a fundamental determinant of overall physical, mental, and social well-being, healthcare is widely acknowledged for its significant contribution to a country's economy, development, and industrialization. (Cieza et al. 2020)

Below is Table 9 that describes some literatures and articles to explain the literature review of the Healthcare Sector in some areas. It shows the name, writers, aim, methodology, sample and findings of literatures and articles.

Table 9 Literature Review Table of Healthcare Sector

No	Name of Articles	Writer	Aim	Methodology	Sample	Findings
1	Measuring a doctor's performance: personality, health and Well-being	Debbie Cohen Melody Rhydderch	To build an evidence-based approach to remediation.	Case study review	Evidence from 200 studies	The first 50 cases handled by the NCAS revealed that underperformance is a multifaceted issue, involving clinical care, behavior, health, and organizational factors.
2	Global health initiative investments and health systems strengthening: a content analysis of global fund investments	Ashley E Warren, Kaspar Wyss, George Shakarishvili, Rifat Atun, Don de Savigny	Our research had two main goals: firstly, to develop a practical framework for categorizing and quantifying the funding allocated to Health System Strengthening (HSS) by the Global Fund and other Global Health Initiatives (GHIs); secondly, to apply this framework specifically to the Global Fund.	comprehensive quantification, system-level interventions.	six building blocks the World Health Organization health system framework to conduct a detailed assessment of Global Fund health system investments	This research aims to address concerns raised within the research and development community regarding the perceived inadequate contribution of the Global Fund to health systems strengthening.
3	Surgical patient safety: analysis and	de Vries, E.N.	Fragmented patient safety research lacked continuity and highlighted the need for a	Literature search	74,485 patient records 257 articles	Almost 10% of hospital patients experience adverse events, many of which

	interventions		focused program on reporting adverse events, medication safety, and complex care/communication.			could be avoided. By targeting operation and drug-related incidents, interventions can significantly reduce these events.
4	A conceptual schema for a mental health medication support service in community pharmacy	Shane Scahill, Jane L Fowler, H Laetitia Hattingh, Fiona Kelly, and Amanda J Wheeler	Community pharmacies have potential in addressing mental health issues in primary care, but lack information.	synthesis of the literature review	A broad conceptualization	
5	Updating Health Literacy for Healthy People 2030: Defining Its Importance for a New Decade in Public Health	Santana et al. 2021	This framework strives to achieve health literacy as a fundamental principle and ultimate objective in promoting health and well-being.			Both analyses indicate strong support for broadening the definition of health literacy to include individual and organizational aspects.
6	Global estimates of the need for rehabilitation based on the Global Burden of Disease Study 2019: a systematic analysis for the Global Burden of Disease Study 2019	Cieza et al. 2020	We provide data on a global, regional, and national scale regarding the population who needs rehabilitation once during his/her illness or injury leading to disability.	Secondary Data Analysis	data of Global Burden, 2019 study in Diseases, Injuries, and Risk Factors	On a global scale, approximately 2.41 billion individuals (with a 95% uncertainty interval of 2.34-2.50 billion) had conditions that would require rehabilitation, contributing to a total of 310 million cases.
7	The nature and occurrence of registration errors in the emergency department	A. Forogh Hakimzadaa, Robert A. Greenb, Osman R. Sayanb, Jiajie Zhangc, Vimla L. Patel	The paper examines the necessity of information technology (IT) solutions for addressing these issues and explores the consequences of	Ethnographic techniques Short-term Observational Short-term Qualitative study	approximately 70,000 patients.	Efficient and accurate patient registration is crucial as the first step in providing care in the Emergency Department (ED). Failing

			alternative policies.			to achieve both of these objectives can result in negative consequences and adverse outcomes.

Source: Created from the used Literature

2.2.4 Total Quality Management

Total Quality Management (TQM) is an inclusive strategy that aims to enhance the quality of products, services, and processes in an organization. It involves a systematic and ongoing effort to improve performance, exceed customer expectations, and achieve organizational success. In the thesis research, TQM comprises six essential elements: Doctor's Performance, Patient Satisfaction, Medication Error, Financial Issues, Surgical Instruments, and Hospital Environment.

The first pillar of TQM is Doctor's Performance, which entails ensuring that healthcare professionals adhere to high standards of competence, professionalism, and ethical conduct. This involves ongoing training, performance evaluations, and continuous professional development to enhance the skills and knowledge of doctors.

Patient Satisfaction is another critical aspect of TQM. It involves understanding and meeting the needs and expectations of patients by providing personalized, compassionate, and effective care. Patient feedback and engagement are essential in identifying areas for improvement and implementing strategies to enhance the overall patient experience.

Medication Error addresses the prevention and reduction of errors in prescribing, administering, and monitoring medication. TQM in this area focuses on implementing robust systems, training healthcare professionals, and utilizing technology to minimize the occurrence of medication errors and improve patient safety.

Financial Issues are also a crucial component of TQM, as effective financial management ensures the sustainability and viability of healthcare organizations. This includes efficient resource allocation, budgeting, cost control measures, and strategic planning to optimize financial performance while maintaining high-quality care.

The quality and functionality of Surgical Instruments are paramount to successful surgical outcomes and patient safety. TQM in this domain involves proper maintenance, sterilization, and inspection of instruments, ensuring their availability, reliability, and adherence to standards and guidelines.

Lastly, Hospital Environment encompasses the physical, organizational, and cultural aspects of healthcare facilities. TQM efforts in this area focus on creating a safe, clean, and patient-centered environment, promoting effective communication and teamwork, and fostering a culture of continuous improvement.

By integrating these six factors within a Total Quality Management framework, healthcare organizations can strive for excellence in all aspects of care delivery, enhance patient outcomes, and achieve sustainable success in the dynamic healthcare landscape.

3 APPROACHES

3.1 METHOD DETAILS

Research Methodology for each variable

In this chapter, survey population, sampling frame and research design of the studies are explained. This chapter includes as follow:

3.1.1 Research Design

A non-probability quantitative approach was employed to gather data for this research through an online questionnaire. Convenience sampling technique was used to select respondents, and snowball techniques were utilized to expand the pool of participants who had experience visiting hospitals. The questionnaire comprised three main sections: screening questions, measurement of variables, and demographic information. A Five-Point Likert scale was utilized, ranging from "Strongly Agree" (5) to "Strongly Disagree" (1), to measure the hypotheses in this study.

3.1.2 Data Collection

The research focused on individuals who had previous experience visiting hospitals as the target respondents. A conceptual framework was developed based on a comprehensive review of existing literature to ensure its appropriateness and validity as a model for the study.

3.1.3 Population and Sampling

A sample population is a subset of the population of interest, whose data are used to characterize the entire population. A sample population is a manageable number of individuals from which a researcher can gather information to characterize a larger population.

The determination of the sample size for this study was derived using the Yamane sampling method (Yamane, 2019). The Yamane formula (Yamane, 1967) was utilized to calculate the appropriate sample size, considering a confidence level of 95%. Additionally, a 5% error percentage was assumed to account for any potential errors that

may arise during the data collection phase of the survey. This approach ensures that the sample size is sufficient to provide reliable and representative data for analysis while maintaining a high level of confidence in the study's findings.

$$n=N/(1+N(e)^2)$$

$$N=55227433 \text{ and } e=0.05$$

N=Population size, n= sample size, e=error percentage

According to this, the sample size is 399.99 rounds off to full number then 400 respondents will be planned to collect.

Questionnaires were distributed through both online and offline based survey by using sampling technique of convenience and snowball method and 135 respondents answered to the survey. The target population was verified by screening questions in order to filter only people who are visiting the hospital at least one time. Therefore, only 133 respondents were qualified.

3.1.4 Data Collection Method

A data collection tool or research tool refers to any instrument utilized to measure a variable or gather the necessary information to address a research question. Thoughtful selection of data collection tools can aid researchers in achieving their goals and saving time.

The quality of any research ultimately relies on the data it utilizes, making the choice of an appropriate data collection technique crucial. Quantitative research is commonly employed to investigate the values, attitudes, opinions, feelings, and behaviors of individuals and comprehend their impact on the individuals involved. In this study, the convenience sampling technique and snowball techniques were employed to collect data from the targeted respondents.

In this research, the questionnaires include 29 questions aim to access the service quality which lead to customer satisfaction.

3.1.5 Data Collection Procedure

Questionnaires will be distributed through online and offline based survey by using sampling technique of convenience and snowball method and 400 respondents will be answered to the survey with the format of multiple choice and Likert scale for this study.

The target population was verified by screening questions in order to filter only people who have at least once experience visiting to hospital.

3.2 LIMITATION

This research is limited to conduct in the context on the people who is visiting it hospital at least once. Therefore, in order to make the more specific, we could also conduct the survey specifically the people who are used the hospital service of inpatient ward and outpatient ward, Surgical patients, etc. separately as a further study. It would also be more useful if we could conduct the survey according on region like Asia, Europe, Africa, etc. to achieve its objective in border and diversity in other dimensions.

In this research, the survey was conducted to overall people generally, therefore, for future study, we should conduct on specific healthcare area like Surgical, Neuro, Otho, etc. in order to obtain result for each sector and healthcare fields.

Moreover, this survey was conducted through online and offline questionnaire to the proximity of researcher therefore, for future research, survey should conduct either by distributing the questionnaire or by face-to-face interview to the patients, visitors, employees by taking into consideration of both the size of the hospitals and their sectors. Although this survey demographic showed that the major respondents are from the self-employed and the result should be more accurate and comprehensive if the target respondents are management level/Board of Directors of the firms who could deliver certain information of the hospital performance.

Additionally, this research focused on a specific set of factors related to effective management systems in hospitals. There is a need for further investigation into other potential factors and their interplay with the management system to gain a more comprehensive understanding of the topic.

Future researchers can build upon this study by exploring additional variables, such as leadership styles, organizational culture, and technology utilization, to provide a more comprehensive analysis of effective management systems in hospitals.

Furthermore, conducting longitudinal studies to assess the long-term effects of different management approaches and examining the impact of specific interventions or initiatives could offer valuable insights into improving healthcare management practices.

Overall, this research serves as a foundation for future investigations in the field of hospital management systems. By addressing the identified limitations and exploring new avenues of research, future studies can further advance our understanding and contribute to the development of effective management strategies in healthcare settings.

4 FINDINGS/ RESEARCH INSTRUMENTS / QUESTIONNAIRES

4.1 DATA ANALYSIS

Multiple Linear Regression (MLR) is used as a statistical tool to analyze the seven hypotheses according to the defined conceptual framework.

The first hypothesis (H1) consists of six independent variables i.e., Doctor's Performance (DP), Patient Satisfaction (PS), Medication Error (ME), Financial Issues (FI), Surgical Instruments (SI), Hospital Environment (HE) and one dependent variable which is Total Quality Management (TQM).

The second hypothesis (H2) has one independent variable which is Total Quality Management (TQM) and one dependent variable which is Health Sector Improvement (HSI).

Demographic Analysis

The Demographic Factor were conducted as a description of the basic information of (200) respondents who are using health care service at least one time as follows:

Table 10: Demographic information of Respondents (N=200)

		Frequency	Percentage
Gender	Male	39	28.9
	Female	96	71.1
Age	18-25	40	29.6
	26-35	36	26.7
	36-45	46	34.1
	56-55	7	5.2
	56 and over	6	4.4
Education Level	High School	10	7.4
	Bachelor Degree	77	57
	Master Degree	34	25.2
	PhD	1	0.7
	Other	13	9.6
Occupation	Self Employed	46	34.1
	Government Employee	4	3.0
	Company Employee	43	31.9
	Other	42	31.1
Purpose of visit to Hospital	For myself	57	42.2
	For immediate family	50	37
	For friend	12	8.9
	To work	16	11.9

Source: Survey

Table (10) represents that in terms of the demographic characteristics of the respondents, the study found that the majority were female, accounting for 71.1% of the total respondents (96 individuals), while male respondents made up 28.9% (39 individuals). In terms of age distribution, the largest proportion of respondents fell within the 36-45 age group, comprising 34.1% (46 individuals) of the total sample. Additionally, 29.6% (40 individuals) were between the ages of 18-25, 26.7% (36 individuals) fell within the -26-35 age range, 5.2% (7 individuals) were between 46-55 years old, and 4.4% (6 individuals) were over the age of 56.

Regarding education level, the majority of respondents held a Bachelor's degree, accounting for 57% (77 individuals). Furthermore, 25.2% (34 individuals) possessed a Master's degree, 7.4% (10 individuals) had completed high school, 0.7% (1 individual) held a Ph.D., and 9.6% (13 individuals) had other educational qualifications.

When examining occupation, the highest proportion of respondents were self-employed, constituting 34.1% (46 individuals) of the total sample. Company employees accounted for 31.9% (43 individuals), individuals engaged in other business occupations represented 31.1% (42 individuals), and government employees comprised 3% (4 individuals).

In terms of the purpose of their visit to the hospital, the majority of respondents (42.2% or 57 individuals) reported visiting for personal health reasons. Additionally, 37% (50 individuals) visited for urgent cases involving immediate family members, 11.9% (16 individuals) visited for work-related reasons, and 8.9% (12 individuals) visited on behalf of a friend.

These findings provide a detailed overview of the demographic characteristics of the study participants, shedding light on the distribution of respondents based on gender, age, education level, occupation, and purpose of their hospital visits. Understanding these demographic factors is essential for interpreting the study's results and drawing meaningful conclusions.

Table 11: Means and Standard Deviations of all Variables of Conceptual Framework (N=135)

Number	Measure	Mean	Standard Deviation (SD)
Doctor Performance (DP)			
DP1	Doctor's Performance is being evaluated and managed effectively in high-management hospitals.	3.78	0.870
DP2	Overall, I am pleased with the performance of the doctors in the hospital which has high management system.	3.76	0.883
DP3	Doctor Performance is important when we take treatment	4.53	0.678
DP4	The doctor's ability has met the expectations in effective management hospitals.	3.8	0.79
Average score of Doctor Performance		3.97	
Patient Satisfaction (PS)			
PS1	The performance of the medical staff is better in hospitals with an effective management system.	3.85	0.86
PS2	Overall, I am satisfied with the communication with doctors in high-management hospitals	3.71	0.945
PS3	I am satisfied with the responsiveness of the hospital staff in high-management hospitals.	3.59	0.925
PS4	I am satisfied with the communication with nurses in high-management hospitals.	3.64	0.925
Average score of Patient Satisfaction		3.6975	
Medication Error (ME)			
ME1	Lack of quality control is a concern	3.81	1.009
ME2	Drug information missing is a concern	3.85	1.116
ME3	The staff over-workload problem can cause an error	4.08	0.873
ME4	Missing clinical information can cause errors.	4.15	0.877
Average score of Medication Error		3.9725	
Financial Issues (FI)			
FI1	The high cost of healthcare is a concern.	4.16	0.905
FI2	High Treatment cost is a concern.	4.04	0.969
FI3	Technological Transformation and Facilities can take more cost.	3.79	0.907
Average score of Financial Issues		3.997	
Surgical Instruments (SI)			
SI1	Maintaining well on surgical instruments is needed.	4.14	1.016
SI2	Inspection and Testing on surgical instruments are needed.	4.13	0.836
SI3	Handling and storage with extreme caution are needed.	4.17	0.842
SI4	Avoid Inappropriate usage is a concern.	3.86	1.023
Average score of Surgical Instruments		4.075	
Hospital Environment (HE)			
HE1	Reducing infection is important for the environment in health facilities.	4.32	0.903
HE2	Comfort and a safe environment are important.	4.35	0.776

HE3	Lack of noise environment is essential.	4.09	0.918
HE4	Air Quality, Clean Water, and Waste Management are required.	4.40	0.883
Average score of Hospital Environment		4.29	
Total Quality Management (TQM)			
TQM1	Producing quality work is important.	4.24	0.874
TQM2	Focus on the customers is important.	4.27	0.885
TQM3	Regularly measuring and analyzing the factors are important.	4.13	0.921
Average score of Total Quality Management		4.213	
Healthcare Sector Improvement (HSI)			
HSI1	Improving safety features found when you visit the hospital.	3.95	0.813
HSI2	Experience of care is important when you visit the hospital.	4.02	0.815
HSI3	Developing a guideline and pathway in the hospital area is important.	4.06	0.879
Average score of Healthcare Sector Improvement		4.01	

Source: Survey

Table (11) showed the mean values and standard deviations values of all variables for the conceptual framework (n=135). Most values are stable and most respondents agree with the highest means for each variable.

4.2 DESCRIPTIVE ANALYSIS OF SCREENING QUESTIONS

There have one screening question used to screen group of samples whether they are qualified to answer questionnaires; they had to visit to hospital at least once time. Based on that screening question, all 133 respondents who answered survey are qualified.

Descriptive Research and Correlation Matrix

4.3 PEARSON CORRELATION

Pearson's correlation coefficient is a statistical tool that measures the strength of the relationship between data points (Statstutor, 2018). It ranges from -1 to 1, with -1 indicating a strong negative relationship and 1 indicating a strong positive relationship. The correlation coefficient's value provides insights into the strength of the correlation, with different ranges representing different levels of correlation strength. For example, a value between 0.2 and 0.39 suggests a weak positive correlation, while a value between 0.40 and 0.59 indicates a moderate positive correlation, and a value between 0.60 and 0.79 signifies a strong positive correlation (Evans, 1996). In this study, variables were assessed using a five-point Likert scale, which is an interval scale. The Likert scale

includes the following labels: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree.

Table 12: Correlation Matrix

Variable	Means	Standard Deviation	DP	PS	ME	FI	SI	HE	TQM	HSI
DP	3.9685	0.6292	1							
PS	3.7000	0.7455	0.582*	1						
ME	3.9741	0.7692	-0.024	0.034	1					
FI	3.9975	0.6964	-0.014	0.052	0.288**	1				
SI	4.0759	0.7164	0.177*	0.079	0.300**	0.42**	1			
HE	4.2889	0.6280	0.140	0.062	0.242**	0.393**	0.56**	1		
TQM	4.2148	0.6372	-0.006	-0.052	0.287**	0.403**	0.436**	0.579**	1	
HSI	4.0099	0.6215	0.196*	0.104	0.166*	0.395**	0.514**	0.539**	0.5**	1

Source: Survey

** Correlation is significant at the 0.01 level (1 tailed)

*Correlation is significant at the 0.05 level (1 tailed)

From Table (12), The study examined the Pearson correlation coefficients between variables measured on a Likert scale ranging from 5 (Strongly Agree) to 1 (Strongly Disagree). The results revealed various levels of correlation, including weak,

moderate, and strong positive relationships, as well as both positive and negative relationships. The range of correlations among variables was observed to be from 0.58 to -0.024. The statistical significance of the relationships was assessed using a p-value, with some variables showing significance at a threshold of 0.05.

Following the correlation strength guidelines provided by the Political Science Department at Quinnipiac University (2018), the most prominent relationship was a very strong positive correlation between Doctor Performance and Patient Satisfaction, with a coefficient of 0.582. Negative correlations indicate variables that tend to move in opposite directions, meaning a positive change in one variable is accompanied by a negative change in the other. Negative correlations were observed between Doctor Performance and Medication Error, Doctor Performance and Financial Issues, as well as Doctor Performance, Patient Satisfaction, and Total Quality Management.

Additionally, several weak correlations were identified, where the coefficients were below 0.5. For example, weak correlations were observed between Doctor Performance and Surgical Instruments (0.177), Doctor Performance and Hospital Environment (0.14), and Doctor Performance and Healthcare Sector Improvement (0.196). Similarly, Patient Satisfaction showed weak correlations with Medication Error (0.034), Financial Issues (0.052), Surgical Instruments (0.079), Hospital Environment (0.062), and Healthcare Sector Improvement (0.104).

Medication Error exhibited weak correlations with Financial Issues (0.288), Surgical Instruments (0.300), Hospital Environment (0.242), Total Quality Management (0.287), and Healthcare Sector Improvement (0.166). Financial Issues displayed weak correlations with Surgical Instruments (0.42), Hospital Environment (0.393), Total Quality Management (0.403), and Healthcare Sector Improvement (0.395). Lastly, Surgical Instruments showed a relatively weak correlation with Total Quality Management (0.436).

By analyzing these correlation coefficients, the study provides valuable insights into the relationships between variables related to effective management systems in hospitals, offering a foundation for future research in this area.

4.4 INFERENTIAL ANALYSIS

In this research, to assess the impact, influence, and significance of each hypothesis, Multiple Linear Regression Analysis (MLR) was appropriately employed at a significance level of 0.05. Additionally, Variance Inflation Factor (VIF) was utilized to examine the presence of any critical multicollinearity issue within the study. Specifically, a VIF value greater than 5 was used as an indicator of potential multicollinearity. (Ringle, Wende &Becker, 2015).

Table 13: Result of Regression for H1, DV: Total Quality Management

Variable	Standard Coefficient	P Value	VIF
Doctor Performance	-0.36	0.680	1.606
Patient Satisfaction	-0.78	0.358	1.535
Medication Error	0.105	0.156	1.152
Financial Issues	0.160	0.045	1.333
Surgical Instruments	0.100	0.256	1.650
Hospital Environment	0.445	0.000	1.540
R Square	0.4		
Adjusted R Square	0.372		

Source: Survey

Table (13) showed that multiple linear regression analysis between the independent variable and dependent variable of H1 which are doctor performance(H1a), patient satisfaction(H1b), medication error(H1c), Financial Issues (H1d), Surgical instruments (H1e) and Hospital Environment (H1f).

The result present that R square value is 0.4 or 40% which means that the independent variables can explain about the dependent variable about 40%. The P value of two independent variables, Financial Issues (H1d) and Hospital Environment (H1e) are less than 0.05 and therefore, they have significant influence on Dependent variable Total Quality Management, however, P value of Doctor Performance (H1a) is 0.68, Patient Satisfaction (H1b) is 0.358, Medication Error (H1c) is 0.156 and Surgical

Instruments (H1e) is 0.256 which means they are rejected. H1 is partially supported of Total Quality Management.

The impact level or standard coefficient of beta of each independent variable are Doctor Performance (H1a) is -0.36, Patient Satisfaction (H1b) is -0.78, Medication Error (H1c) is 0.105, Financial Issues (H1d) is 0.160, Surgical Instruments (H1e) is 0.1 and Hospital Environment (H1f) is 0.445 respectively which shows that H1c, H1d, H1e and H1f variables are positively influence on dependent variable but H1a and H1b negatively influence which means negative coefficient shows that the independent variable increases, the dependent variable tends to decrease. All independent variable also has been tested on multicollinearity problem through VIF and resulted on Doctor Performance (H1a) at 1.606, Patient Satisfaction (H1b) at 1.535, Medication Error (H1c) at 1.152, Financial Issues (H1d) at 1.333, Surgical Instruments (H1e) at 1.65 and Hospital Environment at 1.54 means there are no critical problem in this study.

Table 14: Result of Regression for H2, DV: Healthcare Sector Improvement

Variable	Standard Coefficient	P Value	VIF
Total Quality Management	0.5	0.000	1.0
R Square	0.250		
Adjusted R Square	0.244		

Source: Survey

Table (14) showed that multiple linear regression analysis between the independent variable and dependent variable of H2. In H2, dependent variable is Healthcare Sector Improvement and independent variable is Total Quality Management.

The result present that R square value is 0.25 or 25% which means that the independent variable can explain about dependent variable is 25%. The P value of the independent variable is less than 0.05 and therefore, they have significant influence on Dependent Variable, Healthcare Sector Improvement. Therefore, H2 is fully supported.

The standard coefficient beta, which represents the impact level, for each independent variable is 0.5, indicating a positive influence on the dependent variable. This means that as the independent variable increases, the dependent variable is expected to increase as well.

To ensure the validity of the study, multicollinearity among the independent variables was assessed using the Variance Inflation Factor (VIF). The VIF results showed a value of 1 for each independent variable, indicating the absence of any critical multicollinearity issues in this study.

5 DISCUSSION AND EVALUATION

5.1 RESULT AND RESEARCH OBJECTIVES

This research study explained the factor effective management system in the hospital influences the positive results. The study is conducted to and supported by 135 respondents who are visiting to hospital at least once. The majority of the respondents are female with 71.1% respondents and major respondents are between 36 to 45 years old with 34.1%. Major respondents for occupation are from self-employed and major education level is bachelor degree (77%).

The independent variables for H1 are Doctor Performance (H1a), Patient Satisfaction (H1b), Medication Error (H1c), Financial Issues (H1d), Surgical Instruments (H1e), Hospital Environment (H1f) to Total Quality Management and independent variable Total Quality Management (H2) are followed by Healthcare Sector Improvement.

The result showed all weak, moderate and strong positive and both positive and negative relationship between each variable. A positive significant influence from Financial Issue and Hospital Environment is most influence on Total Quality Management. For this hypothesis, we found that we have to sure to improve financial background funding will be needed. And the better environment can also improve the patient turnover rate and improve quality management. And we found out that Total Quality Management is influence on Health care sector improvement, it suggests that a certain level of better management through prior outcomes is a precondition. Hence, stepping up the investment to increase the better hospitals and making strategic use of the business firms to gain competitive advantage and enhance performance indicators aim to get the positive results of the effective management system.

For this result, we can identify to achieve the positive results of effective management in healthcare, the management teams need to do strategies or organization goals could have the fruitful result, therefore the hospital management should consider based on their doctor performance, patient satisfaction, Medication Error, Financial

Issues, Surgical instruments, and Hospital Environment to get cost-effectiveness and gain competitive advantages.

5.2 RESEARCH IMPLICATIONS

The Healthcare sector is eventually developing with a good progress and popular in every nation and all human kinds. And developing of healthcare sector in all aspects, patients are interesting to use the quality health care hospitals than the others and also popular the good reviews in the society. The result discovers of this paper tell various kind of useful suggestion for hospital owners and shareholders to become better quality and better service. And to support them to understand about the factors that influence to become positive results via through effective management healthcare system, how to do the better hospital environment, surgical instruments and doctor performance. In this study prove about the response of the respondents shown that most of the factors are influence both positive and negative impact.

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APPENDIX

A. STRUCTURED QUESTIONNAIRE

Survey on an Effective Management System in the Hospital Influence the Positive Results

Dear participant,

Firstly, I would like to appreciate your precious time and generous help to participate in my Survey. This survey is intended to collect data for the Academic purpose of my Master's Thesis paper on the title **"What contributes to Effective Management System in Hospitals: A Survey on Two Countries"** in Business Administration under the supervision of **Beykoz Üniversitesi**, İstanbul, Türkiye.

This questionnaire will take approximately 5 to 10 minutes and it is not necessary to write your name. All information you provided will be kept strictly confidential and will not be used for any other purpose.

This study is mainly focused on the Effective Hospital Management System of "Doctor Performance, Patient Satisfaction, Medication Error, Financial Issues, Surgical Instruments, Hospital Environment, Total Quality Management, and Healthcare Sector Improvement."

I kindly request you to give respond to this survey if you have experience visiting a hospital at least once.

Researcher Conductor: Sarah Sarah

Research Advisor: Ass. Prof. Mehmet Yesil Yaprak

MEASUREMENT OF VARIABLE

A five-point Likert scale is used for the measurement of variables as follows:

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

1) **Do you have experience visiting the hospital at least once?**

1. Yes, (Please continue the questionnaire)

2. No (Stop here, thank you for your time)

2) Gender

1. Male
2. Female

3) Age

1. 18-25
2. 26-35
3. 36-45
4. 46-55
5. 56 and Over

4) Education Level

1. High School
2. Bachelor's Degree
3. Master's Degree
4. Ph.D
5. Other

5) Occupation

1. Self Employed
2. Government Employee
3. Company Employee
4. Other

6) Purpose of Visit to Hospital

1. For myself
2. For immediate family
3. For friend
4. To work

Survey Questions

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Part 1 Doctor Performance (DP)					
1. Doctor's Performance is being evaluated and managed effectively in high-management hospitals.					
2. Overall, I am pleased with the performance of the doctors in the hospital which has high management system.					
3. Doctor Performance is important when we take treatment.					
4. The doctor's ability has met the expectations in effective management hospitals.					
Part 2 Patient Satisfaction (PS)					
5. The performance of the medical staff is better in hospitals with an effective management system.					
6. Overall, I am satisfied with the communication with doctors in high-management hospitals.					
7. I am satisfied with the responsiveness of the hospital staff in high-management hospitals.					
8. I am satisfied with the communication with nurses in high-management hospitals.					
Part 3 Medication Error (ME)					
9. Lack of quality control is a concern.					
10. Drug information missing is a concern.					
11. The staff over-workload problem can cause an error.					
12. Missing clinical information can cause errors.					
Part 4 Financial Issues (FI)					

13. The high cost of healthcare is a concern.					
14. High Treatment cost is a concern.					
15. Technological Transformation and Facilities can take more cost.					
Part 5 Surgical Instrument (SI)					
16. Maintaining well on surgical instruments is needed.					
17. Inspection and Testing on surgical instruments are needed.					
18. Handling and storage with extreme caution are needed.					
19. Avoid Inappropriate usage is a concern.					
Part 6 Hospital Environment (HE)					
20. Reducing infection is important for the environment in health facilities.					
21. Comfort and a safe environment are important.					
22. Lack of noise environment is essential.					
23. Air Quality, Clean Water, and Waste Management are required.					
Part 7 Total Quality Management (TQM)					
24. Producing quality work is important.					
25. Focus on the customers is important.					
26. Regularly measuring and analyzing the factors are important.					
Part 8 Healthcare Sector Improvement (HSI)					
27. Improving safety features found when you visit the hospital.					
28. Experience of care is important when you visit the hospital.					
29. Developing a guideline and pathway in the hospital area is important.					

BIOGRAPHY

Sarah SARAH

Education Information

- **MBA (with Thesis):** Beykoz University, Graduate School, Business Administration Department, 2023 (Present).
- **B.Pharm:** University of Pharmacy, Yangon, Myanmar, 2001-2005.

Professional Experience

- **Founder and Director:** Elizabeth Beauty Cosmetics, Pathein, Myanmar, 2017 to till
- **Teacher:** P.E.C International Private High School, Pathein, Myanmar, 2017 to 2020
- **Freelance Teacher:** Sarah Teacher Learning Centre, Pathein, Myanmar, 2010 to 2016
- **Medical Representative:** Dr. Readdy's Laboratory Ltd.. Yangon. Myanmar. 2006 to 2008

Event Hosted

- **Science and Art Fair:** P.E.C International Private High School, Pathein, Myanmar, 2018
- **Public Speaking and School Awarding Ceremony:** P.E.C International Private High School, Pathein, Myanmar, 2019 and 2020

Volunteer/Community Activities

- **Volunteer Teacher:** Mary Chapman School for the Deaf, 2010

Professional Development

- Diploma in Business Administration, Informatics Academy
- Diploma in English, University of Yangon

- Certificate of iPrimary and iLowerSecondary Professional Development, Pearson Edexcel
- Certificate of Professional in ECCD, Myanmar Business & Social Development
- Certificate of Intensive Training Course for Preschool Facilitators