Arab American University

Faculty of Graduate Studies

"Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank"

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Thesis Approval

"Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank"

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This thesis was defended successfully on 21\12\2024 and approved by:

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Declaration

The work provided in this thesis, otherwise referenced, is the researcher's work and has not been submitted elsewhere for any other degree or qualification.

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Dedication

To my dear father and mother, whose unwavering love, sacrifices, and encouragement have been my foundation and strength. Your guidance and support have inspired me every step of this journey.

To everyone who stood by me—mentors, friends, and family—thank you for your faith, encouragement, and kindness.

Acknowledgment

First and foremost, I am deeply grateful to Allah for his boundless blessings, strength, and guidance throughout this journey. Without His grace, none of this would have been possible.

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To my dear mother and father, I want to express my deepest gratitude and promise that I will continue to make you proud. Every step forward in this journey is a reflection of your guidance and belief in me, and I am forever grateful for everything you have given.

To my family, thank you for being my foundation and my constant source of strength. Each of you has played a unique role in this journey, surrounding me with love, encouragement, and inspiration. I am grateful for your patience, sacrifices, and faith in me.

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Abstract

Patient safety is an important aspect of healthcare quality, despite many challenges to achieve optimal outcomes worldwide (Slawomirski & Klazinga, 2022). This study investigates the role of Total Quality Management (TQM) in Enhancing Patient Safety: A Case Study of PMC and HCO Hospitals in the West Bank, with a focus on the mediating effect of perceived service quality. A cross-sectional design collected data from 120 employees at the Palestine Medical Complex (PMC) and Hugo Chavez Ophthalmic Hospital (HCO). A high response rate of 88.3% was achieved with 106 surveys completed.

Data analysis using SmartPLS 4.1.3 software shows TQM has a significant beneficial effect on perceived service quality significantly impacts patient safety ($\beta = 0.550$, $p < 0.001$) and mediates the relationship between TQM and patient safety ($\beta = 0.454$, $p < 0.001$). These findings align with previous research that has highlighted TQM's role in improving healthcare outcomes (Talib & Azam, 2010; Dey et al.., 2006). Barriers such as work stress and limited resources underscore the necessity of implementing comprehensive, targeted solutions. (Mosadeghrad and Ferlie, 2015).

This study offers different perspectives by focusing on Palestinian public hospitals, which face unique political and financial limitations. It covers a critical gap in the literature by providing tangible proof of TQM's effectiveness in a resource-constrained healthcare environment. These findings have significant effects on policymakers and administrators working to improve healthcare quality and safety in similar environments. This study provides practical strategies for

driving global continuous improvement and patient safety by addressing structural challenges and promoting effective TQM implementation (Berwick, 1989; Tsai & Lee, 2017). Future research should expand on these findings by looking into longitudinal effects and conducting comparative analyses across areas.

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List of Abbreviations

AAUP	Arab American University
AIDS	Acquired Immunodeficiency Syndrome
ANOVA	Analysis Of Variance
AVE	Average Variance Extracted
CBα	Cronbach's Alpha coefficient
CI	Continuous Improvement
CR	Composite Reliability
EI	Employee Involvement
HCO	Hugo Chavez Ophthalmic Hospital
HTMT	Heterotrait Monotrait Ratio
ISO	International Organization for Standardization
MBNQA	Malcolm Baldrige National Quality Award
PF	Patient Focus
PLS-SEM	Partial Least Square Structural Equation Modeling
PMC	Palestine Medical Complex

PM	Processes Management
PS	Patient safety
PSQ	Perceived service quality
REL	Reliability
RES	Responsiveness
SEM	Structural Equation Modeling
SERVQUAL	Service,Excellence,Reliability,Valuation,Quality,Understanding, Assessment, and Loyalty
SPSS	Statistical Package for Social Sciences
SQ	Service quality
TSQM	Total Service Quality Management
TQM	Total Quality Management
TW	Teamwork
UNRWA	United Nations Relief and Works Agency
VIF	Variance Inflation Factor
WHA 72-6	Seventy-Second World Health Assembly

WHO	World Health Organization

Chapter 1

1.1 Overview

This chapter introduces the key elements of the research, including the problem statement, primary and secondary objectives, research questions, hypotheses, expected outcomes, the significance of the study, and the structure of the thesis. The overarching aim of the study is to investigate the role of Total Quality Management (TQM) in enhancing patient safety, with a particular focus on the mediating effect of perceived service quality in public hospitals.

The understanding that patient safety, clinical outcomes, and general public health are all directly impacted by healthcare quality has long made it a top priority. In the healthcare industry, quality management affects not just patient care but also operational effectiveness, financial management, and legal compliance. These approaches have been modified for the service industry, including healthcare, to account for the particulars and complexity of medical services. They were inspired by the effective implementation of quality procedures in the industrial sector (Berwick, 1989). Within this framework, Total Quality Management (TQM) has become increasingly popular as a complete strategy for raising patient happiness and boosting healthcare services.

Total quality management (TQM) is defined as “a systematic approach based on participation in planning and implementing the organization’s continuous improvement process” by Kaluzny, McLaughlin, and Simpson (1992). To ensure that customers' (patients)expectations are constantly fulfilled, TQM strongly emphasizes patient-centered care in the healthcare industry, as this strategy emphasizes problem-

solving, organizational participation, and creating a welcoming atmosphere where staff members actively participate in decision-making.

Total Service Quality Management (TSQM) is defined as a concept that delineates and characterizes quality within the context of the customer's experience in service-oriented fields. The customer's encounter and subsequent perception of quality are influenced by both tangible and intangible aspects of the services provided and post-service interactions. TSQM begins with the commitment of senior management and must permeate all organizational levels. (Omachonu. 2004)

TQM establishes systems to prevent administrative and clinical issues, enhance patient satisfaction, continuously improve organizational processes, and optimally deliver healthcare services. The goal is to provide high-quality care that meets or exceeds expectations, ensuring positive outcomes for patients and overall organizational success.

(Talib& Azam,2010)

TQM in healthcare is simply the use of several analytical tools, like checklists, statistical charts, and flowcharts, to track and enhance organizational activities. Dey et al., 2006), focus group brainstorming sessions, and building agreements are just a few of the production processes.

The research problem "Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank" delves into a critical and multifaceted issue within the healthcare sector. The West Bank, specifically its Central Governorates, faces numerous challenges in delivering quality healthcare services to its population.

Ensuring patient safety is paramount, as errors and suboptimal care can severely affect patients' well-being. Total Quality Management (TQM) is a comprehensive approach widely implemented in various industries worldwide to enhance operational efficiency, product quality, and customer satisfaction. However, its application and effectiveness within the context of governmental hospitals in a region characterized by political instability and resource constraints, such as the West Bank, remain relatively unexplored.

This research problem is important due to its potential to address critical gaps in understanding how TQM principles can be used to improve patient safety in resource-limited healthcare settings. It raises fundamental questions about the implementation of TQM methodology in perceived service quality and patient safety in the unique context of PMC and HCO Hospitals in the West Bank. Furthermore, it prompts inquiries into the potential cultural and organizational barriers that may hinder the successful implementation of TQM initiatives in this specific healthcare landscape. Many public hospitals in Palestine utilize various Total Quality Management (TQM) methods without necessarily being aware of their impact on service quality or patient safety. This research will take the initiative to investigate the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of PMC and HCO Hospitals in the West Bank.

1.2 Problem Statement

The Palestine Medical Complex (PMC) and Hugo Chavez Ophthalmic Hospital (HCO) were strategically selected for this study because of their important role in the Palestinian healthcare system, their diverse services, and their contribution to addressing public health challenges. Located in the central West Bank, PMC is one of

the largest government hospitals in the region, with 231 beds and serving approximately 338,383 people. It provides various services, including emergency care, internal medicine, pediatrics, and surgery. It is an important center for integrated medical services as well as a leading institution for studying total quality management (TQM) practices in an integrated healthcare environment (Palestinian Central Bureau of Statistics [PCBS], 2023). Conversely, the HCO is the first government eye hospital in Palestine and is located in Turmus Ayya, near Ramallah. The hospital covers a total area of 7,300 square meters and has four floors designed to optimize patient flow and service delivery. Focusing on the diagnosis, treatment, and prevention of eye diseases, filling an important gap in specialty care, the HCO also demonstrated its adaptability during the COVID-19 pandemic when it was used as an isolation and treatment center in the Ramallah area. The inclusion of these hospitals covers all types of health services, from general to specialized, and provides a solid basis for assessing the role of TQM in improving patient safety and quality of services. Due to their strategic location and diverse patient populations, these hospitals are important for understanding the challenges of healthcare in the central West Bank and providing practical insights for better healthcare management.

1.3 Study Objectives

Aim of the study

Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.

Secondary Objectives:

1. To assess the level of implementation of Total Quality Management (TQM) in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
2. To examine the impact of TQM implementation on service quality in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
3. To evaluate how the implementation of TQM contributes to improving patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
4. To investigate the relationship between improvements in hospital service quality and patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
5. To analyze the mediating effect of service quality improvement on the relationship between TQM implementation and patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
6. To identify significant differences in the implementation of TQM, perceived service quality, and patient safety among participants based on sociodemographic factors such as place of work, gender, age, job title, social status, education level, and work experience in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.

7. To determine the presence of significant linear associations between the key study variables (TQM implementation, perceived service quality, and patient safety) in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.
8. To identify the main barriers to the successful implementation of TQM in healthcare services within the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.

1.4 Research Questions

1. What is the level of implementation of TQM in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
2. Does TQM implementation significantly impact service quality in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
3. Does TQM implementation significantly improve patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
4. Does improved service quality in hospitals significantly improve patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
5. Does TQM implementation significantly influence patient safety through the mediating effect of service quality improvement in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
6. Are there significant differences in the study's key variables (TQM implementation, perceived service quality, and patient safety) among participants based on sociodemographic factors (place of work, gender, age,

job title, social status, level of education, and work experience) in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?

7. Are there significant linear associations among the study's key variables (TQM implementation, perceived service quality, and patient safety) in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?
8. What are the main barriers to the successful implementation of TQM in healthcare services within the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.?

1.5 Research Hypotheses

The description of the research hypotheses is presented in Table 1.1. Furthermore, Figure 1.1 also illustrates the research framework with hypotheses that guide the study design, data collection, and analysis processes to evaluate the effectiveness of applying total quality management principles to improve patient safety in PMC and HCO Hospitals in the West Bank, the hypotheses of the study were developed as a reflection of the research questions and were informed by previous studies and relevant literature. This approach ensures that the hypotheses are rooted in the objectives of the study and aligned with existing theoretical and empirical frameworks, providing a solid foundation for the research.

Table 1.1. Research hypotheses.

Code	Description	Hypothesized path
PLS-SEM causal effect hypotheses		
H1	The implementation of TQM improves the quality of service provided to patients.	TQM à SQ
H2	Patient safety is improved in hospitals through the implementation of TQM.	TQM à PS
H3	Improvements in hospital services result in improved patient safety.	SQ à PS
PLS-SEM mediation effect hypotheses		
H4	Improvements in hospital services mediate the indirect effect of the TQM methodology on patient safety.	TQM à SQ à PS
Other: Comparative and correlations hypotheses		
H5	There are significant differences in the mean scores of the study constructs (i.e., the implementation of TQM methodology, perceived service quality, and patient safety) among the participants based on their sociodemographic factors (i.e., place of work, gender, age, job title, social status, level of education, and work experience).	
H6	There are significant linear associations between the study constructs (i.e., the implementation of total quality management methodology, perceived service quality, and patient safety).	

1.6 Research Expected Outcomes

This study will determine how the implementation of Total Quality Management (TQM) plays a critical role in enhancing patient safety within the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank. It will identify the extent to which TQM practices are currently applied and assess their effectiveness in improving the quality of healthcare services and patient safety outcomes. Additionally, the study will examine whether TQM implementation leads to measurable improvements in safety by enhancing service delivery processes and fostering a culture of continuous improvement, the study will provide valuable insights into the relationship between quality management practices and patient safety, offering recommendations for further improving healthcare outcomes through the effective application of TQM principles.

1.7 Significance of the Study

Patient safety refers to preventing patient harm or injury during their healthcare experience. It encompasses the strategies, practices, and systems implemented to ensure the well-being and protection of patients from potential errors, accidents, and adverse events that may occur in healthcare settings.

Recently, there has been an increasing focus on enhancing the quality and safety of services delivered within hospitals; Hospital workers often apply Total Quality Management (TQM) methods without a thorough understanding of its fundamental principles, methodologies, steps, and expected outcomes. (WHO,2021)

The research on "Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of Palestinian Medical Complex and Hugo Chavez

Hospital in the West Bank" holds significant value and justifications on multiple fronts. Firstly, within the specific context of the West Bank, where healthcare infrastructure faces unique challenges stemming from political instability and resource constraints, understanding how Total Quality Management (TQM) can contribute to enhancing patient safety is pivotal. The findings from this study can offer a locally tailored approach to addressing patient safety issues, potentially leading to improved healthcare outcomes for the population residing in PMC and HCO Hospitals in the West Bank. This research can assist healthcare policymakers and administrators in making informed decisions about resource allocation and process improvements to ensure safer patient care.

The theoretical contribution of this research lies in its exploration of the application of Total Quality Management (TQM) principles within the context of patient safety in healthcare. By studying this relationship in a unique and understudied environment, the research enriches existing theoretical frameworks on healthcare quality improvement. It extends the understanding of how TQM practices can be adapted and implemented to enhance patient safety, providing a foundation for future studies and offering a globally relevant perspective on integrating TQM into healthcare systems.

1.8 Outline Structure of the Thesis

The arrangement of the thesis appears as the following:

- Chapter One includes an Overview of the study, problem statement, objectives, research questions, hypotheses, expected outcomes, significance, and thesis outline.
- Chapter Two includes Total Quality Management (TQM) Significance, requirements, ethics, integrity, teamwork, leadership, TQM in the Healthcare Sector, the Importance of TQM in healthcare, requirements and barriers for implementation, foundations, and components, the healthcare sector in Palestine, national health strategy, patient safety, benefits of TQM, and application elements of previous studies and a summary of TQM.
- Chapter Three includes Methodology, Research design, study questionnaire, validity and reliability, study population and sample, data collection methods, data analysis, and methodology summary.
- Chapter Four includes Results, Presentation of study findings, sociodemographic characteristics, latent constructs, TQM implementation, perceived service quality, patient safety, PLS-SEM results, comparative analyses, correlations, barriers to TQM, and results summary.
- Chapter Five includes a Discussion of findings, limitations, overall conclusions, and recommendations for future research and practical applications.

Chapter 2

Literature review

2.1 Introduction

This chapter introduces the study, outlining the significance of Total Quality Management (TQM) in healthcare, its essential requirements, and key concepts such as quality ethics, integrity, teamwork, and leadership. The chapter discusses the importance of implementing TQM in enhancing patient safety and service quality in public hospitals. It highlights the fundamental principles of TQM, the healthcare sector in Palestine, the National Health Strategy, patient safety, the benefits of TQM, the application element, and the conceptual framework. Additionally, a review of previous studies is included to explore the application of TQM in healthcare settings, examining its effectiveness in improving clinical outcomes, patient satisfaction, and operational efficiency.

Interest in the topic of quality in the health sector stems from the efforts of numerous researchers who have worked since ancient times to improve healthcare quality, as it is connected to human health and safety and the fight against the control of illness. Given the remarkable results obtained by quality procedures in the industrial sector, they were implemented. These methodologies are utilized in the service sector, with modifications to reflect the nature and peculiarities of the health service.

Quality defines the degree to which a set of inherent characteristics of a product or service fulfills its requirements, ensuring customer satisfaction and adherence to standards (ISO, 2015).

Total quality management(TQM) is described as a systematic, organizational approach for the continuous improvement of processes and products to meet customer expectations (Kaluzny, McLaughlin, & Simpson, 1992). It also emphasizes employee involvement, decision-making, and customer-centric problem-solving (Omachonu & Ross, 2004).

Quality management has evolved significantly over time. In the beginning, the main focus was on inspection and basic quality control in manufacturing. During the 1920s, statistical methods for quality control were introduced by pioneers like Shewhart and Deming, and after World War 2, Japanese industries adopted these methods and focused on continuous improvement, also known as Kaizen, By the late 20th century, TQM became a broad strategy applied not only in manufacturing but also in other areas like healthcare, where it integrated quality into every part of an organization (Oakland, 2014).

TQM's Success depends on various factors, categorized as hard and soft elements

Hard factors: These include technical and operational elements, such as process management, quality tools, and performance measurement systems.

Soft factors: These focus on human and cultural dimensions, including leadership, employee involvement, and teamwork.

2.2 Significance of Total Quality Management

These principles underscore the importance of holistic quality management practices across all facets of an organization's operations. The significance of total quality management lies in its multifaceted impact (Diamandescu, 2016):

1. Cost Reduction and Profitability: Quality practices lead to cost savings and improved financial performance.
2. Customer Needs Alignment: TQM enables management to understand and meet customer requirements effectively.
3. Competitive Advantage: Organizations gain an edge in the market by consistently delivering high-quality products and services.
4. ISO 9000 Certification: TQM fosters an environment conducive to obtaining certifications like ISO 9000.
5. Enhanced Decision-Making: Quality principles facilitate informed decision-making and problem-solving.
6. Departmental Cohesion: TQM promotes collaboration and coordination across organizational units.
7. Overcoming Performance Barriers: TQM addresses obstacles hindering optimal human performance.
8. Group Unity and Pride: It fosters a sense of belonging and mutual pride among team members.
9. Employee Clarity and Confidence: Clear communication and feedback build employee confidence.
10. Organizational Connection: TQM strengthens employees' connection to the organization and its goals.
11. Excellence: Striving for excellence becomes a shared organizational goal.
12. Enhancing Organizational Reputation: Focusing on quality management contributes to a positive reputation among both customers and employees.

13. Continuous Improvement Beyond Standards: Quality efforts extend beyond mere compliance with standard specifications, emphasizing ongoing enhancement.
14. Internal Process Management: Organizations proactively manage process improvement internally, rather than reacting solely to customer complaints.
15. Inclusive Participation: All organizational functions and levels engage in quality initiatives, not limited to quality-specific roles.
16. Empowering Employees: Empowering employees to lead improvement processes drives quality enhancements.
17. Systematic Quality Design: Organizations prioritize designing quality systems over reactive defect inspection.
18. Supplier Collaboration: Suppliers are viewed as positive partners actively participating in operational improvements.

2.3 TQM Requirements

Total Quality Management (TQM) is a comprehensive strategy for enhancing organizational performance and customer satisfaction through continuous improvement. To successfully implement TQM, specific requirements and components must be established. According to Al-Haddad (2010), these elements include;

1. Implementing strategic planning processes: To attain total excellence, institutions need a comprehensive strategy plan that includes vision, purpose, goals, and required actions and is dedicated to establishing global quality leadership and enhancing it consistently and permanently.

2. Prioritize the customer: In a holistic quality approach, the client is the primary driving force. This applies to both internal and external customers. External consumers evaluate the quality of the product or service they get, whereas internal customers contribute to the quality of the people, processes, and environment linked with the product or service.
3. Understanding the notion of quality: Internal and external clients determine the concept of quality, and by developing this concept, the business adopts the idea of meeting or exceeding it. This implies that people at all levels approach every part of their jobs with the mindset of "How can we do it better?" When the principles of excellence take control, the foundation will be sufficient.
4. Scientific approach: Applying scientific principles to structure work, make decisions, and solve issues. Big data should be utilized to create benchmarking standards, track performance, and improve.
5. Long-term commitment: Few businesses begin adopting total quality with a long-term commitment to making the necessary adjustments for success, and one of the most typical mistakes that organizations make when starting to implement the overall quality strategy is to bring in or throw some money at a particular department.

Total quality management principles require top management to believe in and support the idea. The support and commitment of senior management to the philosophy of total quality management is one of the most important elements of the success of its application in the organization, because it is a strategy that should emanate from the top of the pyramid of the organizational structure, and the success of any project cannot be imagined without the support and endorsement of senior management, The

organization's management contains leadership traits that allow it to freely influence people and instill a desire in them to attain the organization's goals or go above and beyond them. (Alwan, Magzoub, & Elzubeir, 2012)

- Customer focus: The extent to which its beneficiaries are satisfied is the criterion for success for any firm that delivers products or services to the general public. From this perspective, the firm must have a thorough grasp of their current and future demands, meet their criteria, and be cautious to surpass their expectations (Detrie, 2001, since customers constitute the primary pillar of quality management). Al-Khalaf (1997) states that the organization strives for customer satisfaction and happiness by providing exceptional products and services that meet or exceed expectations. This approach leads to loyalty and success, allowing for competitiveness.
- Employee participation: Total quality experts regard employee participation as a fundamental principle of total quality management, and they recognize that every member of the organization is concerned with providing high-quality goods and services at the lowest possible cost and that employee involvement in decision-making is critical and necessary. Given that the worker is the one who appreciates quality (Al-Sharari, 2011), senior management must provide a training and qualification program for personnel to implement comprehensive quality. An adequate reward structure fosters a sense of belonging and motivates people to operate as a team.
- Continuous improvement: Quality pioneers emphasize the importance of continuous improvement, which aims to introduce necessary and continuous improvements to the processes of providing the product or service in light of

renewed data resulting from the changing needs of the beneficiaries and the needs of the markets to achieve the desired state of perfection (Al-Samarrai, 2007).

- Quality strategy planning: Total quality management should have a clear future vision and long-term goals for the firm to attain. Because the use of comprehensive quality management needs the participation of all members of the organization, this can only be done if there is a strategic plan that organizes and unites their efforts. (Al-Khalaf. 1997)

2.4 Quality Ethics

Quality ethics plays a pivotal role in enhancing consumer trust and market confidence in an organization's products and services (Lee & Jin, 2019). Here are some key points related to quality ethics:

1. Internal Dimension of Total Quality:
    - Employees' awareness of the importance of quality is crucial. Their moral commitment to organizational behaviors and mechanisms that drive quality fosters loyalty and positive participation.
    - Integration between management, workers, and the organization is essential for a cohesive approach.
2. External Dimension of Total Quality:
    - Providing smart, safe, and user-friendly products that adapt to ever-changing customer needs is part of quality ethics.
3. Human Resources Factors:

- Commitment and Responsibility: Employees should be committed to maintaining high-quality standards.
- Cultural Awareness: Understanding cultural nuances ensures ethical behavior.
- Moral Awareness: Upholding moral principles in decision-making and actions.
- Organizational Awareness: Recognizing the impact of individual actions on the entire organization.

4. Quality Requirements Related to Ethical Behavior:

- Performance: Assessing product characteristics and comparing them with competitors' offerings.
- Appearance: It represents the external appearance of the product and gives special touches to it through attractiveness, which gives it the appearance and can attract the consumer.
- Reliability: The product performs its function within a certain period without interruption, and this is a basic requirement for the consumer.
- Conformity: means adherence to the design, performance, and formal specifications when producing the commodity as a single unit as well as its subsidiary parts.

5. Durability:

- The ability of the product to withstand the conditions surrounding it that affect it and the extent of its ability to continue to perform and not stop when misused.
- Maintainability: The product's readiness to undergo maintenance as quickly as possible and at reasonable costs through the ease of disassembling and installing it.

- Cost: The reasonableness of the cost of production leads to offering it at a reasonable price to the consumer.
- Safety: Various organizations bear social and legal responsibility for the safety of products so that they do not cause any material or moral damage to the consumer. Like children's toys, this must be characterized by high levels of safety to preserve children's lives.

The dimensions that make up product quality are interconnected and collectively contribute to the production of high-quality products. These dimensions serve as standards for judging product quality, linked to ethical and behavioral aspects, and provide a model of responsibility towards multiple parties rather than a single party. These standards are not exclusive to the commodity product only but also include the service provided to the consumer, which constitutes a social interaction and includes an aspect of behavior and direct relationships between people. Notably, a close interrelation exists between the production and marketing departments because the producer of the service is mostly its marketer, a relationship less commonly observed in the production of material goods.

2.4 Integrity

Integrity is instrumental in curtailing opportunities for infringements, bringing deceptive practices within establishments to light, and meeting the anticipations of public affiliates (Odeh, 2017). It warrants special mention that the edification of an organizational integrity culture within any institution entails various phases.

This includes:

- Gaining insights into the significance and necessity of organizational integrity as well as understanding its advantages at both organization-wide scale and individual capacity. Likewise, it calls for a comprehension of potential hazards and drawbacks linked with deficient manifestation of institutional integrity.

Deeply connected to multiple structures like professional morality, ethical virtue, educational process accuracy, or personal impeccability; integrity validates itself as critical across all spheres.

Given the current societal landscape, organizational integrity has emerged as an indispensable requirement that needs to be fortified across all institutions. It stands as a faithful manifestation of an organization's core culture, reflective of high ethics and moral values aimed at achieving their objectives with surety and peace of mind.

The infusion of integrity within organizations brings about a substantial advantage. Notably, it contributes towards elevating the performance on multiple fronts:

- Decision-making processes become more coherent and simplified; individuals exhibit increased dedication and enhanced satisfaction levels along with mitigated stress burdens.
- A positive environment is fostered promoting greater opportunities for growth and reducing employee attrition rates.
- Superior service to members leads to diminished possibilities of internal dishonest practices.
- The reinforcement of ethical conduct alongside combating corruption results in boosting the organization's reputation and competitive standing (Irene, 2005).

An organization dedicated to upholding integrity possesses four distinguishing characteristics. **Firstly**, they utilize a language rooted in ethical contemplation. Their members freely and confidently delve into discussions over potential ethical consequences associated with business decisions. **Secondly**, organizations committed to integrity construct and refine supportive structures and procedures designed to aid in decision-making processes oriented around ethics.

The **third** characteristic is the creation of an enriching culture that encourages openness, responsibility, and loyalty towards objectives; it continually promotes personal development as well as organizational growth opportunities. These avenues not only foster professional advancement but also generate a sense of value amongst the individuals who perceive themselves as integral parts of the organization.

Fourthly, institutional representations of organizational integrity encompass several dimensions such as personal adherence to values, professional code upkeep alignment with social moralities, and administrative propriety alongside core business compliance.

Moreover, crafting policies promoting organizational integrity helps establish it as an essential component within its institutional culture during task execution. Upholding any form of integrity; be it administrational or academic requires cognitive frameworks underlying commitment towards shared values since consistent actions resonate deeply across all situations (Bauman. 2013).

The enhancement of administrative performance, at both academic and practical application levels, has gained significant interest globally. Tangible progress

necessitates the implementation of comprehensive development measures encompassing all aspects - inputs, processes, and outcomes - of any work system. These steps are pivotal to uplifting performance quality throughout. The assessment, measurement, and advancement of institutional performance are a critical matter that engages every entity linked to the institution.

2.5 Teamwork

Team Collaboration: A fundamental component in the delivery of exceptional service lies in cultivating a spirit of cooperative teamwork (Rosen et al., 2018). This aspect carries significant weight within any working group due to the essential nature of interaction and mutual support among team members, fostering growth and overcoming challenges. The ultimate provision of service, then, stems from the collaborative effort of various colleagues, some at the forefront while others labor behind the scenes. Management must understand that building successful teams or work clusters in the services sector shouldn't be left to fortune but rather requires a dedicated focus on their development. Attention must be invested towards nurturing these groups and making provisions easier by bolstering positive, constructive conduct both internally among individuals and externally between diverse teams. Within an organizational framework, it is believed that group cohesion translates into executing tasks with a united front where each comprehends their unique specializations and roles that synergize seamlessly with those held by other members.

2.6 Leadership

It is unequivocally recognized that the efficacy of a holistic quality management process hinges largely on the cognizance of management concerning the imperative need for effective leadership. The exclusive responsibility for orchestrating and driving this comprehensive approach to quality rests with top-tier authority figures within an organization. The process of determining leaders who will helm this overarching business strategy should adhere strictly to explicitly defined criteria for different styles of leaders. Leadership in pursuing quality implementation demands stewardship by someone with intimate knowledge and understanding about all-encompassing aspects of corporate functions, signifying that individuals selected as quality leaders must demonstrate dynamic character traits along with insightful perception towards the working structure involved.

An essential part of improving the overall caliber lies in setting stellar standards through relentless persistence and robust determination to attain perfection from inception. Without such qualities, a leader may struggle to foster aptitude among team members or inspire them towards developing a profound sense of commitment towards optimal performance level; thus, building quintessential characters crucial to true-quality pursuits. (Northouse, 2021).

Leadership as a general characteristic is inextricably linked to experience, and the stewardship of a quality program necessitates competition, unequivocal integrity, ongoing consistency, and an unwavering sense of confidence. Moreover, exceptional leaders are adept communicators with astute flexibility to contend with a diverse workforce for optimal results tailored to their respective abilities. Efficacy in leadership

hinges significantly on analytical capacity alongside adeptness in navigating disagreements, resolving conflicts, and making time-sensitive decisions. (Northouse, 2021).

Tasks must be methodically presented to associates through carefully planned steps; the scope of these activities should be contained yet clear-cut - each elucidated briefly but using practical terminology. A meticulously crafted training program could prove instrumental in achieving superior work quality. The crux of such initiatives lies within education and ensuing absolute comprehension and acceptance amongst employees concerning Total Quality Management principles (Bo Edvardsson, 1997).

2.7 Healthcare Sector

Health services are unique services associated with human life and recovery, possessing characteristics and advantages that amplify the complexity of their provision. These services have evolved beyond merely offering curative services to encompass preventive measures and participation in care, awareness, and health-focused programs. This necessitates a focus on the quality inherent in health services. Health services are defined as all services rendered by the state-level health sector. These services may be therapeutic, targeting individuals, or preventive, targeting society and the environment. They may also involve the production of medicines, medical preparations, prosthetic devices, etc., to enhance the health status of citizens, treat them, and safeguard them from infectious diseases. (Nittari et al., 2018)

Health services are also defined as diagnostic, therapeutic, rehabilitative, social, and psychological services. These specialized services are provided by therapeutic departments and support departments, and encompass regular and specialized laboratory tests, ambulance and emergency services, as well as nursing and pharmaceutical services. (WHO,2018)

Service, in general, refers to the act of providing assistance, support, or a particular benefit to customers or clients. In the context of healthcare, service takes on a more specialized meaning, encompassing the delivery of care aimed at enhancing patient well-being. Quality healthcare is defined as “consistently delighting the patient by providing efficacious, effective, and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patient's needs and satisfy providers” (Mosadeghrad, 2013). This definition highlights that quality healthcare involves delivering effective care that not only meets clinical standards but also contributes significantly to patient satisfaction and overall well-being.

Health services are health-related activities or benefits that hospitals offer to patients in return for a certain fee. These services utilize auxiliary goods, and the ownership of these goods does not transfer to the service beneficiary.

As for the concept of health service quality, it is generally agreed upon by many researchers that the quality of service is determined by fulfilling the desires of the customer. Given that customer desires vary; the degree of service quality is a relative measure that differs from one person to another. It depends on comparing the perceived quality with the expected quality. This comparison results in three levels of quality (Jenkinson et al., 1997)

- **Regular service:** This is achieved when the customer's perception of the service's performance matches their prior expectations.
- **Poor service:** This occurs when the actual performance of the service falls below the customer's expectations.
- **Excellent service:** This is achieved when the actual performance exceeds the customer's expectations regarding the level of service.

At the level of health service quality, the first definition was by Lee Jun in 1933. He defined it as "the application and provision of all necessary health services by modern medical sciences and technologies to meet all the needs of the population" (El Taguri,2008).

Quality in the context of healthcare is viewed from the perspective of improving health status. However, defining it becomes more challenging when it relates to physical or physiological aspects, while it is less difficult if it pertains to the general level of health.

The World Health Organization (WHO) defined health service quality as: "Conformity with standards and correct performance in a safe manner and at costs acceptable to society, such that it leads to an impact on the rate of morbidity, mortality, disability, and malnutrition."

2.8 The Importance of Applying Total Quality Management in Health Institutions

Historically, health institutions have faced a multitude of internal and external pressures. These pressures include, for instance, the high costs of medical equipment and devices, and the trend towards specialization in various types of modern health services. This increase was accompanied by a demand for heightened attention to

meeting customers' needs and expectations, intensifying competition between similar health institutions, the proliferation of medical errors, an increase in the percentage of legal complaints against the hospital due to medical malpractice, and growing public responsibility. As a result, most health institutions initiated the implementation of a quality program or quality management to improve their performance quality and maintain the reputation of administrative and clinical institutions by focusing on the quality of care and health service provided. (Al-Hakim et al., 2017)

In general, quality offers both tangible and intangible benefits to service providers and beneficiaries alike. These benefits include, for example (Bouguira, 2023):

1. **Improved productivity levels**: Quality management aims to enhance the quality of medical care and other services provided by the hospital, as well as the appropriate use of financial resources, benefit from modern systems in the medical field, reduce healthcare expenses, and encourage management to evaluate the quality and quantity of productivity instead of focusing solely on production quantity until it reaches the optimal level compatible with the hospital's goals and standards. This is achieved through systematic, objective evaluation and follow-up of the quality and suitability of the care provided, and a constant search for opportunities to improve the level of care and solve discovered problems.
2. **Increased customer satisfaction**: It is known that the fundamental objectives of quality management are to provide better service to the customer that suits their requirements and expectations. Thus, the result of the quality improvement process is customer satisfaction. Organizations achieve customer satisfaction

through the cohesive efforts made by each individual to gain business and to increase confidence from customers when they see the fulfillment of their desires regarding the quality of services.

3. **Improved employee morale**: An essential aspect of total quality management is the employee's participation in work-related decision-making. Employees are encouraged to share information and knowledge and suggest appropriate solutions to problems, which helps unleash the employee's latent creative energy, as they feel a sense of improvement in their facilities.

When a health institution begins to implement total quality management efforts, it needs to provide many coordinated efforts and basic requirements that are considered the appropriate climate for applying this approach. The most important of these requirements will be discussed through the components and obstacles of applying total quality management in health institutions.

2.9 Requirements for Implementing Total Quality Management in Health Institutions

For the successful application of total quality management in health institutions, a set of components must be present, summarized as follows (Langabeer et al.,2016)

1. Senior management in health institutions must be convinced of the importance and benefits of applying total quality management.
2. Senior management must convince all employees of the organization of the benefits and advantages of total quality management.
3. The organization's management must anticipate some restrictions, obstacles, and resistance from some individuals to the implementation of the comprehensive

quality approach. The more everyone understands its importance, the less the severity and extent of the resistance.

4. The costs of implementing total quality management rise initially and then begin to gradually decline until they stabilize at a certain size, at which point the system begins to reveal its advantages and benefits.
5. Implementing total quality management in many aspects requires a change in policies, concepts, strategies, and organizational structures in health institutions.
6. Total quality management is not a substitute for traditional management, but it is a major and essential tool for seeking distinguished high performance from the beginning of operation until its end and preventing errors or reducing them to the maximum extent.
7. To successfully implement total quality management, the organization needs effective and supportive systems, the most important of which are:
    - Promoting and marketing the comprehensive quality system to workers in the field of health services within the organization or those dealing with it (patients, external audiences, suppliers… etc.).
    - An effective system of human relations that aims to deepen organizational loyalty and achieve and deepen the concept that high quality is the responsibility of every individual in the health institution.
    - A clear understanding of the methods and methods of statistical control, an effective system for operating data, and an efficient information system that supports this system and the decision-making process.
    - Effective systems of communication, coordination, and integration between various departments and sub-units.

- A clear, specific, and announced system of rewards and punishments regarding the application of total quality management.

8. The health institution can start applying total quality management in one of its sub-activities and then progress to the rest of the activities.
9. Good features of applying total quality management appear quickly in private health institutions, where there is a high potential, effective human elements, and an appropriate organizational climate.

Before implementing total quality management, it requires intensive training courses and also benefits from the experiences of institutions that have succeeded in this field.

2.10 Barriers to Implementing Total Quality Management in Health Institutions

Total quality management efforts face a group of human, cultural, technical, and organizational obstacles that lead to the failure of these efforts during the process of practicing improvement processes. These obstacles require identifying and diagnosing their causes, to follow the proper approach and approach to dealing with them, the most important of which are (Mosadeghrad and Ferlie,2015):

1. Failure to seek assistance from quality experts: Regular meetings and discussions with quality experts can provide valuable insights and guidance for implementing TQM.
2. Lack of training: All employees at all administrative levels need training on quality concepts and methods to effectively implement TQM.

3. Absence of reliable statistical methods: Reliable statistical methods are essential to measure the performance of health institutions and assess the effectiveness of TQM.
4. Inadequate employee selection and development: The use of scientific and objective methods in selecting employees and attention to developing their performance is crucial for the successful implementation of TQM.
5. Lack of clarity on teamwork: A clear understanding of the concept of teamwork and the presence of team spirit are important for the collaborative efforts required in TQM.
6. Insufficient financial resources: Lack of financial resources can hinder the proper equipping of health institutions for TQM.
7. Dual lines of authority: The existence of two clear lines of authority, one administrative and the other medical, can create a barrier between the medical and administrative sides, limiting the success of the improvement process.

Among all these obstacles, cultural obstacles appear to be the most difficult. For Example:

- Health institutions tend to focus more on the needs of health service providers than on the needs of patients.
- Middle managers may resist introducing TQM into their organization, believing it will limit their authority and affect their responsibilities.
- Most doctors in health institutions may not care about comprehensive quality management activities, believing they do not apply to their jobs.

- The lack of doctors' participation in TQM efforts can increase the total cost of the change process and prevent the achievement of the desired goals. This is due to their belief that their work is of high quality and that TQM is primarily a cost-control mechanism.

These obstacles need to be addressed for the successful implementation of TQM in health institutions.

2.11 Foundations and Elements

Several factors determine the foundations and quality elements of health services:(Ramesh et al., 2019)

A. Quantitative Adequacy: This refers to providing medical services in sufficient size and number that matches the population. This includes:

1. Providing sufficient medical human resources such as doctors, nurses, laboratory technicians, and other assistants. A doctor alone cannot carry out all the work of medical services.
2. Providing a sufficient number of doctors, medical centers, and institutions that provide medical services (health units, hospitals, laboratories, pharmacies, etc.). There should be justice and equality in their distribution among the various regions of the country.
3. Providing medical services at all times. Medical team members must be available around the clock, as illness does not adhere to official working hours.
4. Providing methods and means of health education among members of society to familiarize them with the means of medical care, its availability, the services it provides, its importance, and ways to benefit from them early.

5. Implementing financial and administrative systems to provide the services that the individual is entitled to, and striving for comprehensive medical insurance for all citizens.

B. Qualitative Adequacy: It is not enough to provide medical care only by increasing the number of members of medical teams, health units, and hospitals. High-level conditions for medical work must also be provided. This includes:

1. Establishing standards and foundations that determine the required level to be provided in each of the medical team members, equipment, and diagnostic and treatment methods.
2. Working to raise the efficiency and good training of medical team members.
3. Providing financial, administrative, and technical facilities and assistance to all workers in the medical services sector.
4. Integrating curative and preventive health services.

2.12 Components of Quality Health Services

The elements of quality health services are fundamental components that ensure the delivery of effective and safe care. These elements encompass various aspects, and understanding these elements is crucial for healthcare providers aiming to enhance the quality of care they deliver. and those elements are (Campbell et al., 2000):

1. Effectiveness of Care: This refers to the extent to which health procedures are used to achieve the desired results. In other words, it measures how well the objectives were achieved or how successful the strategy was in achieving the objectives.

2. Appropriateness: This involves choosing health procedures that are suitable for the patient's condition.
3. Acceptance & Continuity: Acceptance by the patient and society to use a specific health procedure implies the patient's continued visit to the same doctor to understand their condition. It may also mean maintaining medical files, which ensure confidentiality and enable the new doctor to view them and follow up on treatment.
4. Access to Health Services: This can be exemplified by waiting lists for appointments, whether in outpatient clinics, hospitalization, or surgical operations.
5. Comprehensive Justice: Equity in providing health care ensures that those who truly need it have access, and there is no disparity in access between different segments of society for non-health reasons.
6. Efficiency: This involves the optimal use of resources and costs, taking into account other needs.
7. Public Safety: Safety means reducing the risk of exposure to injury, infection, or any other dangers related to health services. This procedure is carried out by both the patient and the medical team, as in the process of blood transfusion, and precaution against viral hepatitis infection, and acquired immunodeficiency virus (AIDS).

2.13 Health Care Sector in Palestine

Health service providers in Palestine are numerous, starting with the Palestinian Ministry of Health, which is the primary provider of health services in the region. This is followed by the United Nations Relief and Works Agency for Refugees (UNRWA), which provides health services to refugees in camps in the West Bank and Gaza Strip. Additionally, several non-governmental and nonprofit civil society organizations contribute to the provision of primary, secondary, and tertiary health services, as well as health care services. (Hamdan et al., 2020).

The private sector also plays a significant role in providing health services at various levels to citizens, and this sector has been growing rapidly in recent years (Mughli et al,2021)). The number of primary health care centers in Palestine has reached 749, including 192 centers affiliated with the Ministry of Health, 65 centers affiliated with the UNRWA, and 475 centers for military medical services.

The ratio of citizens per health center in Palestine is approximately 5,984. This ratio varies between the West Bank and the Gaza Strip, with 4,408 citizens per health center in the West Bank and 11,725 per health center in the Gaza Strip. The number of government health centers increased by about 134% from 203 at the end of 1994 to 475 in 2020. However, the increase is only 4.1% compared to 2018, when the number of government health centers was 468 (Palestinian Ministry of Health, 2020).

In terms of government spending on the health sector, the general budget allocated to the Palestinian Ministry of Health during the years 2009-2021 shows that spending on the health sector was almost constant. Still, it increased significantly during the Corona pandemic years due to the need for hospitals and various medical facilities, in addition

to purchasing vaccines and the accompanying expenses. The 2021 budget was divided into three basic programs: The health administrative and governance program, a program for high-quality primary health care services and promoting healthy lifestyles, and a program for sustainable, high-quality secondary and tertiary health services. Salaries and wages constitute 38% of the total budget of the Palestinian Ministry of Health for the year 2021, while capital expenditures, in addition to other development and operational expenditures, constitute only 8.6% of this budget. The budget included social contributions worth 65 thousand shekels. The value of purchasing the service from outside the Palestinian Ministry of Health for the year 2020 amounted to 254,722,825 shekels, and the Ministry of Health estimated it in its report at 4.39% of its expenses. According to the strategy of the Palestinian Ministry of Health 2017-2022, the Ministry's budgets for the strategy period suffer from a financial gap between the actual need and the allocated budgets, the value of which during the years 2017-2022 reached approximately 407,606.2 thousand shekels. (Palestinian Ministry of Health, 2021).

2.14 National Health Strategy

Over the past decade, the Palestinian Ministry of Health has developed several strategic plans, including the National Health Strategy 2017-2022 and the Sectoral Health Strategy 2021-2023. These plans focus on four indicators identified as dimensions of poverty in the health field: The recent National Health Strategy developed by the Palestinian Ministry of Health (2021–2023 and beyond) builds upon previous strategic plans and addresses emerging health priorities and challenges (World Bank,2021).

National Health Strategy 2017-2022: This strategy is based on six goals:

1. Ensuring Comprehensive Health Services: The strategy aims to provide comprehensive and integrated health services to all citizens, focusing on those most in need of special care, such as children, women, pregnant women, the elderly, and geographically disadvantaged citizens.
2. Strengthening Noncommunicable Disease Management Programs: The Ministry of Health seeks to strengthen programs to combat chronic diseases, including preventive health programs, early detection of non-communicable diseases, and programs to enhance community awareness about disease prevention and healthy lifestyles.
3. Institutionalizing the Quality System: The strategy emphasizes the importance of institutionalizing the quality system in all aspects of health service provision.
4. Strengthening and Developing the Human Resources Management System: This goal focuses on the development and strengthening of the human resources management system within the health sector.
5. Strengthening Health Governance: This includes effective management of the health sector, strengthening laws and legislation, coordination across sectors, and integration among service providers.
6. Strengthening Health Financing: The strategy aims to strengthen health financing and enhance financial protection for citizens against health costs.

These goals address many indicators related to the health field. For instance, the first goal relates to the indicator of access to health services, while the second goal is linked to the chronic diseases indicator. The strategy expects that by the end of 2020, 50% of maternity centers will be certified as “Child-Friendly” and that national quality

standards will be implemented in 100% of laboratories, enhancing comprehensive and quality health care.

The fourth and fifth goals of the health sector strategy are related to the development and enhancement of the capabilities of the Ministry of Health. They focus on laws and legislation that support the provision of quality government health services without imposing high financial burdens on citizens. These goals indirectly relate to some of the four health field indicators. The development and strengthening of the capabilities of the medical staff and the legislative environment can lead to improvements in the health system. This could be reflected in indicators such as health insurance, especially if there are amendments to the health insurance law, and the improvement in the provision of health services, which could alleviate the suffering of patients with chronic diseases and disabilities (Palestinian Ministry of Health, 2017).

The sixth goal of the health sector strategy is linked to the second indicator in the health field, which is the health insurance indicator. The Palestinian Ministry of Health aims to ensure health protection for all citizens without causing financial hardship. This includes the poor, the unemployed, marginalized groups, and groups that cannot afford the cost of treatment. This is achieved through several mechanisms, including the development of the health insurance system and ensuring the implementation of comprehensive health coverage. This goal underscores the commitment to providing equitable and accessible healthcare for all citizens (Palestinian Ministry of Health, 2017).

The Health Sector Strategy for 2021-2023 continues the six goals established in the previous strategy. This plan is a review and update of the achievements made in the

previous plan, particularly in light of the current government's directions for cluster development, disengagement from the Israeli occupation, investment in the local sector, and available resources. This includes reducing transfers to Israeli hospitals and promoting the development of local governmental, private, and non-profit hospitals.

The recent National Health Strategy developed by the Palestinian Ministry of Health (2021–2023 and beyond) builds upon previous strategic plans and addresses emerging health priorities and challenges (World Bank,2021).

National Health Strategy 2021-2023: This strategy based on:

1. Enhancing Comprehensive Health Services: The Ministry of Health's strategy emphasizes providing comprehensive health services to all citizens, especially marginalized groups such as women, children, the elderly, and geographically disadvantaged populations. It aims to ensure continuity of care through integrated health services. This focus aligns with global health strategies to reduce disparities in healthcare access.
2. Strengthening the Management of Noncommunicable Diseases (NCDs): The strategy highlights the need for early detection and prevention of chronic illnesses, such as diabetes and cardiovascular diseases. Mental health is also prioritized, with the launch of the Child and Adolescent Mental Health National Strategy 2023–2028, which aims to integrate mental health services into primary healthcare to support younger populations(WHO,2019).
3. Institutionalizing Quality Systems in Healthcare: The strategy places importance on institutionalizing quality assurance systems in healthcare delivery. Standardized frameworks and advanced monitoring systems are

introduced to enhance service quality and measure healthcare outcomes effectively (WHO,2021).

4. Strengthening Human Resources in Healthcare: The Ministry has committed to investing in healthcare workforce development by providing training programs and addressing shortages. These efforts are part of broader goals to recruit and retain skilled personnel, particularly in underserved areas(WHO,2023).
5. Strengthening Health Governance: Health governance improvements include fostering transparency and accountability in the healthcare system. Collaborative efforts between public, private, and international organizations aim to streamline operations and align with global health standards(WHO.2021).
6. Strengthening Health Financing: To reduce the financial burden on citizens, the Ministry has introduced mechanisms to decrease out-of-pocket expenses. The strategy also seeks to develop sustainable models for financing long-term health initiatives(WHO,2021).
7. Response to Emerging Health Challenges: The strategy includes provisions to strengthen public health preparedness for pandemics and other emergencies, learning from the lessons of the COVID-19 pandemic to bolster resilience in the healthcare system(WHO,2020).
8. Focus on Mental Health: A significant component of the strategy is the expansion of mental health services. The Child and Adolescent Mental Health National Strategy 2023–2028 aims to prioritize mental health as an integral part of primary healthcare, addressing the needs of vulnerable youth (Maharaj, S,2023).

9. Technology and Digital Transformation: Digital health systems are being introduced to enhance efficiency in data collection and service delivery. The strategy promotes telemedicine as a tool to expand access to healthcare in remote areas(WHO,2023).
10. Partnerships and International Collaboration: The Ministry actively engages with international organizations, such as the World Health Organization, to align its health strategy with global best practices and to foster cross-border cooperation(WHO,2017).

The strategy emphasizes the principle of achieving universal health coverage as the general framework of the strategy and the future health vision for the year 2030. It also reaffirms the importance of reviewing the development of the health insurance system to make it more comprehensive, necessary, and effective in achieving comprehensive health coverage (Palestinian Ministry of Health, 2021).

In addition to enhancing the quality of services at the national level and enhancing monitoring and evaluation systems for quality, the strategy takes into account the principles of integrity and transparency. This strategy includes new priorities that emerged from the coronavirus pandemic, especially:

- Strengthening the resilience and response of the health system in the face of epidemics, global health risks, and emerging communicable diseases.
- Supporting and improving the health sector infrastructure.
- Strengthening the application of international health regulations in the face of global epidemics.

- Promoting and supporting the application of e-health and telemedicine programs.
- Emphasizing the implementation of infection control protocols and instructions in all health facilities.
- Strengthening the health monitoring system for epidemics and infectious diseases.
- Strengthening emergency services at all levels.
- Promoting and supporting scientific research in the health sector.
- Enhancing community health awareness.

These goals and priorities aim to improve the health sector's ability to respond to current and future challenges effectively (Palestinian Ministry of Health, 2021).

2.15 Patient Safety

Patient safety is a critical aspect of healthcare, and it's defined as "the absence of preventable harm to a patient during the process of healthcare and reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum" (Slawomirski, L., & Klazinga, N. 2022).

Here are some key facts:

- Nearly one in 10 patients is harmed in healthcare facilities, and unsafe care causes more than 3 million deaths annually. In low- and middle-income countries, about 4 out of every 100 people die from unsafe care (Slawomirski, L., & Klazinga, N. 2022).

- More than 50% of harm cases (1 in 20 patients) are preventable; Half of these harm cases are due to medications (Panagioti, M et al. 2019).
- Some estimates suggest that about four in 10 patients experience harm in primary and ambulatory care settings, while up to 80% (23.6-85%) of this harm could be avoided (Auraaen, Slawomirski, & Klazinga, 2018).
- Common adverse events that may cause avoidable patient harm are medication errors, unsafe surgical procedures, healthcare-associated infections, diagnostic errors, patient falls, pressure ulcers, patient identification errors, unsafe blood transfusions, and venous thromboembolism.

Harm to patients is likely to reduce global economic growth by 0.7% annually. Globally, the indirect cost of harm amounts to trillions of US dollars each year.

- Investing in reducing harm to patients can lead to significant financial savings and, most importantly, better patient outcomes (Slawomirski, 2017). Patient engagement is an example of a good return on investment and, if properly implemented, can reduce the burden of harm by up to 15%.

The principle of “first do not harm” is the most fundamental principle of any health care service. However, there is compelling evidence of a huge burden of avoidable harm globally across healthcare systems in developed and developing countries. This has significant humanitarian, moral, ethical, and financial implications.

Common sources of harm to patients include medication errors, where drug-related harm affects 1 in 30 patients in healthcare settings, and more than a quarter of such harm is

severe or life-threatening. Half of all cases of avoidable harm in healthcare settings are associated with medications (Hodkinson et al,2020).

Surgical errors are another common source of harm. More than 300 million surgeries are performed annually around the world. Surgical errors still occur at a high rate despite awareness of adverse effects. 10% of preventable patient harm in healthcare has been reported in surgical facilities, with most adverse events occurring before and after surgery (Rodziewicz et al,2023).

2.16 Some Sources of Harm to Patients

Patient safety is a critical aspect of healthcare. Here are some common sources of harm to patients:

- Healthcare-Associated Infections: With a global incidence of 0.14% (and increasing by 0.06% each year), healthcare-associated infections lead to longer hospital stays, long-term disability, increased antimicrobial resistance, additional financial burdens on patients, families, and health systems, and preventable deaths (Raoofi et al,2023).

- Sepsis: Sepsis is a serious condition that occurs when the body's immune system overreacts to an infection, causing damage to the body's tissues and organs. Of all sepsis cases seen in hospitals, 23.6% were healthcare-associated, and approximately 24.4% of affected patients died as a result (Markwart et al,2020).

- Diagnostic Errors: Diagnostic errors occur in 5% to 20% of encounters between doctors and patients. Harmful diagnostic errors occur in at least 0.7% of all adult hospital admissions. Most people experience one diagnostic error in a lifetime (National Academies of Sciences, Engineering, and Medicine, 2015).
- Patient Falls: Patient falls are the most common adverse event in hospitals. Its incidence ranges from 3 to 5 days per 1,000 hospital bed occupancy days, and more than a third of these incidents lead to injuries, thus reducing clinical outcomes and increasing the financial burden on systems (Dykes, 2023).

  Venous Thromboembolism: Venous thromboembolism, known simply as blood clots, is one of the most stressful and preventable causes of patient harm, contributing to one-third of complications attributed to hospitalization.
- Pressure Sores: Pressure sores are injuries to the skin or soft tissue. They arise from pressure on certain parts of the body over a prolonged period. It may have fatal complications if not treated immediately. Pressure ulcers affect more than one out of every 10 adult patients admitted to hospitals, and they have a major impact on an individual's mental and physical health and quality of life, although they are largely preventable (Raoofi et al., 2023).
- Unsafe Blood Transfusion Practices: Futile blood transfusions and unsafe blood transfusion practices put patients at risk of serious adverse reactions from transfusions and infections transmitted through transfusions. Data on adverse

transfusion reactions from a group of 62 countries show that the average incidence of serious reactions is 12.2 reactions per 100,000 blood components distributed.

- Errors in Identifying Patients: Failure to properly identify patients can be a root cause of many problems and have serious repercussions for the provision of health care. It can lead to adverse and catastrophic effects, such as incorrect surgical positioning. According to a Joint Commission report published in 2018, 409 sentinel incidents were recorded to identify patients out of 3,326 incidents (12.3%) in the period between 2014 and 2017.
- Unsafe Injection Practices: Globally, 16 billion injections are administered annually. Unsafe injection practices put patients and healthcare workers at risk of infectious and non-infectious adverse events. A study using mathematical modeling estimates that over 10 years (2000-2010), 1.67 million hepatitis B infections, 157,592 to 315,120 hepatitis C infections, and 16,939 to 33,877 HIV infections were associated with unsafe injections (Dykes, 2023).

Factors Leading to Patient Harm: Patient harm in healthcare facilities due to unsafe practices is widespread and can occur in all settings and at all levels of healthcare delivery. Multiple, interconnected factors can lead to patients being harmed, and usually more than one factor is behind any patient safety incident: (Ginsburg et al.,2013)

- Systemic and Organizational Factors: These include the complexity of medical interventions, inappropriate processes and procedures, disruptions to workflow

and care coordination, resource constraints, inadequate staffing, and inadequate competency development.

- Technological Factors: Issues related to health information systems, such as problems with electronic health records or drug administration systems, and misuse of technology can lead to patient harm.
- Human Factors and Behaviors: Communication deficits between healthcare workers, within healthcare teams, and with patients and their families, ineffective teamwork, fatigue, burnout, and cognitive bias can all contribute to patient harm.

  Patient-Related Factors: Lack of health education for patients, lack of patient involvement, and non-adherence to treatment can also lead to harm.
- External Factors: Lack of policies, inconsistent regulations, economic and financial pressures, and challenges related to the natural environment can also contribute to patient harm.

Systematic Approach to Patient Safety: Most errors that lead to harm do not occur as a result of the practices of one or a group of health and care workers but rather are due to systemic or process deficiencies that lead those health and care workers to make errors. Therefore, understanding the underlying causes of errors committed in the context of medical care requires replacing the traditional blame-based approach with more systems-based thinking. In this regard, errors are attributed to poorly designed systems structures and processes, and it is recognized that it is human nature for all workers in healthcare facilities to be under a great deal of stress in complex and rapidly changing environments.

This is achieved without condoning negligence on the part of those providing care or poor behavior leading to substandard medical management (Pronovost et al.,2018).

Patient safety is a critical aspect of healthcare. A safe health system adopts all necessary measures to avoid and reduce harm through organized activities. Investing in patient safety positively impacts health outcomes, reduces costs related to patient harm, improves system efficiency, and helps reassure communities and restore their trust in healthcare systems (Slawomirski, 2017).

Recognizing patient safety as a global health priority, the Seventy-second World Health Assembly adopted resolution WHA 72-6 entitled “Global action on patient safety” in May 2019. The resolution requested the Director-General to emphasize patient safety as a key strategic priority in the WHO’s work across all aspects of the Universal Health Coverage Program of Action. It also endorsed the establishment of World Patient Safety Day, observed annually on 17 September, and requested the WHO Director-General to develop a Global work plan on patient safety with the participation of WHO Member States, partners, and other relevant stakeholders.

The Global Patient Safety Action Plan 2021-2030 provides a framework for action by key stakeholders to join forces and comprehensively implement patient safety initiatives. The plan seeks to “maximize the harm caused by unsafe and avoidable health care globally” with a vision of achieving “a world in which no one is harmed in health care, and every patient receives safe and respectful care at any time and place."

Since 2019, World Patient Safety Day has been observed worldwide annually on 17 September. The global campaign, which has a specific theme each year, aims to raise public awareness and global understanding of patient safety and mobilize stakeholders to work to eliminate avoidable harm in health care and thus improve patient safety.

The World Health Organization launched the Patient Safety Flagship Initiative, a transformative initiative to guide and support strategic work on patient safety at the global, regional, and national levels. Its core work is to support the implementation of the Global Patient Safety Action Plan 2021-2030.

2.17 Total Quality in Health Care

Total Quality Management (TQM) in healthcare is a systematic approach that seeks to improve the quality of care and outcomes for patients. It focuses on the continuous improvement of processes and procedures within health organizations. Here are some areas where TQM can be applied in health organizations and the benefits that can be achieved (Sorra et al.,2019):

Areas of Application:

1. Simplifying Procedures: TQM helps identify ways to simplify work procedures by shortening or improving them, making the healthcare delivery process more efficient.

2. Simplifying Procedures: TQM helps identify ways to simplify work procedures by shortening or improving them, making the healthcare delivery process more efficient.
3. Improving Procedures: TQM aims to diligently seek and seize opportunities for improvement, leading to better patient outcomes.
4. Operating Efficiency: By eliminating waste in the performance of operations and increasing the skill level of workers, TQM can enhance the operating efficiency of health organizations.
5. Eliminating Differences in Clinical Practice: TQM contributes to eliminating differences in clinical practice and choosing the best methods for performing work on scientific evidence and facts.
6. Reducing the Repetition of Operations: TQM helps determine the best ways to perform work and then reduce repetition, which can negatively impact the level of quality, efficiency, productivity, and customer satisfaction.

2.18 Benefits of Applying TQM in Hospitals (Mahal & Nagesh, 2021)

1. Quality of Care Provided: The goal of applying TQM is to achieve high levels of quality in the medical care provided by hospitals, make optimal use of its material and human resources, rationalize expenses and use, evaluate the quality of productivity represented in health services, and work permanently and continuously to improve the quality of health services.

2. Customer Satisfaction: TQM aims to provide high-quality health service by the aspirations of its beneficiaries, through a process aimed at continuous improvement of quality by and exceeding customer expectations.
3. Raising Employee Morale: Employees' participation in decision-making is one of the basics of TQM, as they are considered internal customers who must be satisfied. This can lead to increased job satisfaction and morale among healthcare workers.

2.19 Elements of the Application of TQM in Healthcare

The application of Total Quality Management (TQM) in healthcare requires several key elements. These elements are crucial for the successful implementation of TQM in healthcare settings. They help to ensure that the quality of care is continuously improved and that the organization can effectively respond to the changing needs and expectations of patients.

1. Proper Planning: TQM primarily depends on sound planning that aligns with the organization's goals and resources. This involves a flexible timeline that allows for the improvement of performance and procedures and takes into account the enhancement of employees' understanding of quality concepts.
2. Reshaping the Institution's Culture: The introduction of any new principle in an institution requires reshaping its culture. The acceptance or rejection of any principle depends on the culture and beliefs of the employees in the institution.

3. Support, Endorsement, and Commitment of Senior Management: Effective participation of senior management leaders in TQM activities is crucial. Their role includes planning for quality implementation, creating an appropriate regulatory environment, removing traditional barriers between various organizational units, and committing to providing support for the improvement process in all its stages.
4. Adopting Appropriate Leadership Styles: The appropriate leadership for TQM is creative leadership capable of working in a team spirit. This involves democratic leadership styles that strive to provide and support a climate in which coordinated teamwork prevails.
5. Effective Management of Human Resources: This requires a belief that employees in the organization are the strongest and most important basis for the success of management. They are not just production tools, but rather, they are real resources worthy of all attention and care. It also requires developing policies for selection, appointment, training, and performance evaluation and providing opportunities for employee participation and motivation. Continuously allowing them to submit their suggestions for continuous improvement will inevitably lead to encouraging them, instilling confidence, and strengthening the desired performance.

6. Seeking Consultants: Seeking external expertise from consultants and specialized institutions when implementing the program helps to strengthen the institution's experience and assists in solving problems that may arise, especially in the early stages.
7. Customer-Centric Approach: Paying attention to satisfying internal and external customers is a crucial requirement for implementing TQM. The customer is the focus of all TQM efforts, and all measures must be taken to satisfy customers and provide products and services that meet and exceed their expectations.
8. Forming Work Teams and Collective Participation in Improvement: This involves removing barriers between departments and sections and forming work teams that each include between five and eight members from the departments directly concerned or from those who perform the work to be developed.
9. Continuous Review, Supervision, and Follow-up: One of the necessities of implementing the comprehensive quality program is supervising the work teams to modify any wrong path, follow up on their achievements, and evaluate them if necessary. Coordination between the various individuals and departments in the institution and overcoming the difficulties encountered by the work teams are also required.
10. Promoting and Marketing the Program: Marketing the program helps a lot in reducing opposition to change and identifying the expected risks due to the application so that it can be reviewed. The

program is promoted by organizing lectures, conferences, or training courses to introduce the concept of quality and its benefits.

11. Implementation Strategy: The strategy for developing and introducing the TQM program into application goes through several steps or stages, starting from preparing this program until achieving and evaluating the results.

This includes:

- Preparation: This is the stage of exchanging knowledge, disseminating experiences, and determining the extent of the need for improvement by conducting a comprehensive review of the results of applying this concept in other institutions.
- Planning: This involves developing a plan, how to implement it, and determining the resources needed for the implementation plan.
- Evaluation: This is done using statistical methods for continuous development and measuring the level of performance.

2.20 Conceptual Framework and Variables

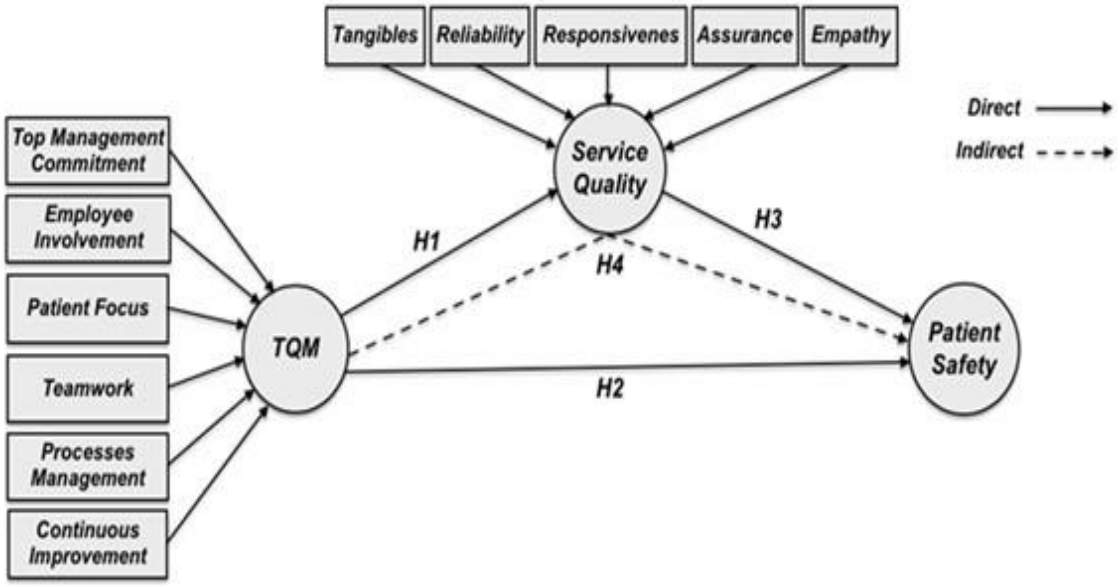

Figure 2.1. Research framework with hypotheses.

This framework is a visual representation of the relationship between Total Quality Management (TQM), perceived service quality, and patient safety, highlighting the dual pathways (direct and indirect) through which TQM impacts patient safety. The components are described below:

Independent Variable (IV): TQM is the independent variable driving this model; TQM consists of six basic principles:

1. Top Management Commitment: in prioritizing and supporting quality improvement Leadership Role.
2. Employee Involvement: Involving staff in decision-making and quality improvement efforts.
3. Patient Focus: Prioritizing patient needs and expectations.
4. Teamwork: collaboration among healthcare professionals for seamless service delivery.

5. Process Management: Standardization and improvement of processes to increase efficiency and quality.
6. Continuous improvement: iterative improvement of systems and practices over time.

Mediating variable: Perceived service quality is considered a mediating variable because it explains how Total Quality Management (TQM) practices impact patient safety and outcomes. Literature suggests that TQM enhances operational processes, employee performance, and service delivery, which directly improve perceived service quality (Talib et al., 2013). In turn, high service quality is associated with better patient trust, satisfaction, and safety (Alrubaiee & Alkaa'ida,2011). This mediating role highlights how improvements in TQM translate into positive patient outcomes through enhanced service quality. It is assessed through five dimensions:

1. Tangibles: physical facilities and equipment.
2. Reliability: consistency and reliability of services.
3. Responsiveness: Promptness and proactive assistance.
4. Assurance: Knowledge and courtesy inspire trust and confidence.

   Empathy:

   Patient care and personalized attention.
5. Empathy: Care and individualized attention given to patients.

Dependent Variable (DV): Patient safety is the outcome of this framework. Patient safety is directly influenced by TQM (direct pathway, H2) and indirectly by perceived service quality (indirect pathways, H3 and H4).

2.21 Total Quality Management Previous Studies

In Palestine, several studies have explored the implementation of Total Quality Management (TQM) in healthcare, by providing valuable insights into both the challenges and benefits of integrating quality management systems into hospital settings, One such study "Patient Safety Culture Among Nurses Working in Palestinian Governmental Hospitals: A Pathway to a New Policy" (Abu-El-Noor et al.2019), investigates the attitudes of nurses in the Gaza Strip toward patient safety, it aims to understand the factors influencing nurses' attitudes and how these can shape policies to improve patient safety practices in healthcare settings.

This research showed a generally positive attitude among nurses, scoring 3.68 on a 5-point Likert scale, indicating a favorable view of patient safety. However, it also revealed a significant gap in formal training, with only 41.9% of nurses reporting receiving patient safety training. This underlines the critical need for more structured training programs and accessible training programs to reinforce these attitudes. And enhance nurses' understanding and implementation of safety practices (Al-Saedi et al., 2019). Complementing this, a study titled "Assessment of TQM

Implementation Level in Palestinian Healthcare Organizations: The Case of Gaza Strip Hospitals" evaluates the

TQM implementation across governmental and non-governmental hospitals in the Gaza Strip, using the Malcolm Baldrige National Quality Award (MBNQA) framework. It focuses on how well hospitals in Gaza have adopted TQM practices and where improvements are needed, particularly in human resources and performance results, the sample includes 363 respondents from governmental and non-governmental hospitals in the Gaza Strip, the population consists of healthcare professionals The study revealed that while both sectors were performing at an acceptable level, non-governmental hospitals had a higher degree of TQM implementation. Specifically, it identified human resources and performance outcomes as key areas needing improvement, particularly in governmental hospitals, to foster a stronger patient safety culture and overall hospital efficiency (Baidoun & Omran, 2018).

Further highlighting patient safety concerns, the study by Elsous et al. (2016) "A Cross-Sectional Study to Assess the Patient Safety Culture in Palestinian Hospitals: A Baseline Assessment for Quality Improvement", used the Arabic version of the Safety Attitudes Questionnaire to assess safety culture across 339 participants, and a descriptive cross-sectional design, achieving a high response rate of 91.6%, It aimed to evaluate the attitudes of healthcare workers, specifically nurses, and physicians, across

several dimensions of patient safety culture,The study found that patient safety culture in Palestinian hospitals was moderate overall. Strengths included teamwork within units and organizational learning, while weaknesses were identified in staffing, non-punitive responses to errors, and communication openness. Nurses generally rated safety culture more positively than physicians. These findings highlighted the need for targeted interventions to improve reporting systems, communication, and staffing levels.

These results indicated that while healthcare professionals are aware of patient safety, significant improvements are needed, particularly in fostering open communication and organizational culture, which focuses on individual attitudes and cultural aspects within hospitals. (Zaid et al.., 2020). On the other hand, research in the West Bank, titled "The Impact of Total Quality Management and Perceived Service Quality on Patient Satisfaction and Behavior Intention in Palestinian Healthcare Organizations", shifts the focus from safety culture to patient satisfaction. This study, employed a quantitative approach to data analysis, primary data analysis was performed using Partial Least Square Structural Equation Modeling (PLS-SEM), utilizing a close-ended, with a response rate of 65.62%, survey population consisting of patients from 40 selected hospitals in the West Bank, Palestine, used a five-point Likert scale to analyze how TQM and perceived service quality (PSQ) impact patient satisfaction and behavior in Palestinian healthcare organizations. The findings underscored that TQM not only boosts service quality but also enhances patient loyalty,

suggesting that improving patient-centered services is critical to overall healthcare improvement.

Similar to these findings, a study by Nasser, Khraim, and Mousa (2016), titled "Measuring the Implementation of TQM Concepts in Northern West Bank Governmental Hospitals", the research indicates that there are no statistically significant differences in various dimensions of TQM, except for leadership. Identified leadership as a crucial factor in the successful adoption of TQM in hospitals ،the study uncovered challenges in patient focus, employee involvement, and continuous process improvement three key pillars of TQM ،by highlighting the importance of leadership, the study echoes the concerns seen in Gaza, reinforcing that the effective adoption of TQM relies on systemic changes and improved management practices (Nasser et al., 2016).

International research also examines the relationship between TQM and patient safety, broadening the scope, and offering varying perspectives, For example, this study by Makai et al. (2009), titled “Quality Management and Patient Safety: Survey Results from 102 Hungarian Hospitals,” questions the direct impact of Quality Management Systems (QMS) on patient safety, suggesting that certifications like the International Standards Organization ISO alone may not lead to tangible improvements in safety outcomes without broader systemic reforms, According to the survey, 102 out of 134 hospitals (76%) responded, and the findings revealed that hospitals

implemented an average of 24.5 out of 35 core quality activities and 4 out of 11 patient safety activities. This resonates with findings in Palestinian hospitals, where resource limitations often impede the effective implementation of TQM strategies (Makai et al., 2009).

Comparatively, international research provides valuable insights that parallel the Palestinian context, for example in Taiwan, the study "A Structural Model of Total Quality Management, Work Values, Job Satisfaction, and Patient-Safety-Culture Attitude Among Nurses" examined the links between TQM, work values, job satisfaction, and patient safety culture, the findings showed that TQM has a significant positive effect on safety culture, mediated by work values and job satisfaction.

This aligns with Palestinian studies emphasizing the importance of organizational culture and employee engagement in enhancing safety practices (Tsai & Lee, 2017).

Similarly, the Ethiopian study “The Relationship Between TQM, Patient Satisfaction, Service Quality, and Trust in the Healthcare Sector: The Case of Ethiopian Public Hospitals” investigated the effect of TQM on patient satisfaction, trust, and service quality in public hospitals in Northern Ethiopia. The population consists of 293 in-patients in selected public hospitals in Northern Ethiopia, focusing on patients’ perceptions of service quality, satisfaction, and trust. Data was collected through a structured questionnaire from in-patients in public hospitals. Using Structural

Equation Modeling (SEM), the study demonstrated that TQM positively affects patient-centered outcomes like satisfaction and trust, further highlighting the significance of patient perceptions in evaluating the success of TQM initiatives (Tessema et al., 2024).

In Jordan, Al-Shdaifat's (2015) study "Implementation of Total Quality Management in Hospitals" revealed that private hospitals are more successful in implementing TQM compared to public hospitals. The study stresses the role of leadership and dedicated quality departments in facilitating TQM implementation, a finding that aligns closely with the challenges faced by Palestinian governmental hospitals. As in Jordan, public hospitals in Palestine encounter similar barriers, particularly in leadership and resource allocation (Al-Shdaifat, 2015).

In other international studies, like Aiken et al.'s (2012) “Patient Safety, Satisfaction, and Quality of Hospital Care: Cross-Sectional Surveys of Nurses and Patients in 12 Countries in Europe and the United States” " this study emphasizes how systemic issues, like communication breakdowns and hospital-acquired infections, affect patient safety, The research reveals a strong association between patient satisfaction and the perceived quality of care. It does not delve into how TQM can specifically address these issues, As My research seeks to bridge this gap by examining how TQM can be used as a tool to enhance safety within the unique constraints of Palestinian governmental hospitals (Aiken et al., 2012).

Further expanding on TQM principles, the study by Bouranta et al. (2019), titled "The Key Factors of Total Quality Management in the Service Sector: A Cross-Cultural Study", identifies universal TQM elements such as top management practices, process management, and employee involvement, These elements exceed cultural contexts and are important for improving patient safety and service quality, The research, conducted in Greece, Mexico, and Spain, identifies common key TQM factors that transcend national boundaries. This cross-cultural applicability of TQM underscores its relevance to healthcare systems worldwide, including Palestine, where its principles could significantly enhance patient care outcomes (Bouranta et al., 2019).

Lastly, a study by Yousef & Yousef (2017), ″Using Total Quality Management Approach to Improve Patient Safety by Preventing Medication Error Incidences," demonstrates the effectiveness of TQM in reducing medication errors, the study explores various strategies and interventions that can be employed within the TQM approach to prevent medication errors. The goal of their study approach is to show how TQM can be used to decrease the incidence of administered medication errors to below 1%, tried to identify the root causes of medication errors during the administration phase. Utilizing Pareto diagrams, the study revealed that 24.8% of errors occurred during the administration phase, while a significantly higher percentage of 42.8% of errors were attributed to the prescribing phase. This indicates that mistakes made during the prescribing phase, particularly due to poorly handwritten prescriptions accounting for

17.6% of errors in this phase, contribute to subsequent errors in the treatment process. The study showed a significant reduction in error rates, further confirming the potential of TQM to directly improve patient safety outcomes (Yousef & Yousef, 2017).

In conclusion, research from both Palestine as well as internationally highlights how TQM may improve patient safety, service quality, and employee engagement, therefore changing healthcare outcomes. However, due to a lack of funding, a lack of leadership, and insufficient training, Palestinian hospitals—especially those in the public sector—face unique difficulties when putting TQM into practice. International research emphasizes TQM's global applicability, but the Palestinian context emphasizes that to fully take advantage of its benefits, structural, and organizational adjustments are required, by offering a thorough framework for implementing TQM throughout Palestinian hospital systems and emphasizing improving patient safety comprehensively rather than just on isolated outcomes, my research seeks to close this gap.

2.22 Chapter Summary

This chapter provides a detailed exploration of the significance of Total Quality Management (TQM) in healthcare, covering key aspects such as its requirements, ethical considerations, integrity, teamwork, and leadership. It emphasizes the importance of TQM within the healthcare sector, including its role in improving patient safety and overall care quality. The

chapter also discusses the barriers to TQM implementation, its foundational principles and components, and the specific context of the healthcare sector in Palestine, aligning with the national health strategy. Additionally, the chapter outlines the benefits of TQM, and its application elements, and introduces a conceptual framework. Finally, it reviews previous studies on TQM and concludes with a summary of its key concepts.

Chapter 3

Research Methodology

3.1 Introduction

This chapter provides an overview of the sample size, sampling procedures, and strategies employed in the study. It also outlines the research techniques used, including a detailed description of the questionnaire design. Additionally, the chapter presents the statistical methods applied to analyze the data and obtain the study's results, ensuring a clear understanding of the research process and methodology.

3.2 Study Design

A cross-sectional quantitative research approach was employed, which aligns with the study objectives. This design involves collecting data from various departments within the Palestine Medical Complex (PMC) and Hugo Chavez Ophthalmic Hospital (HCO) at a specific point in time without any follow-up. This design also offers several advantages, including the ability to reach a large and diverse group of respondents and enable fast data collection and analysis.

3.3 Study Questionnaire

In this study, a cross-sectional quantitative research approach was applied to determine the effect of TQM on service quality to improve patient safety in the Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank. A self-administered survey questionnaire was used to collect data

from respondents. This instrument was mainly developed based on three research scales: TQM scale, SERVQUAL scale, and patient safety scale. A five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree or disagree, 4 = agree, 5 = strongly agree) was used to measure the responses to each item of each research scale.

- TQM scale: The present study has adopted the total quality management scale compiled by the previous TQM literature, (see e.g., Jun et al., 2006; Baidoun et al., 2018; Nguyen et al., 2019; Daqar & Constantinovits, 2020). The TQM scale consisted of 28 items. These items were distributed in six dimensions: Top Management Commitment (five items), Employee Involvement (four items), Patient Focus (five items), Teamwork (four items), process management (five items), and Continuous Improvement (five items). Higher scores indicated a more positive view of overall quality management.
- Perceived service quality scale: The quality of health care services was assessed using the original validated SERVQUAL scale (Parasuraman et al., 1988 Parasuraman et al., 1991). This scale was broadly adopted in the literature to assess the quality of medical services in different healthcare settings, see e.g.,

  Sharka et al., 2024; Alanazi et al., 2023; Kanan et al., 2023; A'aqoulah et. al, 2022; Chang et al., 2019 and Golshan et al, 2019. The SERVQUAL scale consisted of 23 items. These items were

distributed in five dimensions: Tangibles (four items), Reliability (four items), Responsiveness (five items), Assurance (five items), and Empathy (five items). Higher scores indicated a more positive view of overall perceived service quality.

- Patient safety scale: It consisted of seven items; this is an example: "Patient safety is a top priority of the hospital". Higher scores indicated a more positive view of patient safety. These items were adapted from Abu-El-Noor et al., (2019), Seo et al., (2022), and Ahmed et al., (2024).

The questionnaire also included work-related sociodemographic information (i.e., place of work, gender, age, job title, social status, level of education, and work experience). Moreover, the final part of the questionnaire comprised 10 barriers that potentially interfere with the effective implementation of TQM that were used in previous studies (Mohammad, 2005; Mohammad, 2013 and Ansari, 2022). The respondents were asked to rank these barriers on a scale from 1 (the most important) to 10 (the least important).

3.4 Questionnaire Assessment: Validity and Reliability

The validity of the questionnaire was assessed through content validity. A research panel consisting of six faculty members (three from the health sciences department at Arab American University, AAUP, and three from the public administration department at Birzeit University) reviewed the

questionnaire. Their feedback was used to craft the questions understandably, where small modifications were made in the wording. Details about the reviewers and their contributions are provided in Appendix (C). Moreover, Cronbach's Alpha coefficient (CBα) was used to assess the internal consistency. The values of CBα for the three research scales (TQM scale, service quality scale, and patient safety scale) and their subdomains were higher than the threshold value of 0.70. Hence, presented acceptable reliability (Hair et al., 2017; Hair et al., 2020), See Table 3.1.

Table 3.1. Reliability test (N = 106).

Study scale		No. of items	(Cronbach's alpha (CBα
TQM			
TQM	Top Management Commitment	5	0.881
EI	Employee Involvement	4	0.853
PF	Patient Focus	5	0.923
TW	Teamwork	4	0.933
PM	Processes Management	5	0.883
CI	Continuous Improvement	5	0.917

Overall scale		28	0.973
Service quality			
T	Tangibles	4	0.864
REL	Reliability	4	0.892
RES	Responsiveness	5	0.885
A	Assurance	5	0.900
E	Empathy	5	0.906
Overall scale		23	0.961
Patient safety			
PS	Overall scale	7	0.908

3.5 Study Population and Sample

The targeted population of the study comprised the administrative and medical employees in Palestinian governmental hospitals located in Ramallah (i.e., PMC and HCO). Random sampling was employed to ensure a representative sample from both hospitals; the sample size was 120 employees (81 in PMC and 39 in HCO). To determine the minimum

required sample size, the single population proportion formula was applied using the online Statdisk software. The recommended sample size was 92 based on a ± 5% margin of error and with a 95% confidence level. Accordingly, 120 questionnaires were distributed in both hospitals. However, the total number of returned and valid questionnaires was 106, which exceeded the recommended sample size.

3.6 Data Collection

Data collection for this study commenced after ethics approval was obtained from the

Education in Health and Scientific Research Unit in the Palestinian Ministry of Health. An Arabic version of the study instrument was used to collect the data for this study. The cross-sectional study was conducted in September 2024. Hospital managers were emailed with a request to participate in the study. The email included information on the study and a version of the questionnaire. After seeking agreement, the researcher contacted human resources departments in the targeted hospitals to confirm the number of administrative employees and their distribution. In this study, 120 survey questionnaires were distributed to the respondents and received 106 usable responses (response rate = 88.3%), see also Table 3.2.

Table 3.2. Respondents' response rate by their affiliation (N = 106).

Hospital		Team	Response (%) n
1	Palestine Medical Complex (PMC)	81	(87.7) 71
2	Hugo Chavez Ophthalmic Hospital (HCO)	39	(89.7) 35
Total cohort		120	(88.3) 106

3.7 Data Analysis

This study utilized partial least squares structural equation modeling (PLS-SEM) to determine the role of TQM on perceived service quality in enhancing patient safety in the targeted hospitals. PLS-SEM is a form of multivariate statistical analytical tool to simultaneously evaluate all the structural paths among the variables in a conceptual model (Hair et al., 2017; Hair et al., 2020). SmartPLS 4.1.3 software was employed to analyze the measurement model and hypothesized structural equation model, where the reliability, internal consistency, and validity of the latent constructs were established. Bootstrapping with a 5,000 replications approach was used to determine the significance of path coefficients, see e.g., Henseler et al., (2018). The rest of the analyses were performed using the Statistical

Package for Social Sciences (SPSS) software 29 editions. Categorical variables were expressed as frequencies and percentages. Numeric variables were described as means and standard deviations. For ease of interpretation, the five-point Likert scale ranges were categorized into low, moderate, and high equal classes. Accordingly, scores below 2.33 [4/3 + lowest value (1)] were low; scores from 3.67 [highest value (5) - 4/3] onwards were considered high and those between were considered moderate. Differences in the mean scores regarding the study key variables (i.e., TQM, perceived service quality, and patient safety) by participants' general characteristics were examined using an independent t-test and analysis of variance (ANOVA) with the Scheffé post-hoc test. Pearson's correlation coefficient was used to investigate linear associations between key variables. The significance level was set at 5% for all calculations. As a result, a p-value ≤ 0.05 was considered statistically significant.

3.8 Ethical Considerations

This study followed ethical standards to ensure the privacy and rights of all participants. Anonymity was maintained by not asking for names or any identifying information, so no one could know who gave which response. Confidentiality was provided by allowing each participant to complete the Questionnaire alone, without anyone else seeing their answers. Also, no one had access to other participants' responses, which protected their privacy. Informed consent was obtained from all participants after explaining the study's purpose, their right to participate voluntarily, and their ability to cancel at any time without any results. By including medical

and technical staff, and with technical staff represented through their department heads, the study captured various points of views while respecting the privacy of all involved.

3.8 Chapter Summary

This chapter summarizes the sample size, sampling procedures, and strategies used in the study. It also highlights the research techniques, provides an overview of the questionnaire design questionnaire assessment (validity and reliability), study population and sample, data collection, and data analysis method, and explains the statistical methods employed to analyze the data, leading to the study's findings.

Chapter 4

Results

4.1 Introduction

This chapter describes the conducted data analysis and displays the findings regarding the research hypotheses. It comprised seven main subsections. The first section presented descriptive results about respondents' sociodemographic characteristics. The second section provided descriptive results about the study constructs. PLS-SEM findings were illustrated in the third section. The fourth section conducted comparative tests to examine the mean difference of the latent constructs according to sociodemographic predictors. Correlation analysis among the latent constructs was presented in section five. The sixth section explored the barriers to TQM's successful implementation in the targeted hospitals. Lastly, a concise summary of the findings was provided in section seven.

4.2 Respondents Sociodemographic

A total of 106 administrative employees participated in this study. Respondents' demographic data are presented in Table 4.1. The study's findings reveal that a majority of respondents (67.0%) were affiliated with Palestine Medical Complex (PMC), likely due to its prominence as a leading healthcare institution in the region, drawing a significant portion of administrative staff. Nearly half (51.9%) of the respondents were male, reflecting possible gender distribution trends in administrative or leadership positions within the healthcare sector. The high percentage of married respondents (80.2%) could indicate a preference for stability, as

married individuals may seek long-term employment in stable environments. The predominance of individuals with a bachelor's degree (64.2%) suggests that administrative roles in healthcare require a certain level of education, aligning with the need for specialized knowledge in healthcare management. The fact that 61.3% of respondents were medical employees reflects the tendency for hospitals to employ administrative staff with medical backgrounds to ensure familiarity with healthcare processes. Nearly one-third (31.1%) being 40 years or older likely points to the need for experienced individuals in administrative roles, while the significant proportion (50.0%) with 10 years or less of work experience could suggest a blend of relatively new hires and turnover within the healthcare sector, with institutions hiring individuals who possess a baseline of experience yet also offer room for growth.

Table 4.1. Sociodemographic characteristics of the sample (N = 106).

Characteristics		(%) n
Place of work	PMC	(67.0) 71
	HCO	(33.0) 35
Gender	Male	(51.9) 55
	Female	(48.1) 51
Age, years	Less than 30	(20.8) 22
	39 – 30 49	(48.1) 51
	– 40 or	(26.4) 28
	more 50	(4.7) 5
Job title	Administrative	(24.5) 26
	Medical	(61.3) 65
	Technical	(14.2) 15
Marital status	Single	(19.8) 21
	Married	(80.2) 85
Education	Diploma	(16.0) 17
	Bachelor	(64.2) 68
	Postgraduate studies	(19.8) 21

Years of experience	or less 5 10 – 6 15 – 11 or more 16	(25.5) 27 (24.5) 26 (29.2) 31 (20.8) 22

4.3 Respondents' viewpoints regarding the study's latent constructs

4.3.1 Level of TQM implementation

The TQM scale consisted of 28 items which were distributed in six dimensions: Top Management Commitment (five items), Employee Involvement (four items), Patient Focus (five items), Teamwork (four items), Processes Management (five items), and Continuous Improvement (five items). Higher scores indicated a more positive view of overall total quality management. For ease of interpretation, the five-point Likert scale ranges were categorized into low, moderate, and high equal classes. Accordingly, scores below 2.33 [4/3 + lowest value (1)] were low; scores from 3.67 [highest value (5) - 4/3] onwards were considered high and those between were considered moderate. Table 4.2 presents descriptive statistics of the respondent's views about the TQM scale. The study's results indicate that implementing the six TQM dimensions in the targeted hospitals was moderate, with scores relatively close across all dimensions. The highest-ranking dimension was teamwork (mean = 3.49 ± 0.92), which suggests that collaboration and coordination among staff are relatively well-

established within the institutions, likely due to the recognized importance of teamwork in healthcare settings for ensuring efficient operations and quality patient care. The close second, top management commitment (mean = 3.48 ± 0.87), reflects leadership's pivotal role in driving TQM initiatives, implying that top management may be engaged in fostering quality improvement but perhaps not at an optimal level of intensity. Conversely, employee involvement had the lowest TQM practice score (mean = 3.32 ± 0.82). This may indicate a gap in effectively engaging staff at all levels in decision-making or quality improvement processes, possibly due to a lack of clear communication, training, or empowerment. The overall moderate implementation of TQM (mean = 3.41 ± 0.75) suggests that while certain aspects of TQM are recognized and practiced to some extent, there is room for improvement in fully embedding these practices across all dimensions of the hospitals' operations. This could be due to limitations in resources, staff engagement, or a lack of comprehensive, consistent strategies for implementing TQM.

Table 4.2. Respondents' level of TQM implementation (N =106).				
TQM Dimension		[a] n (%)	Mean ± SD	Level
Top management commitment				
TMC1	Quality is considered as main strategic priority by top management	69 (65.1)	1.10 ± 3.66	Moderate
TMC2	Top management and major department heads are hired and promoted based on quality Performance	57 (53.8)	1.12 ± 3.42	Moderate
TMC3	Top management and department managers are evaluated based on quality standard outputs	60 (56.6)	0.99 ± 3.46	Moderate
TMC4	Management is interested in hiring high qualified employees	55 (51.9)	1.04 ± 3.39	Moderate
TMC5	Top management is committed to obtain quality training	55 (51.9)	1.05 ± 3.45	Moderate

Overall score		-	0.87 ± 3.48	Moderate
Employee involvement				
EI1	Employees are encouraged to participate in decision-making related to the quality process	48 (45.3)	0.96 ± 3.19	Moderate
EI2	Employees often work in teams consisting of members from different departments	56 (52.8)	0.95 ± 3.41	Moderate
EI3	Employees are strongly committed to the success of their hospital	58 (54.7)	1.01 ± 3.46	Moderate
EI4	Employees are involved in quality improvement meetings and their suggestions are taken into Consideration	46 (43.4)	1.04 ± 3.21	Moderate
Overall score		-	0.82 ± 3.32	Moderate
Patient focus				

PF1	The hospital management cares about understanding patients' needs and expectations	56 (52.8)	1.03 ± 3.37	Moderate
PF2	The hospital management uses patients' needs and expectations to guide quality	53 (50.0)	1.04 ± 3.34	Moderate
PF3	The hospital makes quick responses to patients' inquiries	46 (43.4)	0.98 ± 3.23	Moderate
PF4	The hospital processes are designed/improved based on patients' needs	53 (50.0)	0.89 ± 3.46	Moderate
PF5	The hospital finds new service delivery ways that keep patients Satisfied	54 (50.9)	1.02 ± 3.35	Moderate
Overall score		-	0.87 ± 3.35	Moderate
Teamwork				
TW1	Employees work closely as a team to coordinate work and enhance Quality	61 (57.5)	1.05 ± 3.54	Moderate

TW2	Management supports teamwork instead of individual work	64 (60.4)	1.03 ± 3.39	Moderate
TW3	Problems between team members are solved in constructive ways that promote collaboration	52 (49.1)	0.99 ± 3.48	Moderate
TW4	Team members are encouraged to share ideas and suggestions to enhance performance	55 (51.9)	1.00 ± 3.15	Moderate
Overall score		-	0.92 ± 3.49	Moderate
Process management				
PM1	The hospital has a system for cost analysis in all internal processes	42 (39.6)	1.00 ± 3.15	Moderate
PM2	The hospital has a monitoring tool for wasted time in all internal Processes	45 (42.5)	0.91 ± 3.28	Moderate
PM3	All hospital processes were designed/developed to meet the quality standards	56 (52.8)	0.91 ± 3.44	Moderate
PM4	Processes are improved based on patient feedback and internal Reviews	52 (49.1)	0.90 ± 3.40	Moderate

PM5	All standard work procedures for internal processes are documented	60 (56.6)	0.91 ± 3.47	Moderate
Overall score		-	0.76 ± 3.35	Moderate
Continuous improvements				
CI1	Top management supports long-term quality improvement Processes	61 (57.5)	0.97 ± 3.55	Moderate
CI2	Top management offers essential resources for continuous Improvements	56 (52.8)	1.00 ± 3.38	Moderate
CI3	Continuous improvements of processes are handled by teamwork	58 (54.7)	0.98 ± 3.43	Moderate
CI4	Employees are encouraged to experience new approaches for continuous improvements	56 (52.8)	1.01 ± 3.39	Moderate
CI5	Clear work policies exist to assist employees in improving processes Continuously	62 (58.5)	0.98 ± 3.52	Moderate
Overall score		-	0.85 ± 3.45	Moderate

Overall TQM scale	-	0.75 ± 3.41	Moderate

[a] Frequencies and percentages are based on the total number of 106 respondents who agreed or strongly agreed with each statement.

4.3.2 Level of Perceived Service Quality

The quality of healthcare services was assessed using the SERVQUAL scale. This scale consisted of 23 items. These items were distributed in five dimensions: Tangibles (four items), Reliability (four items), Responsiveness (five items), Assurance (five items), and Empathy (five items). Higher scores indicated a more positive view of overall perceived service quality. Table 4.3 illustrates a descriptive summary of the respondent's views about the perceived service quality scale.

The study's results revealed that the perceived service quality across all five dimensions was moderate, indicating that while there is a general acknowledgment of service quality, there is still room for improvement. Empathy emerged as the most critical dimension (mean = 3.47 ± 0.84), suggesting that healthcare providers are seen as relatively effective in understanding and addressing patients' emotional and psychological needs, a key factor in improving patient satisfaction. The tangible dimension, with a mean score of 3.48 ± 0.93, indicates that the physical environment and the appearance of facilities, equipment, and staff are also relatively well-regarded, though not at the highest level of service quality. Interestingly, assurance was ranked the highest (mean = 3.61 ± 0.76), reflecting that

patients feel confident in the abilities of healthcare providers and the safety of the services offered, which is crucial for building trust in healthcare institutions. The overall moderate level of perceived service quality across the dimensions could stem from inconsistent service delivery, the variability of patient experiences, or gaps in training and infrastructure. Finally, the fact that only five of the 23 items were highly ranked suggests that certain aspects of service quality are perceived as being of higher priority or better executed, which could be attributed to focused efforts on specific areas or the presence of more consistent quality in those elements.

- A2: Medical information is kept carefully (mean = 3.79 ± 0.99),
- RES5: Urgent requests are prioritized (mean = 3.74 ± 0.87),
- T3: Staff have neat appearances (mean = 3.73 ± 0.83), ● REL4: Maintain accurate records (mean = 3.70 ± 0.84), ● A3: Staff are polite (mean = 3.70 ± 0.83).

Overall, it can be concluded that the level of perceived service quality was moderate from the participants' viewpoints in the targeted hospitals (mean = 3.51 ± 0.70).

Table 4.3. Respondents' level of perceived service quality using the SERVQUAL scale (N =106).

Perceived service quality dimension		[a] n (%)	Mean ± SD	Level
Tangibles				
T1	Modern-looking equipment	(54.7) 58	1.11 ± 3.43	Moderate
T2	Appealing physical facilities	(48.1) 51	1.26 ± 3.27	Moderate
T3	Staff have neat appearances	(65.1) 69	0.83 ± 3.73	High
T4	High standards of hygiene and cleanliness	(61.3) 65	1.13 ± 3.49	Moderate
Overall score		-	0.93 ± 3.48	Moderate
Reliability				
REL1	Staff keeps promises	(36.8) 39	1.01 ± 3.18	Moderate

REL2	Staff solves problems	(55.7) 59	0.97 ± 3.55	Moderate
REL3	Accurate and reliable medical diagnosis	(57.5) 61	0.84 ± 3.58	Moderate
REL4	Maintain accurate records	(61.3) 65	0.84 ± 3.70	High
Overall score		-	0.79 ± 3.50	Moderate
Responsiveness				
RES1	Promptly inform patients	(49.1) 52	0.99 ± 3.37	Moderate
RES2	Staff provide prompt service	(48.1) 51	1.06 ± 3.28	Moderate
RES3	Staff are always willing to help	(60.4) 64	0.85 ± 3.57	Moderate
RES4	Staff readily respond to patients' requests	(56.6) 60	0.85 ± 3.56	Moderate
RES5	Urgent requests are prioritized	(67.0) 71	0.87 ± 3.74	High

Overall score	-	0.76 ± 3.50	Moderate
Assurance			

A1	Patients feel confident in the staff competence	(52.8) 56	0.88 ± 3.46	Moderate
A2	Medical information is kept carefully	(67.9) 72	0.99 ± 3.79	High
A3	Staff are polite	(62.3) 66	0.83 ± 3.70	High
A4	Staff are professional and knowledgeable	(55.7) 59	0.89 ± 3.52	Moderate
A5	Staff fully support patients in understanding treatment choices	(54.7) 58	0.88 ± 3.56	Moderate
Overall score		-	0.76 ± 3.61	Moderate
Empathy				

E1	Staff give personal service	(48.1) 51	0.99 ± 3.28	Moderate
E2	Convenient operating hours	(48.1) 51	0.94 ± 3.38	Moderate
E3	Staff recognize patients' special needs	(50.0) 53	0.96 ± 3.40	Moderate
E4	Staff have patients' best interests at heart	(60.4) 64	0.87 ± 3.62	Moderate
E5	Services are delivered equally	(63.2) 67	1.17 ± 3.66	Moderate
Overall score		-	0.84 ± 3.47	Moderate
Overall score		-	0.70 ± 3.51	Moderate

a
Frequencies and percentages are based on the total number of 106 respondents who agreed or strongly agreed with each statement.

4.3.3 Respondents' view regarding patient safety

The Patient safety scale comprised seven items, where higher scores indicated a more positive view of patient safety. Table 4.4 provided a descriptive summary of the respondents' views of the patient safety scale. Only the item "Patient safety is a top priority of the hospital" (PS1) had a high ranking among respondents (mean = 3.73 ± 0.96), where nearly two-thirds (64.2%) agreed or strongly agreed on this item. However, the other items (PS2 to PS7) had moderate ranks. Generally, it can be concluded that the level of patient safety was moderate from the participants' viewpoints in the targeted hospitals (mean = 3.53 ± 0.77).

Table 4.4. Respondents' level of agreement regarding patient safety scale (N =106).

Item		[a] n (%)	Mean ± SD	Level
PS1	Patient safety is a top priority of the hospital	68 (64.2)	0.96 ± 3.73	High
PS2	Patients are involved in treatment decision-making	52 (49.1)	0.98 ± 3.42	Moderate
PS3	Patient's family members take part in treatment decision-making	52 (49.1)	0.87 ± 3.45	Moderate

PS4	Patient care takes place according to a set of clinical practices that are based on evidence and guidelines during therapeutic and surgical interventions	61 (57.5)	1.02 ± 3.64	Moderate
PS5	The hospital offers a safe environment for patients (design, environmental risk management, people with special (needs, etc	58 (54.7)	0.93 ± 3.52	Moderate
PS6	The hospital management offers several programs to ensure continuous education/training for the staff to enhance patient safety	55 (51.9)	0.95 ± 3.41	Moderate
PS7	The hospital has effective mechanisms for reporting accidents and risks related to patient safety	63 (59.4)	1.01 ± 3.57	Moderate
Overall scale		-	0.77 ± 3.53	Moderate

[A] Frequencies and percentages are based on the total number of 106 respondents who agreed or strongly agreed with each statement.

4.4 Partial least squares structural equation modeling (PLS-SEM)

In this section, partial least squares structural equation modeling (PLS-SEM) was employed to examine the role of the implementation of TQM methodology in enhancing patient safety and also to explore whether the service quality mediates this relationship. The PLS-SEM is a predictive approach that enables estimating complex models with many constructs, indicators, and structural paths. This approach was adopted by Daqar & Constantinovits, (2020) to explore the role of TQM in enhancing the service quality of the private healthcare sector in the Northern Area of West Bank Palestine. Similarly, Zaid et al., (2020) also followed a similar approach to investigate the linkage between TQM, perceived service quality, as well as their impact on patient satisfaction and behavior intentions among Palestinian healthcare organizations.

4.5 Assessment of the measurement model

The measurement model was evaluated before the hypothesized structural model was analyzed. Various reliability, internal consistency, and validity tests were used to check the measurement quality of the research constructs, see e.g., Hair et al., (2017) and Hair et al., (2020).

- Internal consistency and reliability of the constructs were checked by conducting the most widely used tests of instrument reliability: Cronbach's alpha (CBα), composite reliability (CR), and rho_A.
- Construct and convergent validity were evaluated based on outer loadings and average variance extracted (AVE) values.

- Discriminant validity was ensured by performing three different tests: The Fornell-Larcker criterion, cross-loadings, and Heterotrait-Monotrait Ratio (HTMT).
- Lastly, the possibility of collinearity issues of the three constructs was checked by the variance inflation factor (VIF).

The four findings were summarized in Tables 4.5 – 4.7.

- The observed values of CBα, CR, and rho_A for all three constructs exceeded the threshold value of 0.70, indicating that all research variables had good reliability and internal consistency, see Table 4.5.
- Both outer loadings and AVE observed values were above the threshold values of 0.7 and 0.5 respectively, which met the requirements for construct and convergent validity, see Table 4.5.
- The values of the observed cross-loadings showed that each measurement item correlated weaker with another construct except for the ones to which it was theoretically associated, see Table 4.6. The values from the Fornell-Larcker criterion test also showed that the square root of the AVE of the construct was higher than its correlation with other constructs in the study. Furthermore, the values from the Heterotrait-Monotrait Ratio test were less than the cut-off value of 0.85, see Table 4.7. Accordingly, the discriminant validity of the measurement model was acceptable.

- The observed values of VIF of all three constructs were less than the cut-off value of 3.3, see Table 5.5. As a result, no collinearity issue was found.

Table 4.5. Construct validity, reliability, and collinearity of the measurement model (N = 106).

Variable	Item	Reliability and internal consistency			Construct and convergent validity		Collinearity
		CBα	CR	rho_A	Outer loading	AVE	VIF
Total quality management		0.973	0.974	0.974	-	0.577	-
Top management commitment	TMC1	0.881	0.913	0.884	0.808	0.678	2.534
	TMC2				0.862		3.293
	TMC3				0.839		2.696
	TMC4				0.793		2.141
	TMC5				0.811		2.205

Employee involvement	EI1	0.853	0.901	0.853	0.853	0.695	2.135
	EI2				0.827		1.949
	EI3				0.842		1.999
	EI4				0.812		1.765
Patient focus	PF1	0.923	0.942	0.924	0.881	0.766	2.633
	PF2				0.885		2.864
	PF3				0.868		2.768
	PF4				0.888		3.039
	PF5				0.854		2.590
Teamwork	TW1	0.933	0.952	0.933	0.897	0.832	3.112
	TW2				0.915		3.015
	TW3				0.910		2.505
	TW4				0.926		2.003
Process Management	PM1	0.883	0.915	0.886	0.801	0.683	1.901
	PM2				0.789		2.799
	PM3				0.896		3.105
	PM4				0.836		2.259

	PM5				0.804		2.036
Continuous improvements	CI1	0.917	0.938	0.918	0.835	0.752	2.352
	CI2				0.864		2.742
	CI3				0.898		2.565
	CI4				0.889		3.266
	CI5				0.847		2.189
Perceived service quality		0.961	0.964	0.962	-	0.542	
Tangibles	T1	0.864	0.909	0.876	0.871	0.717	2.673
	T2				0.876		2.336
	T3				0.706		1.759
	T4				0.917		2.694
Reliability	REL1	0.892	0.925	0.894	0.837	0.755	2.170
	REL2				0.885		2.668
	REL3				0.888		2.829
	REL4				0.866		2.489

Responsiveness		0.885	0.916	0.887		0.686	
	RES1				0.759		1.784
	RES2				0.865		2.578
	RES3				0.879		2.781
	RES4				0.827		2.246
	RES5				0.806		1.986
Assurance		0.900	0.926	0.902		0.716	
	A1				0.847		2.413
	A2				0.801		2.121
	A3				0.826		2.341
	A4				0.876		2.383
	A5				0.877		2.858
Empathy		0.906	0.931	0.907		0.729	
	E1				0.833		2.189
	E2				0.906		2.947
	E3				0.910		2.655
	E4				0.807		1.976
	E5				0.809		2.828
Patient safety							

		0.908	0.927	0.910		0.646	
	PS1				0.790		2.036
	PS2				0.810		2.779
	PS3				0.814		2.915
	PS4				0.832		2.591
	PS5				0.732		1.959
	PS6				0.857		3.175
	PS7				0.785		2.221

Table 4.6. Cross loadings of the constructs (N = 106).

Variable	Item	Total quality management						Service quality					Patient safety
		TMC	EI	PF	TW	PM	CI	T	REL	RES	A	E	PS
Total quality management													

TMC	TMC1	0.808	0.509	0.443	0.471	0.475	0.510	0.352	0.556	0.451	0.454	0.378	0.490
	TMC2	0.862	0.596	0.543	0.536	0.575	0.598	0.441	0.517	0.386	0.432	0.457	0.500
	TMC3	0.839	0.527	0.465	0.497	0.558	0.574	0.353	0.515	0.374	0.451	0.473	0.488
	TMC4	0.793	0.640	0.632	0.516	0.630	0.623	0.410	0.539	0.416	0.416	0.484	0.526
	TMC5	0.811	0.646	0.701	0.555	0.701	0.707	0.535	0.607	0.514	0.509	0.551	0.643
EI	EI1							0.399			0.365	0.435	0.547
	EI2	0.531	0.853	0.637	0.508	0.646	0.655	0.427	0.578	0.445	0.448	0.444	0.521
	EI3	0.581	0.827	0.591	0.512	0.634	0.621	0.520	0.545	0.457	0.503	0.533	0.593
	EI4	0.664	0.842	0.617	0.582	0.630	0.622	0.485	0.618	0.555	0.430	0.426	0.539
		0.606	0.812	0.588	0.678	0.659	0.639		0.539	0.552			
PF	PF1	0.584	0.614	0.881	0.510	0.674	0.634	0.480	0.669	0.585	0.573	0.591	0.610
	PF2	0.610	0.655	0.885	0.520	0.682	0.628	0.460	0.615	0.616	0.572	0.608	0.590
	PF3							0.511			0.583	0.649	0.689
	PF4							0.559			0.597	0.627	0.666

	PF5	0.557 0.619 0.632	0.666 0.639 0.621	0.868 0.888 0.854	0.592 0.692 0.679	0.706 0.760 0.724	0.620 0.697 0.733	0.599	0.617 0.625 0.628	0.679 0.619 0.610	0.578	0.571	0.671
TW	TW1 TW2 TW3 TW4	0.568 0.556 0.589 0.582	0.638 0.591 0.614 0.658	0.620 0.640 0.596 0.651	0.897 0.915 0.910 0.926	0.704 0.721 0.740 0.766	0.664 0.701 0.757 0.782	0.556 0.552 0.568 0.547	0.566 0.551 0.603 0.569	0.556 0.551 0.515 0.594	0.545 0.543 0.548 0.559	0.576 0.505 0.568 0.569	0.596 0.584 0.577 0.616
PM	PM1 PM2 PM3 PM4 PM5	0.610 0.572 0.651 0.531 0.619	0.605 0.623 0.694 0.627 0.633	0.634 0.646 0.740 0.662 0.666	0.681 0.628 0.736 0.628 0.641	0.801 0.789 0.896 0.836 0.804	0.665 0.650 0.819 0.726 0.724	0.601 0.526 0.567 0.467 0.511	0.667 0.563 0.684 0.626 0.586	0.521 0.450 0.599 0.575 0.540	0.592 0.474 0.600 0.590 0.497	0.604 0.540 0.592 0.674 0.523	0.651 0.556 0.717 0.687 0.563

CI	CI1	0.658	0.644	0.630	0.606	0.712	0.835	0.506	0.651	0.628	0.600	0.592	0.653
	CI2	0.590	0.621	0.638	0.637	0.749	0.864	0.529	0.623	0.490	0.536	0.621	0.626
	CI3							0.523			0.561	0.610	0.683
	CI4							0.557			0.578	0.609	0.642
	CI5	0.616	0.681	0.646	0.703	0.758	0.898	0.604	0.680	0.552	0.586	0.536	0.665
		0.669	0.686	0.692	0.755	0.802	0.889		0.678	0.518			
		0.670	0.665	0.681	0.744	0.748	0.847		0.650	0.520			
Perceived service quality													
T	T1							0.871			0.641	0.491	0.566
	T2	0.447	0.474	0.497	0.581	0.570	0.544	0.876	0.589	0.509	0.535	0.452	0.499
	T3	0.396	0.458	0.541	0.506	0.539	0.494	0.706	0.486	0.521	0.496	0.501	0.486
	T4	0.444	0.397	0.418	0.414	0.465	0.483	0.917	0.449	0.369	0.590	0.563	0.606
		0.461	0.526	0.561	0.547	0.604	0.597		0.583	0.519			

REL	REL1	0.530	0.531	0.557	0.491	0.585	0.560	0.534	0.837	0.603	0.611	0.501	0.577
	REL2	0.592	0.638	0.707	0.579	0.685	0.704	0.528	0.885	0.709	0.707	0.611	0.670
	REL3	0.568	0.612	0.613	0.588	0.686	0.688	0.599	0.888	0.628	0.723	0.592	0.679
	REL4	0.628	0.592	0.623	0.519	0.673	0.674	0.515	0.866	0.600	0.664	0.602	0.663
RES	RES1	0.377	0.431	0.474	0.448	0.505	0.508	0.490	0.563	0.759	0.568	0.514	0.576
	RES2	0.465	0.583	0.677	0.611	0.640	0.590	0.590	0.612	0.865	0.604	0.552	0.622
	RES3	0.492	0.532	0.608	0.534	0.546	0.546	0.455	0.660	0.879	0.640	0.558	0.641
								0.320			0.580	0.576	0.548

	RES4	0.375	0.455	0.545	0.444	0.454	0.429	0.497	0.551	0.827	0.643	0.526	0.606
	RES5	0.447	0.489	0.626	0.469	0.543	0.502		0.637	0.806			

A	A1							0.611			0.847	0.659	0.619
	A2	0.467	0.476	0.623	0.510	0.577	0.553	0.519	0.680	0.633	0.801	0.673	0.680
	A3	0.407	0.377	0.548	0.510	0.597	0.593	0.583	0.631	0.594	0.826	0.632	0.601
	A4	0.469	0.415	0.577	0.495	0.533	0.493	0.574	0.632	0.624	0.876	0.732	0.600
	A5	0.540	0.507	0.543	0.534	0.567	0.589	0.552	0.701	0.627	0.877	0.758	0.648
		0.445	0.438	0.519	0.496	0.551	0.565		0.652	0.626			
E	E1							0.527			0.689	0.833	0.680
	E2	0.554	0.506	0.661	0.657	0.684	0.646	0.468	0.651	0.614	0.683	0.906	0.635
	E3	0.470	0.471	0.542	0.461	0.573	0.557	0.485	0.531	0.548	0.690	0.910	0.645
	E4	0.470	0.483	0.556	0.481	0.580	0.559	0.495	0.528	0.561	0.734	0.807	0.577
	E5	0.403	0.416	0.593	0.459	0.523	0.515	0.552	0.560	0.587	0.690	0.809	0.646
		0.557	0.478	0.615	0.529	0.664	0.640		0.561	0.490			
Patient safety													

PS	PS1							0.433			0.615	0.644	0.790
	PS2	0.568	0.601	0.725	0.518	0.671	0.678	0.408	0.630	0.689	0.579	0.636	0.810
	PS3	0.431	0.416	0.581	0.474	0.564	0.561	0.416	0.541	0.521	0.530	0.576	0.814
	PS4	0.426	0.434	0.523	0.454	0.534	0.498	0.535	0.564	0.566	0.609	0.615	0.832
	PS5	0.462	0.455	0.568	0.557	0.620	0.569	0.635	0.573	0.563	0.615	0.544	0.732
	PS6	0.546	0.540	0.457	0.522	0.577	0.566	0.620	0.627	0.503	0.614	0.596	0.857
	PS7	0.647	0.674	0.660	0.600	0.733	0.719	0.528	0.635	0.590	0.606	0.585	0.785
		0.539	0.555	0.613	0.518	0.605	0.619		0.615	0.621			

Gray shaded areas represent the outer loadings.

Table 4.7. Discriminant validity results (N = 106).

Fornell-Larcker criterion of the variables.

Variable	Total quality management	Perceived service quality	Patient safety
Total quality management	0.760	–	–

Perceived service quality	0.685	0.736	_
Patient safety	0.728	0.694	0.804
Results of Heterotrait-Monotrait Ratio (HTMT).			
Variable	Total quality management	Perceived service quality	Patient safety
Total quality management	_	_	_
Perceived service quality	0.802	_	_
Patient safety	0.841	0.809	_
Shaded values represent the square roots of the AVE of the constructs.			

4.6 Structural model and hypothesis testing

In this section, PLS-SEM approach was used to test the research hypotheses, where bootstrapping with 5,000 replications approach was used to determine the significance of path coefficients, see e.g., Henseler et al., (2018). The PLS-SEM tests' results are illustrated in Table 4.8. Furthermore, Figures 4.1 and 4.2 graphically depicted the outer loadings, path coefficients (βs), statistical significance (p-values) of the individual predictors, and the coefficient of determination (R^2) values of all three latent constructs of the model. The PLS-SEM analysis revealed that:

- TQM had a strong positive and significant impact on the perceived service quality ($\beta = 0.826$, and p-value < 0.001).
- TQM had a direct significant effect on patient safety ($\beta = 0.343$, and p-value $= 0.001$).
- Perceived service quality had a strong significant relationship with patient safety ($\beta = 0.550$, and p-value < 0.001).
- The TQM had an indirect influence on patient safety through the mediating effect of the perceived service quality ($\beta = 0.454$, and p-value < 0.001).

Thus, it was concluded that research hypotheses 1, 2, 3, and 4 (H1, H2, H3, and H4) were supported at the 5% significance level.

Table 4.8. Output of PLS-SEM: Results of path coefficients (N = 106).

Hypothesized paths		β	SD	t-stats	p-value	Remarks
H1	Total quality management → Perceived service quality	0.826	0.031	26.414	* 0.001 >	Supported
H2	Total quality management → Patient safety	0.343	0.106	3.251	* 0.001	Supported
H3	Perceived service quality → Patient safety	0.550	0.097	5.682	* 0.001 >	Supported
Specific indirect effects		β	SD	t-stats	p-value	Remarks
H4	Total quality management → Perceived service quality → Patient Safety	0.454	0.085	5.339	* 0.001 >	Supported

*The relationship was significant (i.e., p-value ≤ 0.05).

Finally, the PLS-SEM findings also indicated that the path coefficients were compatible with the data of the study, see Table 4.9. The bootstrapping values of the predictive relevance using Stone–Geisser's Q^2 for the two endogenous constructs (i.e., perceived service quality and patient safety) were greater than 0 indicating that the predictive relevance was established. The results also revealed that 68.2% of the total variation in patient safety was explained by TQM. Moreover, TQM and perceived service quality explained 73.2% of the total variation in patient safety.

Table 4.9. Output of PLS-SEM: Coefficient of determination (R^2) and predictive relevance (N = 106).

Predictor	R_2	Adjusted R_2	Predictive relevance Q^2
Perceived service quality	0.682	0.678	0.668
Patient safety	0.732	0.727	0.626

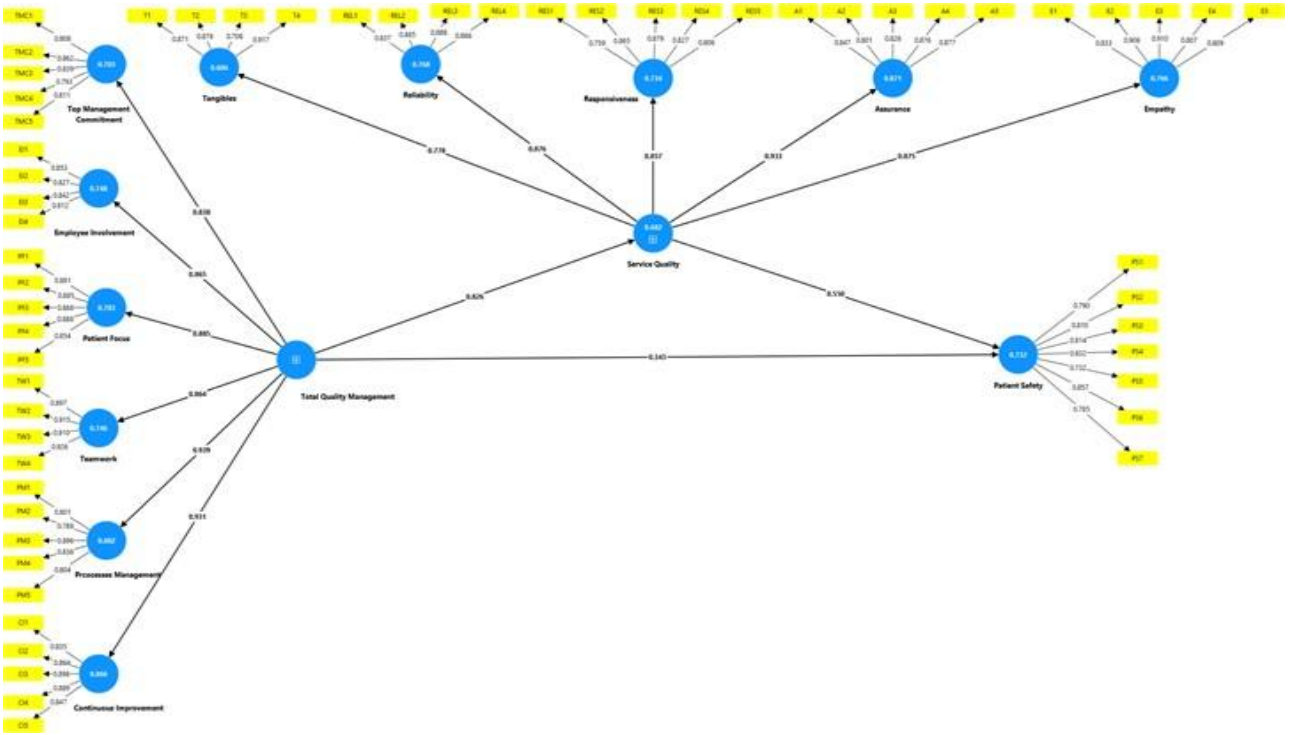

Figure 4.1. Output of PLS-SEM (N = 106).

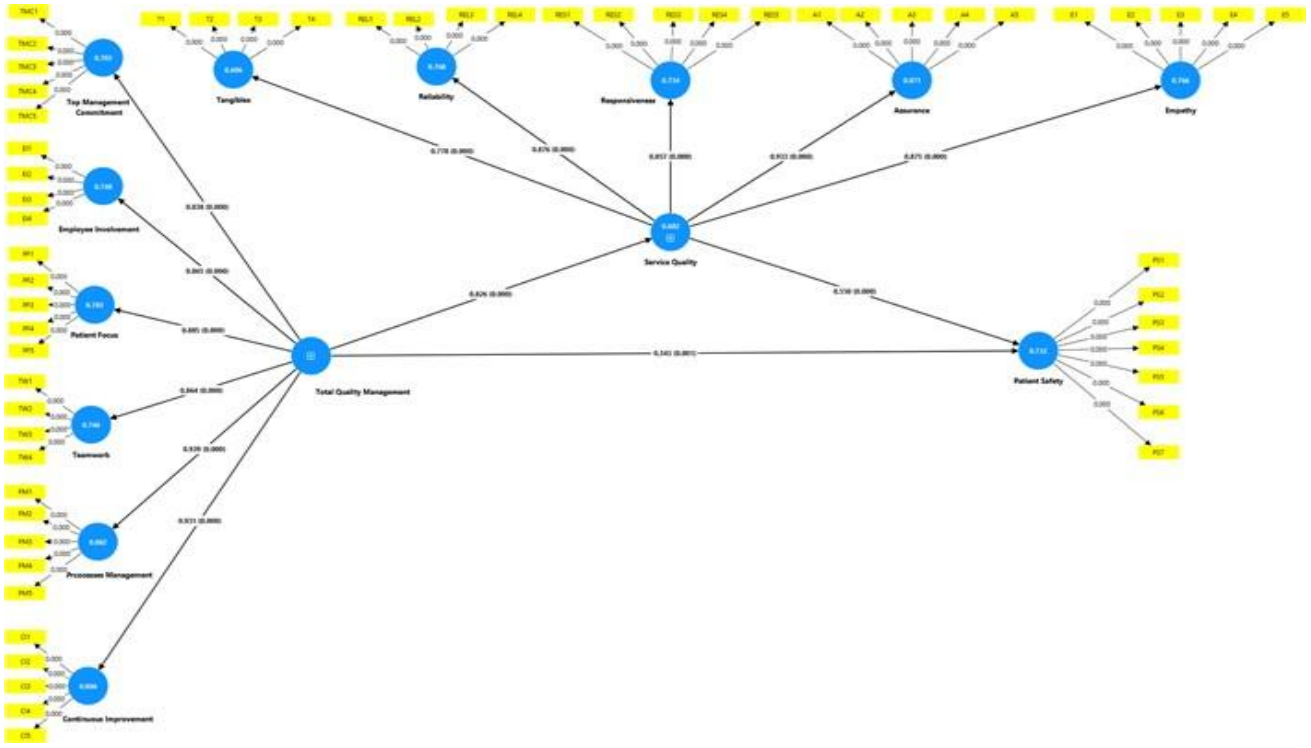

Figure 4.2. Output of PLS-SEM (N = 106).

4.7 Comparative analysis of the study constructs based on sociodemographic characteristics

This section presents findings on the differences in the mean viewpoints (i.e., agreement) scores of the study latent constructs (i.e., implementation of TQM, perceived service quality, and patient safety) according to sociodemographic characteristics.

4.7.1 Implementation of TQM and sociodemographic characteristics

The differences in the mean scores regarding the implementation of TQM methodology according to sociodemographic characteristics are shown in

Table 4.10. It was observed that HCO participants had significantly higher scores than their counterparts in PMC (p-value < 0.001). Furthermore, women had considerably higher scores than men (p-value = 0.033). On the other hand, no significant relationship was found between the extent of implementing TQM and sociodemographic variables (i.e., age, job title, social status, level of education, and work experience).

Table 4.10. Relationship between respondents' viewpoints regarding the implementation of TQM and sociodemographic characteristics (N =106).

Characteristics		Mean ± SD	P-value (t or F)
Place of work	PMC	0.71 ± 3.11	* 0.001 >
	HCO	0.37 ± 4.01	
Gender	Male	0.86 ± 3.25	* 0.033
	Female	0.57 ± 3.56	

Age, years	Less than 30 39 – 30 or more 40	0.60 ± 3.43 0.74 ± 3.34 0.86 ± 3.49	0.674
Job title	Administrative Medical Technical	0.78 ± 3.32 0.66 ± 3.35 0.98 ± 3.79	0.091
Marital status	Single Married	0.50 ± 3.37 0.80 ± 3.41	0.758
Education	Diploma Bachelor Postgraduate studies	0.61 ± 3.57 0.75 ± 3.35 0.85 ± 3.46	0.556
Years of experience	or less 5 10 – 6 15 – 11 or more 16	0.66 ± 3.63 0.68 ± 3.21 0.75 ± 3.26 0.86 ± 3.57	0.087

*The difference was significant (i.e., p-value ≤ 0.05).

4.7.2 Perceived Service Quality and Sociodemographic Characteristics

Table 4.11 illustrates the differences in the mean scores regarding the perceived service quality according to sociodemographic characteristics. It was observed that HCO participants had significantly higher scores than their counterparts in PMC (p-value < 0.001). Furthermore, technical participants had considerably higher scores than administrative and medical participants (p-value = 0.015). On the other hand, no significant relationship was found between the extent of implementing TQM and sociodemographic variables (i.e., gender, age, social status, level of education, and work experience).

Table 4.11. Relationship between respondents' viewpoints regarding the perceived service quality and sociodemographic characteristics (N = 106).

Characteristics		Mean ± SD	P-value (t or F)	Scheffé Test
Place of work	PMC HCO	0.62 ± 3.21 0.39 ± 4.13	* 0.001 >	
Gender	Male Female	0.82 ± 3.44 0.92 ± 3.60	0.235	

Age, years	Less than 30 39 – 30 or more 40	0.64 ± 3.45 0.71 ± 3.50 0.74 ± 3.57	0.825	
Job title	Administrative [a] Medical [b] Technical [c]	0.65 ± 3.34 0.69 ± 3.47 0.70 ± 3.98	[*] 0.015	a & b < c
Marital status	Single Married	0.45 ± 3.44 0.75 ± 3.53	0.497	
Education	Diploma Bachelor Postgraduate studies	0.65 ± 3.63 0.71 ± 3.47 0.73 ± 3.55	0.693	
Years of experience	or less 5 10 – 6 15 – 11 or more 16	0.67 ± 3.79 0.73 ± 3.26 0.58 ± 3.48 0.78 ± 3.52	0.053	
.(The difference was significant (i.e., p-value ≤ 0.05[*]				

4.7.3 Patient Safety and sociodemographic characteristics

The differences in the mean scores regarding patient safety according to sociodemographic characteristics are shown in Table 4.12. It was observed that HCO participants had significantly higher scores than their counterparts in PMC (p-value < 0.001). Moreover, technical participants had considerably higher scores than their counterparts in administrative and medical jobs (p-value = 0.028). On the other hand, no significant relationship was found between the extent of implementing TQM and sociodemographic variables (i.e., gender, age, social status, level of education, and work experience).

Table 4.12. Relationship between respondents' viewpoints regarding patient safety and sociodemographic characteristics (N = 106).

Characteristics		Mean ± SD	P-value (t or F)	Scheffé Test
Place of work	PMC	0.74 ± 3.25	* 0.001 >	
	HCO	0.44 ± 4.11		

Gender	Male Female	0.92 ± 3.45 0.57 ± 3.62	0.276	
Age, years	Less than 30 39 – 30 or more 40	0.73 ± 3.40 0.72 ± 3.60 0.87 ± 3.52	0.604	
Job title	Administrative [a] Medical [b] Technical [c]	0.77 ± 3.26 0.74 ± 3.55 0.80 ± 3.92	[*] 0.028	a & b < c
Marital status	Single Married	0.53 ± 3.48 0.82 ± 3.54	0.677	
Education	Diploma Bachelor Postgraduate studies	0.74 ± 3.75 0.76 ± 3.46 0.83 ± 3.60	0.351	
Years of experience	or less 5 10 – 6 15 – 11 or more 16	0.64 ± 3.71 0.74 ± 3.30 0.75 ± 3.51 0.95 ± 3.62	0.236	
.(The difference was significant (i.e., p-value ≤ 0.05[*]				

4.8 Correlations among the study's latent variables

Table 4.13 presented the bivariate correlation matrix between the mean agreement scores of the study variables (implementation of TQM, perceived quality service, and patient safety). It was observed that all the bivariate linear associations were significant.

Table 4.13. Pearson's correlation coefficient (p-value) (N = 106).

Variables	Total quality management	Perceived service quality	Patient safety
Total quality management	—	—	—
Perceived service quality	(0.001 >) *0.825		
Patient safety	(0.001 >) *0.790	(0.001 >) *0.831	

.Linear association was significant at 5% level of significant *

4.9 TQM implementation barriers

This section provided insights into how the participants rated the relative influences of the various barriers they faced when implementing total quality management methodology. Participants ranked the importance of the most frequent ten TQM implementation barriers on a scale from 1 (the most important) to 10 (the least important), see Table 4.14. The most important barrier identified was “Work stress” (mean = 3.31), indicating that high levels of workload and pressure are significantly impacting staff's ability to effectively implement TQM. This suggests that excessive demands and time constraints are limiting participation in quality improvement initiatives. The second most important barrier was “Inadequate resources” (mean = 4.51), highlighting the lack of sufficient funds, personnel, or materials needed to support TQM practices. On the other hand, the least important barriers were “Lack of modern technology” (mean = 6.60) and “Lack of consistent top management support” (mean = 6.35), implying that while these factors exist, they are perceived as less critical compared to work stress and resource limitations.

Table 4.14. Barriers to successful implementation of TQM (N = 106).

Barrier		Mean[a]	Ranking[b]
1	Insufficient education and training	5.15	3
2	Lack of strategic planning	5.35	4
3	Lack of quality-oriented culture	5.74	6
4	Poor leadership and management	5.71	5
5	Lack of robust monitoring and evaluation systems	6.01	7
6	Inadequate resources	4.51	2
7	Work stress	3.31	1
8	Lack of modern technology	6.60	10
9	Lack of consistent top management support	6.35	9
10	Poor communication	6.19	8

[a] Mean rank of the items is based on the total number of 106 respondents.
[b] Ranking of the means from 1 (the most important) to 10 (the least important).

4.10 Summary of the results

In this study, a reflective research PLS-SEM model with four hypotheses was developed to determine the effect of TQM on the perceived service quality in enhancing patient safety in PMC and HCO Hospitals in the West Bank, Palestine. Our findings revealed that TQM had a significant influence on the perceived service quality ($\beta = 0.826$, and p-value < 0.001) as well as on patient safety ($\beta = 0.343$, and p-value $= 0.001$). The perceived service quality also significantly influenced patient safety ($\beta = 0.550$, and p-value < 0.001). The perceived service quality partially mediated the link between TQM and patient safety ($\beta = 0.454$, and p-value < 0.001). The present research findings provide a guideline for the practitioners of healthcare organizations to adopt the TQM approach to ensure healthcare service quality towards enhancing patient safety.

The findings also showed that participants moderately ranked the three study constructs in the targeted hospitals. In ascending order, the TQM was moderately implemented (mean = 3.41 ± 0.75), the level of perceived service quality was moderate (mean = 3.51 ± 0.70), and the level of patient safety was also moderate (mean = 3.53 ± 0.77). Teamwork was the most implemented principle of TQM (mean = 3.49 ± 0.92), and employee involvement was the least implemented (mean = 3.32 ± 0.82). Empathy and tangibles were the most critical factors of perceived service quality with the lowest mean scores (mean = 3.47 ± 0.84 and mean = 3.48 ± 0.93, respectively), see Figures 4.3 and 4.4.

Furthermore, the analysis revealed significant differences in the mean scores of the study constructs based on sociodemographic characteristics. Participants from HCO had notably higher scores than those from PMC across all three constructs, with p-values < 0.001, suggesting that HCO may be implementing TQM practices more effectively or that the institution's context is more conducive to quality management. Women scored significantly higher than men in terms of TQM implementation (p-value = 0.033), which could indicate a gender-related difference in perception or engagement with quality practices. Technical participants also scored higher than administrative and medical participants in both perceived service quality (p-value = 0.015) and patient safety (p-value = 0.028), possibly reflecting the technical nature of their roles, which may be more directly linked to service quality and safety measures. Additionally, all bivariate linear associations between the study constructs were found to be significant (p-values <

0.001), highlighting strong relationships between the key variables in the study.

Finally, the analysis of TQM implementation barriers revealed that the most important barrier was "Work stress" (mean = 3.31), followed by "Inadequate resources" (mean = 4.51). Conversely, the least two important barriers were "Lack of modern technology" (mean = 6.60), and "Lack of consistent top management support" (mean = 6.35).

Table 4.15 Summary of Hypotheses, Path Coefficients, and Results.			
Hypothesis	Path Coefficient (β)	p-value	Result
H1: TQM has a significant influence on perceived service quality.	β = 0.826	p-value < 0.001	Supported
H2: TQM has a significant influence on patient safety.	β = 0.343	p-value = 0.001	Supported
H3: Perceived service quality significantly influences patient safety.	β = 0.550	p-value < 0.001	Supported
H4: Perceived service quality mediates the relationship between TQM and patient safety.	β = 0.454	p-value < 0.001	Supported (Partial Mediation)
H5: There are significant differences in the mean scores of the study constructs (TQM, perceived service quality, and patient safety) among participants based on their sociodemographic factors (place of work, gender, age, job title, social status, level of education, and work experience).	N/A	p-value < 0.05	Supported (Significant differences found)
H6: There are significant linear associations between the study constructs (TQM, perceived service quality, and patient safety).	N/A	p-value < 0.001	Supported (All associations significant)

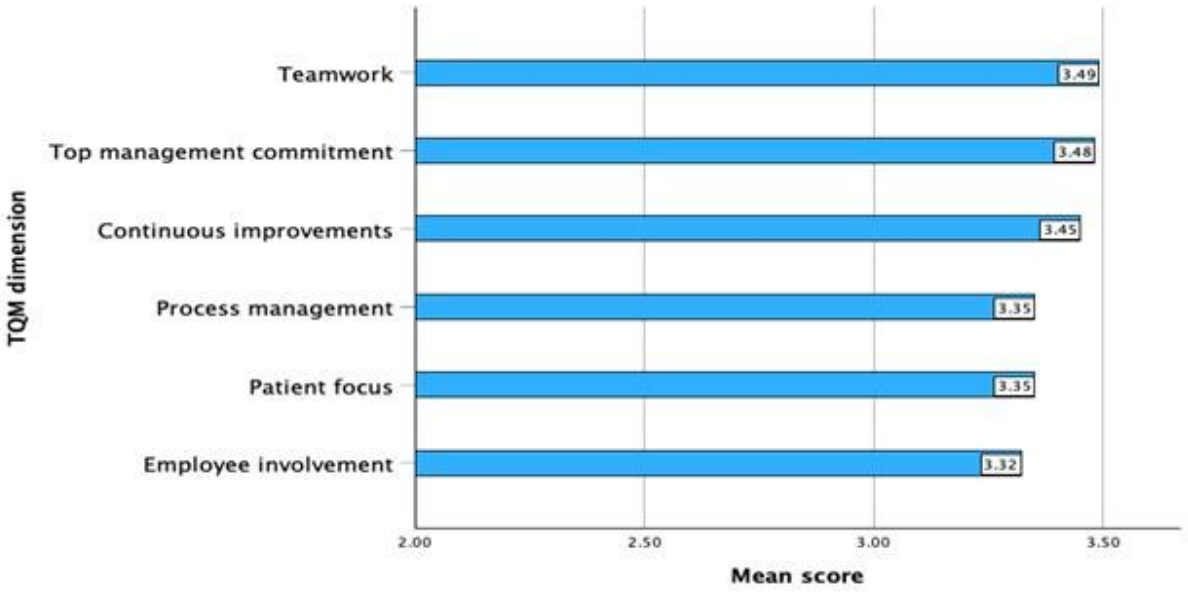

Figure 4.3. Mean scores for TQM dimensions.

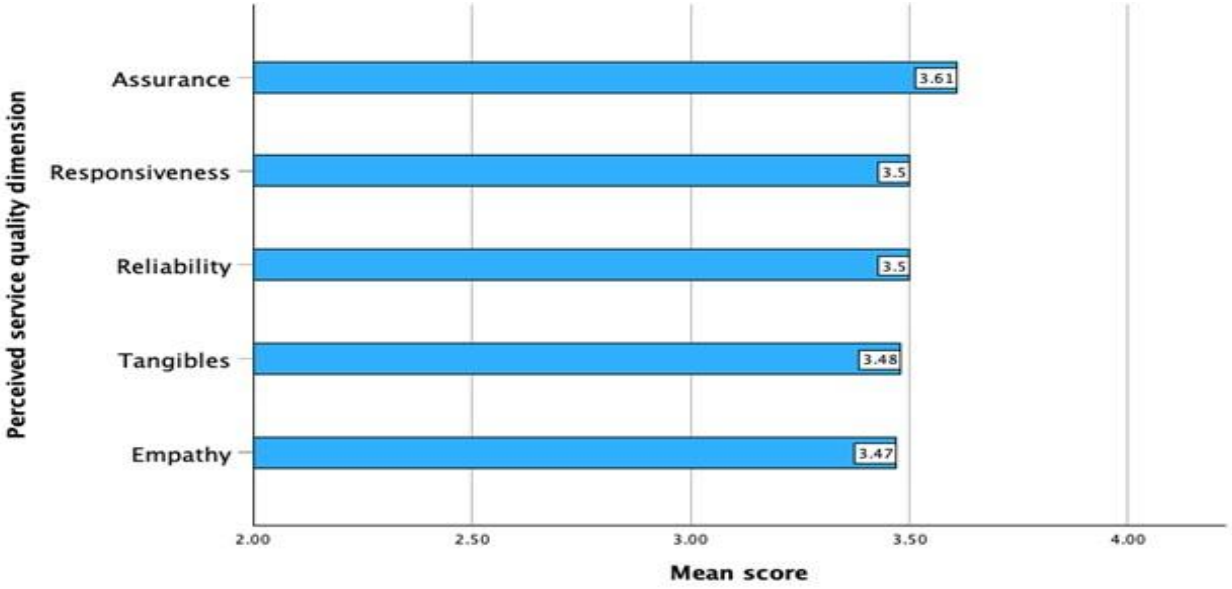

Figure 4.4. The mean score for perceived service quality dimensions.

4.11 Chapter Summary

This chapter presented a description of the research results, including respondents' characteristics and descriptive statistics of the questionnaire data and the results of the relationship between the key variables (i,e., the implementation of TQM methodology, perceived service quality, and patient safety), partial least squares structural equation modeling (PLS-SEM), Assessment of the measurement model and implementation barriers.

Chapter 5

Discussion and Concluding Remarks

5.1 Introduction

The primary findings of the research are summarized in the concluding section, which also provides an extensive examination and evaluation of the data, it summarizes the study's main conclusions and emphasizes “Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank.” The chapter includes useful guidance for healthcare practitioners to direct the execution and improvement of TQM operations

Lastly, it recognizes the study's limitations and suggests possible directions for future investigation, opening the door for more investigation into this important area of healthcare.

5.2 Discussion

This study examines the impact of the TQM approach on perceived service quality towards enhancing patient safety. The study was conducted in two public hospitals in the middle area of the West Bank, Ramallah, Palestine. Namely, Palestine medical complex (PMC) and Hugo Chavez Ophthalmic hospital (HCO). A cross-sectional quantitative research was applied using a self-administered survey questionnaire based on the previous literature. A reflective PLS-SEM research model with four

hypotheses was developed (three direct hypotheses, and one indirect hypothesis), where perceived service quality served as the model mediator.

A similar approach was employed to study the role of TQM in enhancing the service quality of the private healthcare sector in the northern area of West Bank, Palestine (Daqar & Constantinovits, 2020). Zaid et al., (2020) also performed a similar model to examine the linkage between TQM, perceived service quality, as well as their impact on patient satisfaction and behavior intentions among Palestinian healthcare organizations. In addition, Nguyen & Nagase, (2019) developed a similar model to investigate the influence of TQM on perceived service quality towards enhancing patient satisfaction in Vietnamese hospitals.

The primary findings of PLS-SEM research model show that the implementation of the TQM methodology utilizes a strong, positive, and significant effect on perceived service quality ($\beta = 0.826$, $p < 0.001$) and patient safety ($\beta = 0.343$, $p = 0.001$). Perceived service quality also demonstrates a strong, positive, and significant relationship with patient safety ($\beta = 0.550$, $p < 0.001$). Also, TQM methods indirectly influence patient safety through the mediating effect of perceived service quality ($\beta = 0.454$, $p < 0.001$). The results indicate that 68.2% of the total variation in patient safety is explained by TQM, while TQM and perceived service quality together account for 73.2% of the total variation in patient safety. These findings are consistent with previous studies, such as those by Daqar and Constantinovits (2020), Zaid et al. (2020), and Nguyen and Nagase

(2019), which reported that improvements in TQM enhance perceived service quality. This study contributes to the existing literature by establishing the direct effects of TQM on both perceived service quality and patient safety from managerial perspectives and confirming the mediating role of perceived service quality in the positive relationship between TQM and patient safety. These findings are vital for strategic planning efforts to improve patient safety outcomes.

This study also demonstrates that the level of TQM as perceived by managers in the targeted hospitals is moderate, with an overall mean score of 3.41 out of 5. Six key principles of TQM were identified, specifically: top management commitment, employee involvement, patient focus, teamwork, process management, and continuous improvement. Among these, teamwork emerged as the most implemented principle (mean score = 3.49), while employee involvement was the least implemented (mean score = 3.32). The level of TQM implementation in this study is relatively lower than that reported in other studies. For example, Alshourah (2021) found a high perceived level of TQM among managers in Jordanian private hospitals, with a mean score of 3.92. Similarly, Wang et al. (2019) reported a mean TQM score of 3.73 among nurses at five Taiwanese regional teaching hospitals.

The literature indicates that TQM is generally more extensively implemented in the private healthcare sector, likely due to competitive

pressures, a focus on maximizing patient satisfaction, and profit-oriented strategies in private hospitals (Alshourah, 2021; Al-Shdaifat, 2015). Furthermore, analysis of TQM implementation barriers suggests that limited TQM application in the targeted hospitals may be attributed to factors such as work stress, inadequate resources, and insufficient training programs (see Figure 5.1). Notably, barriers to TQM practices may vary across countries and industries, highlighting the value of comparative studies to investigate these parameters in different contexts (Mohammad, 2005; Mohammad, 2013; Ansari, 2022).

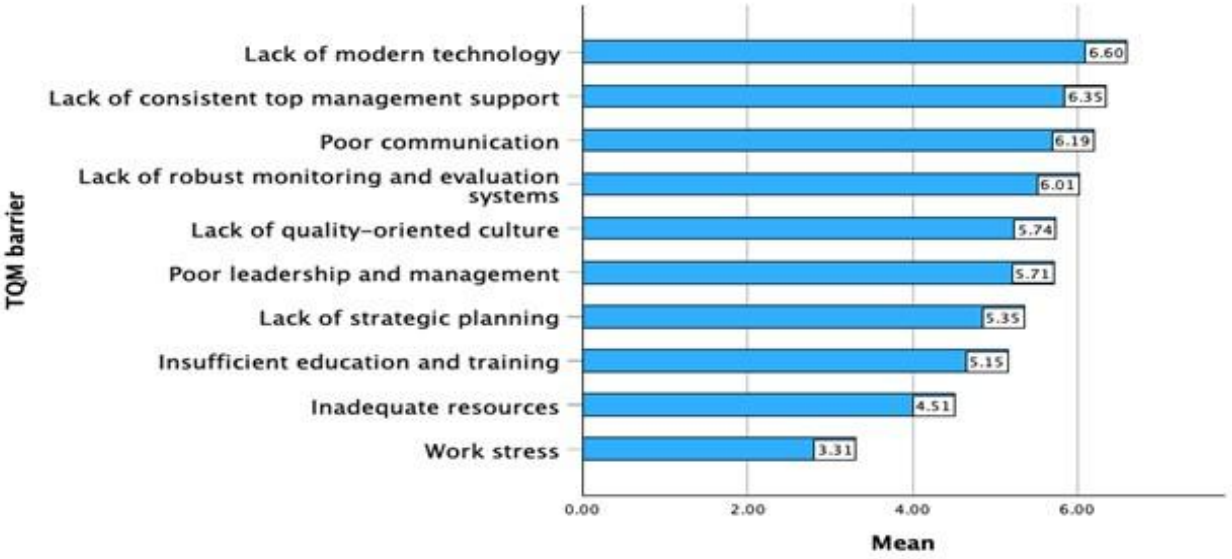

Figure 5.1. TQM barriers (lower scores indicated more importance).

The findings also demonstrated that the level of service quality as perceived by managers tends to be moderate in the targeted hospitals; the overall mean score was 3.51 out of 5. Five factors of perceived service quality were identified in this study, which consisted of the following:

Tangibles, reliability, responsiveness, assurance, and empathy. Empathy and tangibles were the most critical factors with the least mean scores (mean scores were 3.47 and 3.48 respectively). Similarly, the level of patient safety was moderate from the participants' viewpoints in the targeted hospitals (the mean score was 3.53 out of 5).

Previous studies have shown conflicting findings regarding the most critical or satisfactory items and dimensions within perceived service quality scales (e.g., Kanan et al., 2023; Zun et al., 2018). Such variation may appear from the differing healthcare settings, which deliver varied services and thus may produce different levels of perception across service quality scales. each institution provided heterogeneous services. So, they may differ from day to day, site to site, customer to customer, and producer to producer. , contributing to these observed differences in perceived service quality.

Finally, The results indicate that HCO participants reported significantly higher scores than their counterparts at PMC across all three constructs: TQM implementation, perceived service quality, and patient safety (see Figure 5.2). This variability in scores may stem from differences in healthcare settings, which deliver heterogeneous services and thus generate varying levels of perception across these scales. Additionally, the respondents differ in terms of professional background, work environment,

or attitudes toward healthcare quality, which could also contribute to the observed variation in scores.

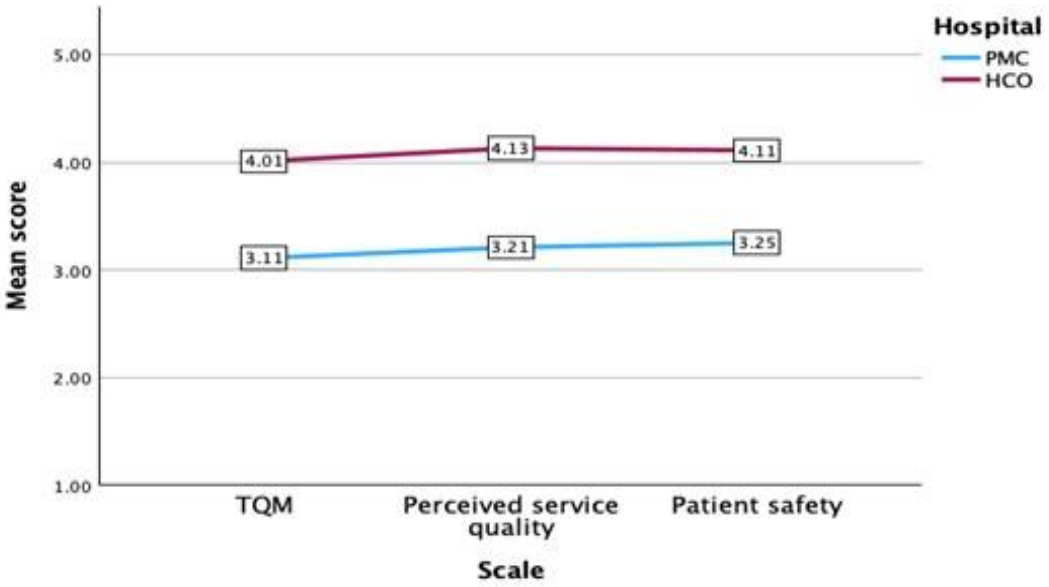

Figure 5.2. Overall mean scores for the study scales by participants' affiliation.

5.3 Conclusion

The study proved that TQM has a significant role in the improvement of patient safety in PMC and HCO Hospitals in the West Bank by Using the partial least squares-structural equation modeling technique, it was found that TQM alone accounted for 68.2% variation in patient safety, meaning that its contribution was direct on the safety outcome. Additionally, with the inclusion of perceived service quality, TQM explained

73.2% of the total variation in patient safety.

This finding puts forward the role of service quality as a mediator and suggests that improved service delivery is an important pathway through which TQM affects patient safety.

The study showed that the level of TQM implementation perceived in general across the hospitals was at a moderate level and that the principle of teamwork was the most strongly implemented, while employee involvement was assessed as the weakest. Differences in perceptions from sociodemographic factors, such as gender and job title, do point toward customized approaches in TQM practices in response to these perceived differences.

These challenges at the working level, work stress, shortage of resources, and not getting consistent top management support their place in the systemic problems that need to be overcome if the full potential of TQM practices is to be realized. It also points toward barriers that need to be removed to achieve enhanced patient safety together with the fullest benefit of quality management efforts.

The present study has gone ahead to add value to the existing literature on how TQM and service quality influence patient safety. It also shows that TQM practices will have a strong impact on patient outcomes, thus supporting improving service quality into quality management frameworks. These findings have provided practical guidance for

healthcare administrators and policymakers struggling to ensure patient safety through systematic and patient-centered TQM strategies.

5.4 Recommendations

5.4.1 Recommendations for Healthcare Practice:

The process of enhancing employee involvement becomes crucial to improving the effectiveness of TQM at governmental hospitals. For this reason, hospitals must design and implement structured training programs that will equip individuals from different levels of staff with relevant skills and knowledge for active involvement in TQM activities. Feedback sessions and recognition systems could also be conducted to encourage active participation and ownership of the process by the employees.

Again this brings up another crucial resource issue. Hospitals have to ensure adequate budgetary resources to procure the latest medical equipment and advanced technology. It is also necessary to facilitate the effective implementation of TQM so that patient safety will be enhanced. The health care facilities need to be updated with appropriate tools and systems to bring in considerable improvement in service quality.

The promotion of teamwork and active communication is also an important aspect of TQM. The management in the hospitals should facilitate team building through frequent activities and interdisciplinary meetings for their health providers. Workshops on communication skills could help bridge

gaps in various departments toward a more integrated approach to patient care and service delivery.

5.4.2 Policy Recommendations:

It is recommended that the Ministry of Health take the lead in developing policy guidelines for TQM implementation in all public hospitals. These would serve as model guidelines to make sure that the principle of TQM would be applied uniformly, having specific metrics and criteria to assess the quality of service and safety of care for patients. The standardization would make the processes more efficient and uniform in the management of quality.

Second, a national-level task force on quality improvement will help develop the needed scrutiny for TQM practices. It should be composed of members from the hospital administration, clinical staff, and experts in quality management. It should be mandated to follow through with the implementation programs for TQM, provide appropriate staff training, and even share information among hospitals. In that way, certain problems encountered would find their remedy and continuous improvement would be supported.

Success largely depends on the supporting leadership for the adoption of TQM practices. The development of special training programs for managers, oriented to quality management principles, strategic decision-

making, and patient safety, is recommended by the policymakers. Leaders with the competencies and knowledge to lead TQM will result in a far greater commitment to quality improvements from the organization as a whole.

5.4.3 Recommendations for Further Research:

Future research should also investigate the individual components of TQM, such as continuous improvement, process management, and employee involvement, to establish their respective effects on patient safety outcomes. In so doing, such an investigation into these individual components will allow researchers to specify exactly which aspects of TQM contribute most significantly to enhancing safety and the quality of service.

The major obstacles to the effective implementation of TQM are the cultural and organizational barriers. Additional studies have to be done to examine these factors more closely, especially in Palestinian hospitals. In addition, proper unraveling of the culture and organization would help in understanding why TQM is not being effectively used, thereby guiding the development of interventions on how best to address these issues.

The longitudinal study of the TQM practices would go a long way in offering necessary lessons on their long-term impact on patient safety and service quality. This would help a researcher establish the trend, and the improvement measured over time, and enable necessary adjustments to the

TQM strategy for use in healthcare institutions that need to continue changing to meet the needs of patients.

5.5 Limitations

Despite this research has achieved its aims and has contributed to knowledge and literature, it has some limitations. First of all the survey focused on the administrative employees in every department of the targeted hospitals thus, the point of view of other employees was not measured, whose perspectives could significantly affect the overall understanding of healthcare dynamics. According to the demographic analysis, the study included medical and technical staff, and since department heads were also surveyed, technical staff would logically be represented through their respective department heads. A further study to assess the perception of other employees from a holistic view would be insightful. Second, the sample size was small because the number of hospitals selected for the study was considered inadequate. It was conducted in two selected public hospitals. There may be substantial variation across different hospitals in Palestine and this may not allow the generalization of the results. The study should encompass more hospitals to have a better reflection of the characteristics of both the public and the private healthcare service providers and to include more unique features of different entities. Finally, the cross-sectional design may not be appropriate and a future longitudinal study may provide a better grasp of the factors

investigated and also validate the findings in progress, the cross-sectional design captures perceptions at a single point in time, limiting the ability to infer causal relationships or understand how these perceptions may change. A longitudinal study design would allow researchers to track shifts in attitudes over time, providing insights into trends and the sustainability of changes in workplace culture or patient safety measures.

5.6 Chapter Summary

This chapter provides an overview of the data analysis and findings related to the research hypotheses, structured across seven subsections. It begins with descriptive results on respondents' sociodemographic characteristics, followed by a description of the study constructs. PLS-SEM findings are then presented, and comparative tests explore differences in latent constructs based on sociodemographic factors. A correlation analysis of the latent constructs is also included. The chapter further examines barriers to the successful implementation of TQM in the targeted hospitals, concluding with a concise summary of the key findings.

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Appendices

Appendix A: Study questionnaire in English

الجامعة العربية الأمريكية
ARAB AMERICAN UNIVERSITY

Dear Administrative Staff of Government Hospitals in the Central Area of the West

Bank,

Greetings,

The student, Haneen Nimer, is conducting a scientific research study as part of her requirements to complete her Master's degree in Quality Management in Healthcare Institutions at the Graduate School of the Arab American University. The topic of the Master's thesis is:

"Investigating the Role of Total Quality Management in Enhancing Patient Safety: A Case Study of Palestinian Medical Complex and Hugo Chavez Hospital in the West Bank."

We kindly request your assistance and participation in completing the questionnaire. Please note that participation is voluntary and will contribute to improving the level of quality and patient safety.

This questionnaire contains five sections: the first section includes some demographic/social data (7 items); the second section refers to the implementation of Total Quality Management (28 items); the third section focuses on evaluating the quality of services provided (23 items); the fourth section addresses patient safety (7 items); and the fifth section deals with limitations to the implementation of Total Quality Management (1 item).

The expected time to complete the questionnaire is no more than 10 minutes. Your participation is important, and all information provided will be used confidentiality and will be used only for research purposes. Please feel free to answer the questionnaire objectively, as your contribution greatly helps obtain accurate results. The research team is ready to assist upon request., We thank you for your kind cooperation.

Researcher: Haneen Ahmad Nimer

Contact Number: 0595435954

Email: haneenahmad8900@gmail.com

Section 1: Demographic Information

Please indicate by placing a check mark (✔) in the box.

Place of Work	Palestine Medical Complex ( ) Hugo Chavez( )
Gender	Male ( ) Female ( )
Age	Under 30 ( ) 30-39 ( ) 40-49 ( ) 50 ( ) and above
Job Title	Administrative( ) Medical( ) Technical/Engineering ( ) Maintenance ( )
Marital Status	Single( ) Married( ) Divorced( ) Widowed ( )
Educational Level	High School( ) Diploma( ) Bachelor's Degree(Postgraduate Studies ( )
Years of Experience in the Workplace	5 or less ( ) 6-10 ( ) 11-15( ) 16 or more ( )

Section 2: Application of Total Quality Management.

The following statements address some principles of Total Quality Management. Please indicate the level to which these statements reflect your perception of applying these principles in the hospital by placing a check mark (✔) in the appropriate box.

Commitment of Senior Management	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Quality is considered a strategic priority by the hospital's senior management.					
2. The selection and promotion of senior management and department heads are based on their understanding of quality standards and the outcomes of their implementation					
3. Quality is considered a strategic priority by the hospital's top management.					
4. The hospital management is committed to hiring qualified staff.					
5. top management is committed to obtaining quality training					

Employees Engagement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The staff are encouraged to participate in decision-making related to the quality process					
2. Employees often work in teams consisting of members from different departments.					
3. The staff show a strong commitment to the success of the hospital and to ensuring the highest levels of quality in healthcare					
4. Employees' points of view and suggestions are taken into consideration, and they are involved in meetings that focus on improving the quality of healthcare provided.					

Patient Satisfaction	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. The hospital management cares about understanding what patients need and expect.					
2. The hospital uses patient needs and expectations to guide quality.					
3. The hospital quickly responds to patient inquiries.					
4. The hospital designs and improves procedures based on patients' needs.					
5. The hospital finds new ways to provide services that keep patients satisfied					

Teamwork	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Employees at the hospital work as a team to manage tasks and improve quality.					

2. Management supports teamwork over individual work.					
3. Problems between team members are resolved in constructive ways that promote collaboration.					
4. Team members are encouraged to share ideas and suggestions to enhance performance.					

Operations	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The organization has a system for cost analysis in all its internal procedures.					
2. The organization uses a tool to monitor wasted time in all its internal processes.					

3. All organizational procedures are developed to ensure quality standards are met.					
4. Processes are improved based on customer feedback and internal reviews.					
5. All standard work procedures for internal processes are documented.					

Continuous Improvement	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The hospital's top management supports long-term quality improvement efforts.					
2. top management provides important resources for continuous improvement.					

3. Hospital staff are encouraged to try new methods.					
4. There are clear policies in place to help employees continuously improve processes					

Section 3: Service Quality Evaluation.

The following statements are about how you see the services provided by the hospital.

Please mark (✔) the box that best reflects your view of the hospital's services.

Tangibles	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The hospital's medical devices, equipment, and supplies are technologically up-to-date.					
2. The hospital's physical facilities, including patient waiting areas, reception, and restrooms, are perfect.					

3. Doctors and staff wear a suitable and professional uniform that matches the services provided.					
4. The medical facilities are clean and well-maintained.					

Credibility	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The hospital staff strictly adheres to patient and appointment schedules.					
2. Both management and staff show care and cooperation in solving patient issues.					
3. Medical diagnoses are accurate and reliable.					
4. All information is documented and reports are written correctly.					

Responsiveness	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

1. Patients are contacted and informed about their appointments for receiving services and their calls are answered.					
2. Patients receive prompt service from the staff.					
3. Staff consistently show care and assistance					
4. Staff respond to patient requests immediately, even under pressure and while attending to other duties.					
5. Urgent requests are prioritized to ensure a quick response.					

Trust	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Patients feel confident in the competence and professionalism of the medical team.					
2. Medical information is kept confidential and protected carefully.					

3. Staff have the knowledge and skills to answer patients' questions and address all inquiries.					
4. Full support is provided to patients in understanding and analyzing available treatment options.					

Empathy	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The hospital management can show personal concern for each patient.					
2. Working hours are made to meet patients' needs and appointments.					
3. Communication with patients is handled in ways that are sensitive and reduce anxiety.					
4. Hospital staff can provide the best service that aligns with patients' needs and preferences.					
5. Services are provided to patients equally, regardless of their social status.					

Section 4: Service Quality Evaluation.

The following statements address procedures related to enhancing patient safety. Please indicate how well these statements reflect your view of the hospital's practices by placing a check mark (✔) in the appropriate box.

Empathy	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Patient safety is a top priority for hospital management.					
2. Patients are involved in their treatment plans, actions, and informed consent, including feedback, complaints, and suggestions.					
3. Patients' families are involved in treatment plans, actions, and informed consent, including feedback, complaints, and suggestions.					
4. Patient care is taken according to a set of clinical practices based on evidence and guidelines during treatment and surgical actions.					
5. A safe environment for patients is ensured (design, environmental risk management, special needs, etc.).					

6. The hospital management implements various programs to provide continuous education and training for all staff to enhance patient safety.					
7. Effective mechanisms are in place for reporting accidents and risks related to patient safety.					

Section 5: Barriers to Implementing Total Quality Management.

This section includes some barriers related to implementing a total quality management policy. Please rank the barriers to TQM implementation in the hospital according to their priority by placing the appropriate number in the (), where 10 = most important and 1 = least important.

Ranking	**Questions**
( )	1. Lack of good education and training.
( )	2. Lack of strategic planning.
( )	3. Lack of quality-oriented culture.
( )	4. Weak leadership and management.

( )	5. Lack of monitoring and evaluation systems.
( )	6. Weak resources.
( )	7. Work pressure.
( )	8. Lack of use modern technology.
( )	9. Lack of ongoing support from management.
( )	10. Poor communication.

Thank you for your cooperation.

Appendix B: Study questionnaire in Arabic

الجامعة العربية الأمريكية
ARAB AMERICAN UNIVERSITY

حضرات العاملون الإداريون في المستشفيات الحكومية في منطقة الوسط

من الضفة الغربية، تحية طيبة وبعد،

تقوم الطالبة حنين نمر بإجراء بحث علمي لاستكمال دراستها للحصول على درجة الماجستير في تخصص إدارة الجودة في المؤسسات الصحية، كلية الدراسات العليا في الجامعة العربية الأمريكية.

موضوع رسالة الماجستير:

"التحقيق في دور إدارة الجودة الشاملة في تعزيز سلامة المرضى: دراسة حالة لمجمع فلسطين الطبي ومستشفى هوغو تشافيز في الضفة الغربية"

يرجى من حضرتكم المساعدة والمشاركة في تعبئة الاستبيان علما بأن المشاركة اختيارية، وستساهم في تحسين مستوى الجودة وسلامة المرضى.

يتضمن هذا الاستبيان خمسة أقسام أقسام: القسم الأول يتضمن بعض البيانات الديموغرافية/الاجتماعية (7 فقرات)، القسم الثاني يتعلق بتطبيق إدارة الجودة الشاملة (28 فقرة)، أما القسم الثالث حول تقييم جودة الخدمة المقدمة (23 فقرة)، أما القسم الرابع يتعلق بسلامة المرضى (7 فقرات)، أما القسم الخامس يتعلق بمعيقات تطبيق إدارة الجودة الشاملة (فقرة واحدة).

الوقت المتوقع للإجابة عن الاستبيان لا يتجاوز 10 دقائق. مشاركتكم ضرورية، وسيتم التعامل بسرية تامة مع جميع المعلومات المقدمة، وسوف تستخدم فقط لأغراض البحث. لا تترددوا في الإجابة على الاستبيان بشكل موضوعي، حيث إن مساهمتكم تسهم بشكل كبير في الحصول على نتائج دقيقة. فريق البحث مستعد للمساعدة عند الطلب.

شاكرين لكم حسن تعاونكم.

الباحثة: حنين أحمد نمر.

للاستفسار والتواصل: 0595435954
بريد إلكتروني : Haneenahmad892@gmail.com
إشراف: د. محمد ابو زايد/قعد.

القسم الأول: المعلومات الديموغرافية: يرجى التكرم بوضع الإشارة () في المكان المناسب

.1مكان العمل	( ) مجمع فلسطين الطبي ( ) هوغو تشافيز
.2الجنس	( ) ذكر ( ) أنثى
.3العمر	( ) أقل من 30 ( ) 30-39 ( ) 40 – 49 ( ) 50 فأكثر
.4المسمى الوظيفي	( ) إداري ( ) طبي ( ) تقني/فني ( ) صيانة
.5الحالة الاجتماعية	( ) أعزب/ عزباء ( ) متزوج/ة ( ) مطلق/ة ( ) أرمل/ة
.6المستوى التعليمي	( ) توجيهي ( ) دبلوم ( ) بكالوريوس ( ) دراسات عليا
.7عدد سنوات الخبرة في مكان العمل	( ) 5 أو أقل ( ) 6 – 10 ( ) 11 – 15 ( ) 16 فأكثر

القسم الثاني: تطبيق إدارة الجودة الشاملة

تتناول العبارات الآتية بعض مبادئ تطبيق مبادئ الإدارة الشاملة، من فضلك أظهر الى اي مدى تعكس هذه العبارات تصورك حول تطبيق مبادئ الإدارة الشاملة في المستشفى (يرجى التكرم بوضع الإشارة () في المكان المناسب)

أولا: التزام الإدارة العليا		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	تعتبر الجودة أولوية استراتيجية من قبل الإدارة العليا للمستشفى.					

٢.	يعتمد تعيين وترقية الإدارة العليا ومديري الأقسام بناءً على المعرفة بمعايير الجودة ونتائج تحقيقها.					
٣.	تقُيَّ م الإدارة العليا ومديرو الأقسام بناءً على نتائج تطبيق معايير الجودة.					
٤.	تهتم إدارة المستشفى بتوظيف موظفين ذوي كفاءة.					
٥.	تلتزم الإدارة العليا بالمستشفى بالحصول على تدريب على الجودة.					

ثانياً: مشاركة الموظفين		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	يتم تشجيع الكادر على المشاركة في اتخاذ القرارات المتعلقة بعملية الجودة.					
٢.	يعمل الموظفون غالباً في فرق تتألف من أعضاء ضمن أقسام مختلفة.					
٣.	يظُهِر الكادر التزامًا قوياً بتحقيق نجاح المستشفى وضمان تقديم أعلى مستويات الجودة في الرعاية الصحية.					
٤.	يتم الأخذ بوجهات نظر الموظفين ومقترحاتهم وإشراكهم في الإجتماعات الخاصة في تحسين جودة الرعاية الصحية المقدمة.					
ثالثاً: رضا المرضى		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	تهتم إدارة المستشفى بمعرفة احتياجات وتوقعات المرضى.					
٢.	تستخدم المستشفى متطلبات وتوقعات المرضى كأساس للجودة.					

٣.	تستجيب المستشفى بسرعة لاستفسارات المرضى.					
٤.	يتم تصميم وتحسين الإجراءات التنظيمية في المستشفى وفقاً لمتطلبات واحتياجات المرضى.					
٥.	تبتكر المستشفى طرقاً جديدة لتقديم الخدمات لإرضاء المرضى.					
رابعاً: العمل الجماعي		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	يعمل الموظفون بالمستشفى كفريق واحد لتنسيق العمل وتحسين الجودة.					
٢.	تشجع الإدارة العمل ضمن الفريق بدلاً من العمل الفردي.					
٣.	يتم حل النزاعات بين أعضاء الفريق بطرق بنّاءة تساهم في تعزيز التعاون.					
٤.	يتم تشجيع تبادل الأفكار والمقترحات بين أعضاء الفريق لتحسين الأداء.					
خامساً: العمليات		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	لدى المؤسسة نظام لتحليل التكاليف في جميع إجراءاتها الداخلية.					
٢.	تستخدم المؤسسة أداة لرصد الفترات الزمنية المهدرة في كافة عملياتها الداخلية.					
٣.	يتم تطوير جميع الإجراءات التنظيمية لضمان تحقيق معايير الجودة.					
٤.	يتم تحسين العمليات بناءً على تغذية راجعة من العملاء والمراجعات الداخلية.					

٥.	يتم توثيق جميع إجراءات العمل القياسية لكافة العمليات الداخلية.					
سادساً: التحسين المستمر		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	تدعم الإدارة العليا بالمستشفى عمليات تحسين الجودة طويلة الأجل.					
٢.	توفر الإدارة العليا بالمستشفى الموارد الأساسية للتحسين المستمر.					
٣.	يتم التعامل مع تحسين العمليات المستمر من قبل فرق العمل.					
٤.	يتم تشجيع موظفي المستشفى على تجربة أساليب جديدة.					
٥.	توجد سياسات عمل واضحة بالمستشفى لمساعدة الموظفين على تحسين العمليات بشكل مستمر.					

القسم الثالث: تقييم جودة الخدمة المقدمة

تتناول العبارات التالية تصورات الخدمة التي يقدمها المستشفى، من فضلك أظهر الى اي مدى تعكس هذه العبارات تصورك للخدمة في المستشفى (يرجى التكرم بوضع الإشارة () في المكان المناسب)

أولا: الأشياء الملموسة		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	الاجهزة والمعدات والمستلزمات الطبية الموجودة في المستشفى حديثة تكنولوجياً.					

٢.	المرافق المادية للمستشفى بما في ذلك اماكن انتظار المرضى والاستقبال والمرافق الصحية مناسبة.					
٣.	يرتدي الاطباء والموظفون ملابسا مناسبة وملائمة للمجال الطبي وتتوافق مع الخدمة المقدمة.					
٤.	تتسم المرافق الطبية بالنظافة والصيانة الجيدة.					
ثانياً: المصداقية		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	يلتزم كادر المستشفى بمواعيد المرضى والمراجعات بدقة.					
٢.	يبدي كل من الادارة والطاقم الاهتمام والتعاون في حل مشاكل المرضى.					
٣.	يمتاز التشخيص الطبي المقدم بالدقة والموثوقية.					
٤.	يتم توثيق كل المعلومات وكتابة التقارير المطلوبة بطريقة صحيحة.					
ثالثاً: الاستجابة		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	يتم الاتصال مع المرضى واخبارهم بمواعيدهم لتلقي خدماتهم والرد على مكالماتهم.					
٢.	يتلقى المرضى خدمة سريعة من الموظفين.					
٣.	يبدي الموظفون الاهتمام والمساعدة بشكل دائم.					

٤.	يتجاوب الموظفون مع طلبات المرضى فوراً بالرغم من الضغوطاتبتقديم وانشغالهم الدائم الخدمات لآخرين.					
٥.	يعُطى الأولوية العاجلة لضمان للطلباتالاستجابة السريعة.					
رابعاً: الثقة		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	يشعر المرضى بالثقة في كفاءة واحترافية .الفريق الطبي					
٢.	يتم ضمان سرية المعلومات الطبية وحمايتها .بشكل صارم					
٣.	يتعامل الموظفين بالمستشفى بلطف ولباقة مع .المرضى					
٤.	يوجد لدى الموظفين المعرفة والكفاءة اللازمة حول اسئلتهم وكافة المرضى لاجابة .استفساراتهم					
٥.	يقُ ً دم الدعم الكامل للمرضى في فهم وتحليل .الخيارات العلاجية المتاحة					
خامس ً: التعاطف		غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	لدى ادارة المستشفى القدرة على ابداء الاهتمام .الشخصي لكل مريض					
٢.	تلائم ساعات العمل حاجات المرضى .ومواعيدهم					
٣.	يتم التواصل مع المرضى بطرق تراعي .حساسيتهم وتقلل من مشاعر القلق					

٤.	لدى الموظفين بالمستشفى القدرة على تقديم أفضل ما لديهم من الخدمة بما يلائم حاجات المرضى وتفضيلاتهم.					
٥.	يتم تقديم الخدمة للمرضى بالتساوي بغض النظر عن مستواهم الاجتماعي.					

القسم الرابع: تعزيز سلامة المرضى

تتناول العبارات التالية إجراءات متبعة حول تعزيز سلامة المرضى، من فضلك أظهر الى اي مدى تعكس هذه العبارات تصورك للخدمة في المستشفى (يرجى التكرم بوضع الإشارة () في المكان المناسب)

	الفقرة	غير موافق بشدة	غير موافق	درجة متوسطة	موافق	موافق بشدة
١.	تعامل سلامة المرضى اولوية قصوى لدى إدارة المستشفى.					
٢.	يتم إشراك المرضى في الخطة العلاجية والاجراءات التداخلية والموافقة المبنية على المعرفة والشكاوي والاقتراحات وغيرها.					
٣.	يتم اشراك ذوي المرضى في الخطة العلاجية والاجراءات التداخلية والموافقة المبنية على المعرفة والشكاوى والاقتراحات وغيرها.					
٤.	تتم عملية علاج المرضى ضمن مجموعة من الممارسات السريرية التي تستند الى الدلائل والبراهين أثناء التداخلات العلاجية والجراحية.					

٥.	يتم مراعاة وجود بيئة آمنة للمرضى (التصميم، ادارة المخاطر البيئية، ذوي الاحتياجات الخاصة.....).					
٦.	تقوم إدارة المستشفى بتنفيذ برامج متعددة لضمان توفير التعليم والتدريب المستمر لجميع العاملين، بهدف تعزيز سلامة المرضى.					
٧.	توجد آليات فعّالة للإبلاغ عن الحوادث والمخاطر المتعلقة بسلامة المرضى.					

القسم الخامس: معيقات تطبيق إدارة الجودة الشاملة

يتضمن هذا القسم بعض المعيقات المرتبطة بتنفيذ سياسة الإدارة الشاملة. يرجى ترتيب معيقات تطبيق إدارة الجودة الشاملة في المستشفى حسب أولويتها بوضع الرقم المناسب في ( )، حيث 1= الأكثر أهمية و 10= الأقل أهمية.

الترتيب	المعيقات
( )	عدم توفر التعليم والتدريب الكافي.
( )	نقص التخطيط الاستراتيجي.
( )	نقص الثقافة الموجهة نحو الجودة.
( )	ضعف القيادة والإدارة.
( )	عدم توفر نظام مراقبة ومتابعة.
( )	ضعف الموارد.
( )	ضغوط العمل.

( )	عدم الاستفادة من التكنولوجيا الحديثة.
( )	عدم توفر الدعم المستمر من قبل الإدارة.
( )	ضعف التواصل.

شكراً لكم على حسن تفاعلكم

Appendix C: Validity of the Reviewers for the Thesis Questionnaire

Reviewer Name	Occupation	Feedback
Ashraf Almimi	Faculty Member at Arab American University	Linguistic and order adjustments only
Ismail Araikat	Assistant Professor at Birzeit University	Linguistic and order adjustments only
Ayman Al-Zaro	Assistant Professor at Birzeit University	Linguistic and order adjustments only
Yousuf Mimi	Assistant Professor at Arab American University	Linguistic and order adjustments only
Samir Baidoun	Assistant Professor at Birzeit University	Linguistic and order adjustments only
Sami Sadder	Assistant Professor at Arab American University	Linguistic and order adjustments only

Note: All reviewers confirmed the appropriateness of the questionnaire, with no significant content or methodological changes required. Their valuable contributions enhanced the instrument's clarity and coherence.

Appendix D: IRB Approval Form

Arab American University
Institutional Review Board - Ramallah

الجامعـــة العربيـــة الأمريكيـــة
مجلس اخلاقيات البحث العلمي – رام الله

IRB Approval Letter

Study Title: "Exploring the Role of Total Quality Management in Enhancing Patient Safety in the Governmental Hospitals in the Central Governorates of the West Bank".

Submitted by: Haneen Ahmad Atta Nimer

Date received: 22th May 2024

Date reviewed: 23th May 2024

Date approved: 26th May 2024

Your Study titled **"Exploring the Role of Total Quality Management in Enhancing Patient Safety in the Governmental Hospitals in the Central Governorates of the West Bank"** with the code number **"R-2024/A/87/N"** was reviewed by the Arab American University Institutional Review Board - Ramallah and it was approved on the 26th of May 2024.

Sajed Ghawadra, PhD
IRB-R Chairman
Arab American University of Palestine

الجامعة العربية الأمريكية. فلسطين
مجلس اخلاقيات البحث العلمي. رام الله
IRB-R
ARAB AMERICAN UNIVERSITY-PALESTINE
INSTITUTIONAL REVIEW BOARD - RAMALLAH

General Conditions:

1. Valid for 6 months from the date of approval.
2. It is important to inform the IRB-R with any modification of the approved study protocol.
3. The Bord appreciates a copy of the research when accomplished.

رام الله – فلسطين

Tel: 02-294-1999 **E-Email:** IRB-R@aaup.edu **Website:** www.aaup.edu

Appendix E: PMC & HCO Approval

State of Palestine
Ministry of Health
Education in Health and Scientific
Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

Ref.: .....
Date:.....

الرقم: ت.ص/١٤١٨/١٦٤
التاريخ: ٢٠١٩/٧/٩ ت.ص

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

عطوفة الوكيل المساعد لمجمع فلسطين الطبي المحترم،،،

تحية واحترام،،،

الموضـــوع: تسهيل مهمة بحث

يرجى تسهيل مهمة الطالبة: **حنين احمد عطا نمر – ماجستير ادارة الجودة**– الجامعة العربية الامريكية، بعنوان:

Exploring the Role of Total Quality Management in Enhancing Patient Safety in the Governmental Hospitals in the Central Governorates of the West Bank

حيث ستقوم الطالبة بجمع معلومات عن حول موضوع البحث من خلال تعبئة استبانة من قبل الطاقم الطبي بعد اخذ موافقتهم، وذلك في:

- **مستشفى هوجو شافيز**
- **مجمع فلسطين الطبي**

مع العلم ان مشرف الدراسة: د. محمد ابو زايد.

على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات، وعدم التعرض للمعلومات التعريفية للمشاركين.

على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة وزارة الصحة.

مع الاحترام،،،

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: عميد كلية الدراسات العليا المحترم/ الجامعة العربية الامريكية

Telfax.:09-2333901 scientificresearch.dep@gmail.com تلفاكس: 09-2333901

الملخص

تهدف هذه الدراسة إلى استكشاف "التحقيق في دور إدارة الجودة الشاملة في تعزيز سلامة المرضى: دراسة حالة لمجمع فلسطين الطبي ومستشفى هوغو تشافيز في الضفة الغربية". تعد إدارة الجودة الشاملة (TQM) نظامًا متكاملاً يسعى إلى تعزيز المسؤولية المشتركة بين الإداريين والأطباء، وتأسيس آليات وقائية ضد المشكلات الإدارية والسريرية، إضافةً إلى دعم رضا المرضى وتحسين الأداء التنظيمي المستدام وتقديم الرعاية الصحية بأفضل المعايير الممكنة. تتجسد غايتها في تحقيق جودة رعاية صحية تلبي أو تتجاوز توقعات المرضى، بما يضمن نتائج إيجابية لهم ويعزز النجاح التنظيمي الشامل للمؤسسة الصحية.

تمت الدراسة على مستشفيين حكوميين، هما مجمع فلسطين الطبي ومستشفى هوغو تشافيز للعيون، وشملت عينة من 120 موظفاً. تم استخدام استبياناً ذاتي التصميم لجمع البيانات، وتم تحليل النتائج باستخدام برنامج SmartPLS. بلغت نسبة الاستجابة 88.3% حيث أعُيد 106 استبيانات من أصل 120. أوضحت نتائج التحليل الوصفي أن إدارة الجودة الشاملة ترتبط بشكل إيجابي قوي بجودة الخدمة وسلامة المرضى، كما كشفت أن جودة الخدمة تلعب دورًا وسيطاً جزئياً في العلاقة بين إدارة الجودة الشاملة وسلامة المرضى.

أبرزت النتائج أن مستوى تنفيذ إدارة الجودة الشاملة كان متوسطاً وفقاً لتصورات مديري الأقسام، مما يشير إلى وجود تحديات بارزة تحول دون تطبيقها الأمثل. وقد تبين أن ضغوط العمل، نقص الموارد المتاحة، وضعف برامج التدريب تشكل العقبات الرئيسية التي تواجه تنفيذ هذا النظام بفعالية. وتكتسب هذه الدراسة أهميتها كونها الأولى من نوعها التي تحقق في العلاقة المباشرة بين إدارة الجودة الشاملة وسلامة المرضى في المستشفيات الحكومية الفلسطينية، مع إبراز الدور الوسيط الذي تلعبه جودة الخدمة.

تشير نتائج الدراسة إلى أن تبني مبادئ إدارة الجودة الشاملة ليس مجرد عملية لتحسين إجراءات العمل، بل هو استراتيجية شاملة تؤدي إلى رفع مستوى الخدمة وسلامة المرضى بشكل ملحوظ. ومن هنا، تطرح الدراسة توصية بضرورة توسيع نطاق البحث ليشمل مؤسسات صحية متعددة في القطاعين العام والخاص؛ لتمكين تعميم النتائج على نطاق أوسع وتحقيق فهم أكثر شمولية لأثر إدارة الجودة الشاملة في تحسين جودة الرعاية الصحية وسلامة المرضى في فلسطين.