

**A MIXED-METHODS STUDY MEASURING THE
IMPACT OF THE HOSPITAL ACCREDITATION
PROGRAM AND THE FACTORS FOR ITS
SUCCESSFUL IMPLEMENTATION IN
MADINAH**

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by

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| CBAHI | The Saudi Central Board for Accreditation of Healthcare Institutes |
| IOM | Institute of Medicine |
| MOH | Ministry of Health |
| KSA | Kingdom of Saudi Arabia |
| JCAHO | Joint Commission on Accreditation of Healthcare Organizations |
| JCI | Joint Commission International |
| HCFA | Health Care Financing Administration |
| JEPeM | Jawatankuasa Etika Penyelidikan (Manusia) |
| OPD | Out-patient Department |
| SPSS | Statistical Package for Social Science |
| USM | Universiti Sains Malaysia |
| RII | Relative Important Index |
| STAT | Statistical Software for Data Science |
| ISO | International Standardisation Organization |
| CT | Computed Tomography |
| HCOs | Healthcare Organizations |

**KAJIAN CAMPURAN MENGUKUR KESAN PROGRAM AKREDITASI
HOSPITAL DAN FAKTOR-FAKTOR KEJAYAAN PELAKSANAANNYA DI
MADINAH**

ABSTRAK

Akreditasi hospital diiktiraf oleh organisasi penjagaan kesihatan di seluruh dunia sebagai alat untuk meningkatkan kualiti penjagaan kesihatan, namun terdapat kesan yang tidak konsisten daripada inisiatif ini terhadap dimensi kualiti. Di Arab Saudi, semua hospital Kementerian Kesihatan di Arab Saudi diwajibkan untuk mendapat akreditasi oleh Lembaga Pusat Akreditasi Institusi Penjagaan Kesihatan (CBAHI). Matlamat kajian adalah untuk mengukur kesan program akreditasi CBAHI terhadap dimensi kualiti Institut Perubatan (IOM), menentukan domain akreditasi yang diamalkan di hospital Kementerian Kesihatan dan meneroka faktor pemboleh dan penyelesaian untuk kejayaan pelaksanaan akreditasi CBAHI di Madinah. Kajian ini menggunakan reka bentuk *sequential explanatory mixed-method*. Data sekunder diperolehi dari lima hospital Kementerian Kesihatan dan diikuti dengan tinjauan keratan rentas di kalangan 516 jururawat dan temu bual mendalam dengan 22 responden dari lima hospital tersebut. Hasil kajian mendapati akreditasi CBAHI mempunyai kesan positif yang signifikan terhadap keselamatan dan keberkesanan, manakala tiada kesan terhadap dimensi kecekapan. Perancangan kualiti strategik (74.05%), kepuasan pelanggan (pesakit) (73.45%) dan kepimpinan (72.49%) merupakan domain yang sering diamalkan di hospital Kementerian Kesihatan di Madinah. Analisis tematik mendedahkan empat tema penentu kejayaan pelaksanaan akreditasi iaitu; 1) membangunkan modal insan, 2) menyelesaikan masalah pengurusan kualiti, 3) memastikan ketersediaan sumber, dan 4) merangka strategi

penyelesaian berdasarkan keperluan CBAHI. Akhir sekali, kajian ini turut mencadangkan strategi bagi mengekalkan peningkatan kualiti penjagaan kesihatan yang mampan seperti mengadakan lawatan mengejut oleh CBAHI, membuat pendedahan awam tentang hasil dapatan, memperkenalkan inisiatif penambahbaikan yang berterusan, dan memberi pengiktirafan dan ganjaran kecemerlangan kepada kakitangan. Kesimpulannya, program akreditasi CBAHI memberi impak positif terhadap keselamatan dan keberkesanan dimensi kualiti IOM. Pemboleh dan strategi yang dicadangkan perlu diambil maklum oleh pembuat dasar di hospital Kementerian Kesihatan di Madinah bagi menambah baik dimensi kecekapan, memastikan pelaksanaan yang berkesan dan mengekalkan penambahbaikan berterusan bagi akreditasi CBAHI. Kajian lanjut diperlukan bagi mengembangkan kajian seperti ini ke kawasan lain mahupun di hospital swasta di Arab Saudi.

**A MIXED-METHODS STUDY MEASURING THE IMPACT OF THE
HOSPITAL ACCREDITATION PROGRAM AND THE FACTORS FOR ITS
SUCCESSFUL IMPLEMENTATION IN MADINAH**

ABSTRACT

Hospital accreditation is recognized by healthcare organizations worldwide as a tool to improve the quality of healthcare, yet there has been an inconsistent impact of this initiative on the quality dimensions. In Saudi Arabia, it has been made mandatory for all Ministry of Health (MOH) hospitals to be accredited by the Central Board for Accreditation of Healthcare Institutions (CBAHI). The aim of the study is to measure the impact of the CBAHI accreditation program on the Institute of Medicine (IOM) quality dimensions, determine the accreditation domains practised in MOH hospitals and explore the enabling factors and solutions for successful implementation of CBAHI accreditation in Madinah. The study applied the mixed-method sequential explanatory design. Secondary data was obtained from five MOH hospitals, followed by a cross-sectional survey among 516 nurses and in-depth interviews with 22 respondents from the five hospitals. The findings revealed that CBAHI had a significant positive impact on safety and effectiveness, while no impact was shown on the efficiency dimension. Strategic quality planning (74.05%), customer (patient) satisfaction (73.45%), and leadership (72.49%) were the most practised domains. The thematic analysis revealed four themes for the successful implementation of accreditation: 1) development of human capital, 2) resolving quality management issues, 3) ensuring availability of resources, and 4) strategizing CBAHI-specific

solutions. Finally, the study suggests the following strategies to maintain sustainable improvement in the quality of care i.e., conducting unannounced CBAHI visits, public disclosure, continuous improvement initiatives, and staff recognition and excellence rewards. In conclusion, the CBAHI has a positive impact on the safety and effectiveness of the IOM quality dimension. The proposed enablers and strategies need to be addressed by the policymakers to improve on the efficiency dimension and subsequently ensure effective implementation and maintain continuous improvement of the CBAHI accreditation. Further research is required to expand the current study to other regions or private hospitals in Saudi Arabia.

CHAPTER 1

INTRODUCTION

This chapter introduces important concepts about quality in healthcare and quality improvement. An overview of the healthcare system and hospital accreditation by the Central Board for Accreditation of Healthcare Institutions (CBAHI) in Saudi Arabia was presented to provide the study context. The final part of the chapter describes the problem statement, study rationale, objectives, research questions, and hypothesis.

1.1 Quality in Healthcare

Definition

The concept of quality in healthcare is ambiguous, and there is no one universal definition that exists (Donabedian, 2003). Few definitions of quality in healthcare were developed based on the healthcare system, while others defined healthcare quality based on activity (WHO, 1989). Regardless of the broad utilisation of quality in healthcare, the definition is inconclusive (Spath, 2009). Avedis Donabedian was one of the quality pioneers who defined the concept of quality in healthcare. He defined it as "the kind of care that is expected to maximise an inclusive measure of patient welfare, after taking into account the balance of expected gains and losses that attend the process of care in all its parts" (Blumenthal, 1996).

The Institute of Medicine (IOM) is a private, not-for-profit organisation in the United States. As indicated by the IOM (1991), quality of healthcare is defined as "the desired health outcome that is consistent with the best scientific knowledge" (p.35).

This definition is popular and widely used in healthcare quality improvement (Donaldson, 1999). According to the IOM (2001), the following six IOM quality dimensions constitute the quality of healthcare: safety, timeliness, efficiency, effectiveness, equity, and patient-centeredness. Moreover, Donabedian (1990) reported that the following seven domains contribute to the quality of healthcare: 1) efficiency; 2) effectiveness; 3) efficiency; 4) optimality; 5) acceptability; 6) legitimacy; and 7) equity.

Quality Improvement in Healthcare

For many years, healthcare organizations worldwide have been struggling to improve the quality of healthcare services they provide to patients (Javanovic & Jovanović, 2005). The issue of patients' safety and quality of care has become a top priority of the healthcare reform agenda (Brubakk et al., 2015a). Accordingly, healthcare decision-makers increasingly focus on improving the quality of services they provide to an increasing extent (Corrêa et al., 2018).

In fact, the quality improvement concept and its techniques were initially developed in the manufacturing industry to improve the quality of the final product; they have since been transferred to other industries, such as healthcare (Cantiello et al., 2016). It is argued that healthcare decision-makers all over the world are concerned about quality improvement-related issues for the healthcare services they provide (Corrêa et al., 2018).

According to Devkaran and O'Farrell (2014), quality improvement in healthcare is defined as a continuous process of performance evaluation, identification of

strategies for improving performance, implementation of these strategies, and evaluation of the outcomes. Batalden and Davidoff (2007) defined quality improvement as "the combined and unceasing efforts of everyone; healthcare professionals, patients and their families, researchers, payers, planners, and educators, to make the changes that will lead to better patient outcomes (health), better system performance (care), and better professional development (learning)".

Healthcare organizations are under pressure to improve the quality of services they render and worry about these increasing concerns (Corrêa et al., 2018). Healthcare organizations, especially hospitals, are very complicated and multi-specialized, constituting a significant part of the government health system budget (Yousefnezhad et al., 2020). Therefore, quality of healthcare has remained as healthcare policymakers' main agenda internationally (Busse et al., 2019).

Evidence shows that healthcare organizations in many countries failed to meet the pre-established set of professional standards and did not deliver accordingly (OECD, 2010). According to the Organisation for Economic Co-operation and Development OECD (2010), failing to deliver healthcare in a manner that is scientifically developed and generally accepted results in the provision of unsafe care and the annual harm of tens of thousands of people, as well as the waste of resources.

Poor healthcare service is a global dilemma (Hinchcliff et al., 2013b) that is considered a cause of morbidity and mortality (Jha et al., 2010). Healthcare organizations worldwide are focusing their efforts on improving the quality of healthcare services (Brubakk et al., 2015; Jovanoviê, 2005), as a response to the increasing cost of healthcare services, strict government regulations (Devkaran and

O'Farrell, 2015), and reform initiatives (Shortell et al., 1995). Nevertheless, these organizations are confronted by the many challenges of improving care quality (Javanovic, 2005).

Consequently, decision-makers in healthcare organizations are looking for a robust tool to improve healthcare quality in hospitals (Devkaran et al., 2019). This led managers of healthcare settings to focus more on healthcare quality and recognize it as the spirit of healthcare services (Chung & Yu, 2012).

According to Busse et al. (2019), healthcare organizations are focusing on improving the quality of care for the following reasons: 1) the quality of care is in the public interest; 2) people are more aware of the gap in the quality of care in terms of safety, effectiveness, and patient-centeredness; 3) variations in providing healthcare as per standards; 4) outcome of patient care; 5) pressures from the public and other stakeholders, including the media, for transparency and accountability; 6) tending to enhance the outcome of population health through universal health coverage; 7) the increased need for aligning public and private healthcare performance in the market; 8) having good disaster management in case of any outbreaks or emergencies through the trusted service. Moreover, promoting and improving healthcare quality is required due to the rising costs of medical technologies, poor quality of care provided by healthcare organizations, and the continuously changing health style (Tashayoei et al., 2020a).

1.2 Institute of Medicine Quality Dimensions

The Institute of Medicine (IOM) is an independent, not-for-profit organisation established in 1970 that aims to provide medical support and advice to healthcare decision-makers and the public (IOM, 2009). The IOM oversees the health aspect of the National Academy of Science, which was recognized by President Abraham Lincoln in 1863. Also, the IOM assists in the improvement of healthcare sharing of best-in-class knowledge and information by a set of experts and consensus committees that play a vital role in consultation and advisory. Moreover, the IOM conducts forums, roundtables, and diverse critical and cross-disciplinary thinking committees (IOM, 2009).

Hence, the IOM plays an important role in advising nations on healthcare and medicine-related matters. According to IOM (2009), there are more than 2,000 members and non-member countries that work voluntarily in sharing knowledge and expertise to enhance quality in healthcare. Furthermore, the IOM grants membership to 65 individuals each year, reflecting outstanding professional achievement and a commitment to service. Moreover, the IOM has several fellowship programs. One example is the Robert Wood Johnson Foundation Health Policy Fellowship Program, a fellowship program to develop leadership roles in health management (IOM, 2009).

Since its establishment in 1970 by the National Academy of Sciences, the IOM has been working seriously and scientifically to secure the services of eminent members from appropriate professions in examining policy matters concerning the health of the public (Kohn et al., 2009). The institute is under the directives of the National Academy of Sciences by its congressional charter to advise the federal government

and determine critical issues related to medical care, research, and education. The IOM is mostly known for its two most influential works that marks the beginning of the evolution in healthcare quality and patient safety.

The IOM quality dimensions were introduced in 1999, when the IOM published a ground-breaking report on the level of patient safety in the United States of America. Entitled "To Err is Human: Building a Safer Health System," it was the first product in a series of valuable reports published by the Quality of HealthCare in America project under the IOM (King, 2009). The report addresses serious issues affecting the quality of care and patient safety in the United States (IOM, 1999). It is reported that around 44,000 to 98,000 people die yearly in hospitals because of preventable medical errors, higher than the number of deaths caused by motor vehicle accidents, breast cancer, or even AIDS. Additionally, the report revealed that the costs incurred due to preventable medical errors were between \$17 and \$29 billion annually.

Factors such as decentralisation of the healthcare system, resistance from healthcare organizations and providers to comply with the accredited processes on the prevention of medical errors; and poor financial incentives by third-party purchasers to improve the quality of care and patient safety, were said to be the underlying reasons for medical errors. Moreover, the report classified preventable medical errors under four categories mainly diagnosis-related, treatment-related, preventive-related, and medically unrelated errors such as poor communication, a lack of required equipment, and system failure.

The IOM released their second report, "Crossing the Quality Chasm" in 2001 that emphasized a chasm, not just a gap, between current healthcare and the healthcare that

could have been (IOM, 2001b). The report responded to the previous report by suggesting potential solutions to enhance patient safety. The report revealed that the American healthcare system is not well organized to meet the challenges. The delivery of care was complex and uncoordinated, and efforts are required to improve patient safety (IOM, 2001b). Since the healthcare system failed to deliver care that was appropriate, timely, and safe, hence the focus is now on reinventing the healthcare system to improve the delivery of care. Since the report presented long-term practical strategies and action plans, it is still considered relevant in the present time.

The IOM and all healthcare stakeholders; policymakers, health professionals, purchasers of healthcare, legislators, healthcare organizations managers, governing bodies, and consumers of care, had unanimously agree to continually reduce the burden of illness, injury, and disability, and to improve the health and functioning of the people of the United States (IOM, 2001b). A consensus was reached to adopt the six quality dimensions pertaining to safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity (IOM, 2001b). The following sections describe these dimensions in detail.

Safety

The safety dimension refers to protecting patients from injuries that could happen as a result of the care intended to improve their health status (IOM, 2001b). It can be reflected, for instance, by diagnostic errors, treatment errors, or nosocomial infections (Slonim & Pollack, 2005). Maintaining patient safety requires a safe environment that reduces defects in the delivery of care or accidental injuries (King, 2009).

Effectiveness

It refers to delivering healthcare services according to best practices and scientific knowledge to all patients (IOM, 2001b). It focuses on reducing variability among healthcare providers' delivery of care by following clinical practice guidelines (Slonim & Pollack, 2005).

Patient-centeredness

The concept of patient-centeredness is based on exchangeability in healthcare, where both patient and healthcare provider work together to attain the desired health outcome (Beattie et al., 2013). It focuses on active participation of patients in their medical care (Slonim & Pollack, 2005). It describes the situation when healthcare services provided to a patient are responsive to his or her preferences and needs. Moreover, it ensures that all clinical decisions are guided by the patient's values (IOM, 2001b).

Timeliness

The IOM found that time plays a critical role in patient safety and providing health services when needed. Therefore, timeliness refers to providing patients with the required medical care without harmful delay (IOM, 2001b). For instance, the availability of resources needed for the paediatric intensive care unit, the presence of paediatric intensivists, or critical care fellows plays a vital role in responding to any medical necessity at the proper time without any delay (Slonim & Pollack, 2005).

Efficiency

Healthcare organizations are encouraged to utilize and deliver healthcare resources efficiently and in a cost-effective manner without affecting the quality of care (Slonim & Pollack, 2005). According to the IOM, the efficiency dimension targets the avoidance of waste in resources, equipment, supplies, energy, or even ideas (IOM, 2001b). Patient length-of-stay is a typical example of the efficiency dimension, which leads to an increase in resources and cost (Slonim & Pollack, 2005).

Equity

The IOM raised the equity dimension to close the gap between patient's characteristics and healthcare (Beattie et al., 2013), whereby care should be provided to the individual regardless of his race, ethnicity, insurance, income, or even gender (Slonim & Pollack, 2005). Accordingly, the IOM emphasized that healthcare should be delivered equally to all patients without prejudice and discrimination (IOM, 2001b). In 1984, Maxwell identified that access to care is a critical dimension in the quality of care, which the IOM categorized under the dimension of equity (Beattie et al., 2013).

1.3 Healthcare Accreditation Program

Responding to many challenges faced by healthcare organizations, such as increasing costs and regulatory standards by the government, decision-makers are turning to healthcare accreditation programs as a quality improvement tool to improve the quality

of healthcare services (Falstie-Jensen *et al.*, 2015; Shaw *et al.*, 2014) and enhance both healthcare delivery processes and outcomes (Alkhenizan & Shaw, 2011).

Healthcare accreditation is defined as an external review process to assess how well a healthcare organization performs relative to pre-established standards covering the organization's structure, process, and outcome " (Bogh et al., 2015). Healthcare accreditation is also defined as "a formal evaluation process intended to assess the quality of services provided, facilitate efficiency improvements, and allow benchmarking comparison with other organizations" (Wagner et al., 2013). A complete definition of healthcare accreditation is defined by Shaw (2004) as "a public recognition by a national healthcare accreditation body of the achievement of accreditation standards by a healthcare organization, demonstrated through an independent external peer assessment of that organization's level of performance in relation to the standards."

The healthcare accreditation program began in 1951 when the United States of America established the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) (Shaw et al., 2003). In 1988, the JCAHO expanded the hospital standards internationally by establishing its new branch called the Joint Commission International (JCI) (Bahradori, 2015). Hospital accreditation was established by the American College of Surgeons in 1970 by the introduction of the first quality standard known as the "Minimum Standards for Hospitals" (Alkhenizan & Shaw, 2011). Subsequently, standards for other healthcare facilities such as primary healthcare and medical laboratories were also developed (Javanovic & Jovanović, 2005).

Hospital accreditation programs are becoming more popular and embraced by many healthcare institutions. According to Devkaran *et al.* (2019), hospital accreditation plays a vital role in improving the quality of care. It has become a common strategy adopted by healthcare systems in more than ninety countries. There are more than forty-four national or international healthcare accreditation programs worldwide (Greenfield *et al.*, 2014).

Hospital accreditation is perceived as one of the improvement tools to improve the quality of care (Almasabi *et al.*, 2014; Chung and Yu, 2012; Jaafaripooyan *et al.*, 2011). It is regarded as an excellent quality tool for these reasons: (1) availability of scientific set of standards, (2) the survey process that is conducted by peers who are experts in the field, (3) the accreditation process is managed and performed by independent external organizations, (4) the main aim of accreditation is to enhance the quality culture and the organizational improvement (Montagu, 2003). Many countries are paying more attention to hospital accreditation as an effective means of enhancing and improving healthcare service quality (Al-Sughayir, 2016). It plays a considerable role in healthcare organizations as a practical approach for improving the quality of healthcare (Corrêa *et al.*, 2018). Healthcare organizations in developed and developing countries are also adopting accreditation programs for ethical, commercial, obtaining international recognition and regulatory reasons (Almasabi and Thomas, 2016; Shaw, 2015).

Accreditation programs are owned by non-governmental and not-for-profit organizations that are external to the structure of healthcare institutions (Siqueira & Malik, 2020). The accreditation process is a complex intervention involving a systematic approach to collecting specific information about the healthcare institution

under survey through document review and internal and external stakeholders (Yousefinezhadi et al., 2020). The accreditation process is not free; fees are either paid by healthcare organizations or supported by the government (Sax & Marx, 2013). Accreditation programs are typically voluntary (Chatterjee et al., 2016), though they are mandatory in some countries (Shaw et al., 2014). According to Touati & Pomey (2009), some healthcare organizations are opting for accreditation due to the fiscal rewards generated from the accreditation status it receives.

1.4 Quality in healthcare in the Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia (KSA) is one of the Arab countries located in the Arabian Peninsula (Mufti, 2000). It is the largest country in the Middle East with an area of 2,149 million square kilometers (850,000 square miles), covering four-fifth of the overall Arabian Peninsula size (Albejaidi, 2010) (Figure 1.1).



Figure 1.1 Saudi Arabia location in the Arabian Peninsula (Source: Mufti, 2000)

The current population of Saudi Arabia is 35 million (GAS, 2021). Saudi Arabia has 13 administrative districts, and each administrative region has its own local accent, customs, traditions, and heritage (Vision2030, 2021). The KSA is one of the Middle East countries experiencing rapid economic growth which contributed to the positive impact on its healthcare services (Almalki et al., 2011).

1.4.1 Overview of the Healthcare System in Saudi Arabia

The development of healthcare in KSA is crucial to meet the needs of the populations (Rahman & Al-Borie, 2020). Health services in Saudi Arabia have vastly improved over the last few decades (Almalki et al., 2011). The first breakthrough for the healthcare sector in KSA began in 1925, when His Majesty King Abdulaziz bin Abdulrahman Al Saudi, through a royal decree, founded the Public Health Department to oversee health issues in KSA. Health services are provided by the public and private sectors (Figure 1.2). The Ministry of Health (MOH) was established in 1951 (Al Otaibi, 2017) to manage, develop, finance, and regulate healthcare services for the population (Sajjad & Qureshi, 2020). Provision of public health services by the MOH are free of charge for all citizens, as stipulated in Article 31 of the KSA constitution (Rahman & Alsharqi, 2019).

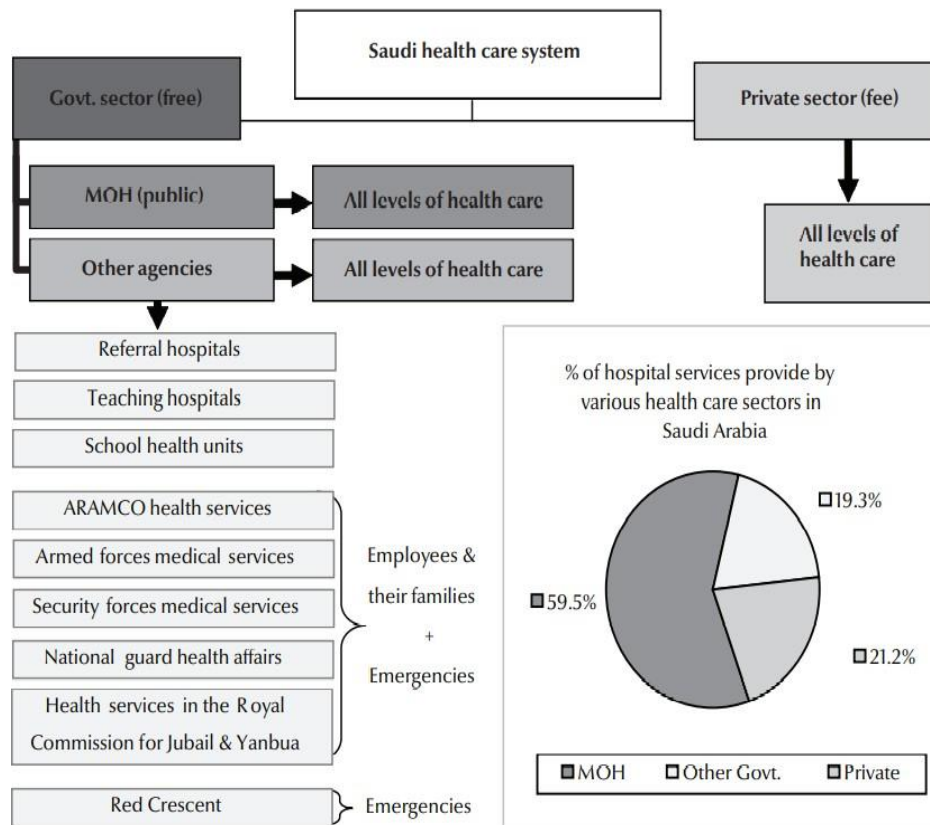


Figure 1.2 Healthcare system in the Kingdom of Saudi Arabia

Source: (Almalki et al., 2011)

The MOH is the principal healthcare provider in KSA, providing 57% of healthcare services compared to other public and private healthcare organizations (MOH, 2018). Health services provided by the MOH in KSA are delivered through primary health services, general hospitals, and tertiary hospitals (Albejaidi, 2010). Table 1.1 shows the number of hospitals according to different healthcare sectors in the kingdom.

Table 1.1 Number of hospitals per sector in Saudi Arabia

| Sector | Number of hospitals | % |
|----------------------------------|---------------------|------|
| MOH | 284 | 57 |
| Other governmental organizations | 47 | 9.5 |
| Private | 163 | 32.9 |
| Total | 494 | 100 |

The MOH annual budget is continuously increased annually to meet citizens' needs and expectations. For the past two years, the annual budget has exceeded SR 1 trillion.

Figure 1.3 shows the MOH budgets from 2016-2020.

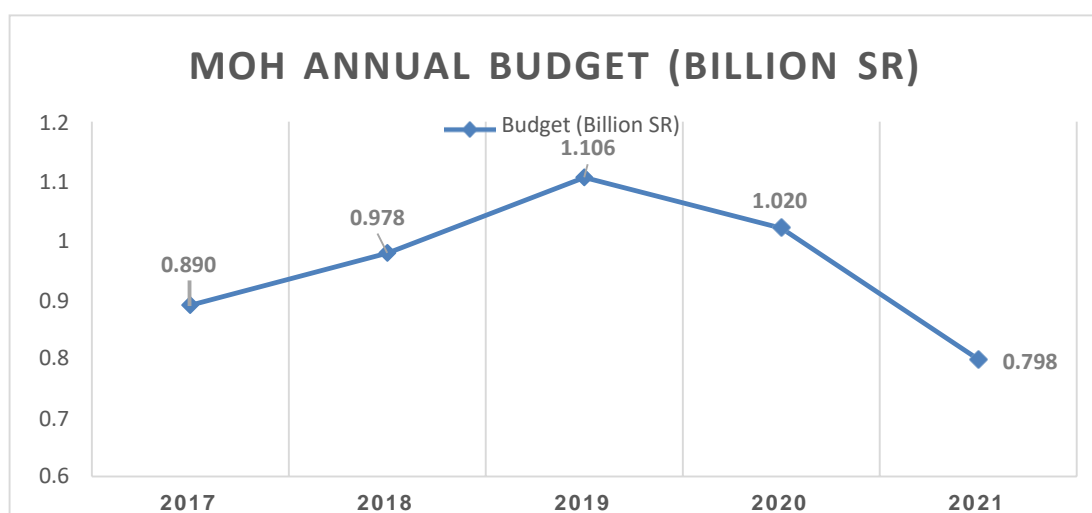


Figure 1.3 Ministry of Health annual budget (Billion SR)

1.4.2 Hospital Accreditation Program in Saudi Arabia

The Kingdom of Saudi Arabia is one of the first countries in the Eastern Mediterranean region to adopt and implement accreditation standards for its health organizations

(Qureshi et al., 2012). Accordingly, the accreditation journey in the KSA dates back as early as 1994, when the oil giant Saudi Aramco launched its standards known as the Saudi Medical Services Organization Standards. Hence, all private or public hospitals interested in becoming panel healthcare providers for Aramco employees had to meet the Aramco Standards (Alkhenizan & Shaw, 2010). Seven years later, in 2001, hospital accreditation was mandated in the Makkah region by the Council for the Development of Health Services in the Makkah region.

1.4.3 The Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI)

The Central Board for Accreditation of Healthcare Institutions (CBAHI) is a not-for-profit organization established in October 2005 (CBAHI, 2016). The ultimate role is to develop the national standards for healthcare quality and patient safety (Shaikh et al., 2018). Therefore, the first set of national standards was developed and disseminated in 2006, and the compliance of health institutions with these standards was then evaluated (CBAHI, 2018). In 2012, CBAHI published its second edition of hospital standards, which were published in cooperation with experts from the public and private sectors (Shaikh et al., 2018). In 2013, the Cabinet of Ministers changed its name to the Saudi Central Board for Accreditation of Healthcare Institutions. It remains the only legally recognized institution in Saudi Arabia that evaluates all governmental and private healthcare providers and awards healthcare certificates (CBAHI, 2018).

The CBAHI currently provides accreditation for hospitals, primary healthcare centres, clinical laboratories, and ambulatory healthcare centres. Another twelve accreditation programs are currently being implemented, namely: 1) mental health centre, 2) dental centres, 3) stroke units certification program, 4) trauma centre certification program, 5) emergency medical transportation accreditation program, 6) program for the safe design of healthcare facilities, 7) morbid obesity centre certification program, 8) home healthcare certification program, 9) dialysis centres accreditation program, 10) long-term care facilities accreditation program, 11) cardiac centre certification program, and 12) healthcare operating companies accreditation program (CBAHI, 2017).

The CBAHI accreditation program was decreed mandatory for both governmental and private healthcare facilities to improve quality of care and encourage more participants in this national initiative (Shaikh et al., 2018). Healthcare facilities that undergo CBAHI accreditation will gain many benefits in the sense of having a clear organizational hierarchy, improved patient safety culture, risk management and public perception, and increased income by becoming more efficient, reducing waste and satisfying stakeholders including patients and insurers. The accreditation process applies an objective approach through peer-review assessment to the internal activities either medical or managerial that provide great learning opportunities for the healthcare organizations. Accredited hospitals will have the competitive advantages compared to other healthcare facilities as it meets the MOH requirements (CBAHI, 2017).

1.4.4 CBAHI Accreditation Process and Lifecycle

As per CBAHI (2016) Saudi CBAHI defined its own healthcare accreditation as "an assessment process that involves a rigorous, transparent, and comprehensive evaluation by an external, independent accreditation body"(p.14). Similar to other international healthcare accreditation programs, the CBAHI applies various tools and techniques during the accreditation process (on-site survey) to ensure that the assessed hospital meets its standards (CBAHI, 2016).

These tools and techniques might involve the following: 1) interviewing with leaders, clinical and non-clinical staff members, patients and their families, 2) facility round to observe current delivery of patient care and other healthcare services, 3) thorough building inspection of patient care areas, including facilities, equipment, and other areas for diagnostics services, 4) documents review, including policies and procedures, plans, bay-laws, clinical practice guidelines, and other clinical and managerial practices related documents, 5) staff file review, to determine healthcare professionals are licensed and possess the minimum knowledge and skills, 6) review of medical records, and 7) assessment of the pre-listed clinical indicators for patients' safety (CBAHI, 2016).

The CBAHI accreditation process goes through several steps, starting with the registration of a hospital seeking CBAHI accreditation, receiving the National Accreditation Standards along with the National Accreditation Guide, attending the Hospital Orientation Program (HOP), conducting the comprehensive Self-Assessment by the hospital, and doing the mock survey by CHAHI surveyors. The final step is the actual on-site survey visit by the CBAHI surveyors (CBAHI, 2016).

Once the CBAHI grants the accreditation certificate to a hospital, the accreditation status will be valid for three years. However, accredited hospitals will be subject to an evaluation once every three years, and the accreditation status may be suspended if major patient safety-related issues are found (CBAHI, 2016).

1.5 Association between IOM quality dimensions and CBAHI accreditation domains

The International Society for Quality in Health Care (ISQua), a leading health improvement organisation has developed a set of principles based on the IOM six quality dimensions on safety, efficiency, effectiveness, equity, timeliness, and patient-centeredness to assist healthcare organisations in maintaining quality of care (Fortune et al., 2015). All national and international accrediting bodies seeking certification from ISQua must adhere to these principles. Because CBAHI is ISQua-accredited (Current Awards, 2022), their hospital accreditation standards are also in accordance with the ISQua principles, which were developed using the IOM quality dimensions. As a result, the CBAHI standards are inextricably linked to the IOM quality dimensions.

1.6 Problem statement

Internationally, healthcare decision-makers are under pressure to improve the quality of healthcare provisions (Corrêa et al., 2018). The Total Quality Management programs, internal assessments, patient safety systems, clinical practice guidelines,

key performance indicators, patient surveys, and accreditation programs are the examples of quality tools that healthcare organizations can adopt to improve the quality of healthcare (Suñol et al., 2009). Nevertheless, the hospital accreditation program is the most commonly used tool by healthcare organizations worldwide when looking to improve the quality of healthcare they provide (Falstie-Jensen et al., 2015; Shaw et al., 2014). According to the literature, healthcare accreditation programs are used in over seventy countries (Devkaran et al., 2019), with approximately forty-four national and international programs (Greenfield et al., 2014).

Participation in hospital accreditation programs is costly for healthcare organizations (Appleyard & Ramsay, 2008). Despite the considerable resources invested in terms of human resources, time, and money towards the healthcare accreditation program, the literature shows inconsistent results of the impact of accreditation on the quality of care. Many systemic reviews were conducted to examine the effectiveness of healthcare accreditation programs on the quality of care and have concluded that the impact of healthcare accreditation on the quality of healthcare is still sparse and conflicting. A qualitative study by Ho et al. (2014) also showed that accreditation has a negative impact on patient care.

On the other hand, there were many studies that supported significant positive impact of accreditation programs on the quality of healthcare, for instance Aboshaiqah et al. (2016a); Habib et al. (2016); Nomura et al. (2016b); Oliveira et al., 2019), while other studies, such as Bogh et al. (2016); Schmaltz et al. (2011); Wardhani et al., 2019) show contradictor do not support the positive effect of healthcare accreditation programs.

The latest systematic review of the literature conducted by Araujo et al. (2020a) found no study on the impact of healthcare accreditation program on quality dimensions. According to Hinchcliff et al. (2013), the conflicting results of the impact of accreditation programs on the quality of care may be due to the inconsistent implementation of such programs. Moreover, the different measurements and methodologies used to evaluate the impact of the accreditation program were also said to be questionable by many.

The Kingdom of Saudi Arabia is one of the first Middle East countries to adopt such a healthcare accreditation program in the MOH hospitals. To improve the quality of care, a national accreditation program called the Central Board for Accreditation of Healthcare Institutions (CBAHI) was launched in 2005 (Almasabi, 2013). Since the CBAHI accreditation is still relatively a new program, only a few studies have been conducted to evaluate its effectiveness and impact on the quality of care. Currently, only two studies have been found, and both showed contradictory findings. were

There is also a lack of understanding on which of the CBAHI accreditation domains that were practised and prioritized in MOH hospitals in Madinah. Absence of such data makes it difficult for hospital and quality managers to plan strategically. The study by Devkaran and O'Farrell (2015) also reported that improvements achieved during the accreditation life cycle were not maintained, as the performance measured during the accreditation period, instantly declined post-accreditation. This finding reflects poor implementation of the CBAHI accreditation program and the inability to maintain continuous improvement following the accreditation cycle. These are crucial issues which need to be addressed since considerable resources were invested in the CBAHI accreditation.

1.7 Justification of the study

Theoretically, the implementation of the CBAHI accreditation program should have improved the quality of care and patient safety at healthcare facilities granted the accreditation status. Yet the literature was showing inconsistent results which prompted questions on whether the accreditation process was implemented effectively or efficiently.

According to MOH statistics, MOH hospitals in Madinah rank among the lowest in terms of satisfactorily resolving patient complaints (MOH, 2022). Furthermore, it was reported that only 56% of hospitals in the Madinah region passed the CBAHI accreditation (CBAHI, 2021). It has been argued that the current implementation of the CBAHI program accreditation is consuming an inefficient use of organizations' resources, time, and efforts. The scarcity of evidence found to support the implementation of accreditation programs, especially CBAHI, has led healthcare organizations in Saudi Arabia to doubt the impact of accreditation on the quality of care and question the need to continue with this initiative. The uncertainty and lack of trust has negatively affected the MOH governance body, hospital management, patients, and CBAHI. On the other hand, patients, too, will be at risk of receiving poor services, thus jeopardizing the reputation of the CBAHI among healthcare organizations, internally and externally. As a result, the impact of the CBAHI accreditation programme will remain subjective in the absence of solid evidence (Almasabi and Thomas, 2016).

1.8 Significance of the Study

Measuring the impact of the CBAHI accreditation program on the three IOM quality dimensions pertaining to safety, efficiency, and effectiveness, are considered highly important since the three dimensions are the most related to the daily operations of healthcare organizations (Abduljawad, 2013). It can encourage healthcare organizations and other stakeholders to provide healthcare and have healthcare services that are efficient, effective, and safe.

The optimization of the current implementation of the CBAHI process is essential in improving the quality of care. The application of the enabling factors suggested by the present study may lead to the successful implementation of the CBAHI and, hence, better healthcare outcomes. Through a mixed method study design, a full understanding on the impact of CBAHI can be achieved in order to develop a strategic plan based on evidence-based findings.

The findings and recommendations of this study will provide MOH policymakers, hospital directors, healthcare organizations, the CBAHI, academicians, and other stakeholders with the elements that empower and assist in the effective and successful implementation of the CBAHI accreditation standards, hence improving the quality of care and patient safety.

1.9 Research Questions

There were four research questions in this study:

1. What effect does the CBAHI accreditation programme have on the IOM's safety, efficiency, and effectiveness quality dimensions during the CBAHI accreditation life cycle?
2. What is the nurses' perspective on the accreditation domains practised in MOH hospitals?
3. What are the enabling factors leading to the successful implementation of the CBAHI accreditation process at the MOH hospitals in the Madinah region?
4. How will the MOH hospitals in Madinah maintain the improvement in the IOM dimensions (i.e., safety, efficiency, and effectiveness) after accreditation?

1.10 Study Objectives

General objective

To study the effect of the CBAHI accreditation program on the IOM quality dimensions and explore the enabling factors for successful implementation and solutions for maintaining the IOM quality improvements in MOH hospitals in Madinah.