Asian Journal of Accounting and Governance 21(2024) ISSN2180-3838
e-ISSN2716-6060
(http://dx.doi.org/10.17576/AJAG-2024-21-01)

Governance and Accountability in a Saudi Public Healthcare Setting: Patients' Perspectives

NASEEM AL RAHAHLEH, WAAD ALHOTHALY, MOHAMMED KHALED AL-HANAWI & TAWFEEK A. AL-KHYAL

ABSTRACT

Accountability (a subset of governance) has become an important aspect of public service reform, and a higher level of accountability has been cited as a factor in improving the efficiency of healthcare systems. In that general context, accountability is explored in public health organizations through a case study of King Abdullah Medical City (KAMC) in Mecca. The study focuses on identifying key dimensions that influence accountability from the perspective of outpatients in relation to four overarching concerns (dimensions): Medical Professionals, Administration and Management, Legal Enforcement and Ethical Issues, and Government Action. The analysis is based on quantitative data collected from 440 KAMC outpatients using an online survey questionnaire designed especially for this study. The study's main findings indicate that with the exception of Administration and Management, all the accountability dimensions showed a high level of agreement from patients that indicated a satisfactory level of accountability at KAMC. However, Administration and Management was found to be an area in need of significant improvement at the focal institution. Further, the findings underscore the effectiveness of government action, as supported by Vision 2030 in the context of KAMC, in contrast with the findings of other studies in which the challenges related to government initiatives are emphasized (e.g., Nurunnabi & Islam, 2012).

Keywords: Accountability dimensions; patient perspectives; King Abdullah Medical City (KAMC); healthcare; SEM; and patients' perspectives.

INTRODUCTION

In the context of health care, effective accountability (a subset of governance)—i.e., the extent to which healthcare organizations take responsibility for their actions relative to the care provided—is seen as a matter of fundamental importance in contemporary society. The perspective of patients in determining the quality of the care rendered and associated accountability is considered in a number of studies in this general area (Andaleeb 2000, 2001; Andaleeb & Millet 2010; Begum & Hemberg 1998; Mahdy 2009; Narang 2010). However, researchers have yet to publish studies that investigate the subject of public healthcare accountability in developing countries in any depth.

Over the past two decades, healthcare organizations have made great strides in quality assurance and reporting with the goal of improving responsiveness to patients and other stakeholders (Kennedy et al. 2011). Overall, when they are committed both to their employees and to quality care, healthcare organizations can learn from mistakes and improve performance. A culture of responsiveness to healthcare needs can, therefore, strengthen staff and patient trust in the organization, reduce the misuse of resources, and help organizations provide better quality care (PowerDMS 2018).

Although few studies (Emanuel & Emanuel 1996; Naher et al. 2020; Nurunnabi & Islam 2012; Vian 2020) offer a careful examination of how accountability actually works in health care, it is recognized that a strong and consistent approach to designing and ensuring accountability is both essential to the ongoing operation of any complex system and of the utmost importance where people's lives are at stake. Given that this is the case, governments worldwide have focused on the public health system with the goal of improving accountability in order to ultimately improve care (Dikmen & Çiçek 2023). In fact, governments worldwide face immense pressure to provide essential services to their citizens, with accountability emerging as a fundamental aspect of broader efforts to strengthen public systems, especially in the context of health care (World Health Organization 2007).

Necessary to maintaining organized and effective operations, accountability relies on establishing, communicating, and upholding standards—including through ongoing evaluation of practices. It also relies on individuals and groups to meet those standards. Such standards are found in many layers of social systems, ranging from the individual level to the group and organizational levels to society as a whole (Gelfand et al. 2004).

A lack of accountability can be profoundly damaging to any organization: It can reduce the quality of the service rendered, thereby damaging the organization's reputation and increasing the likelihood of litigation (Power 2018). In the context of health care, a lack of accountability can put patients' lives at risk. At the individual level, all staff in a healthcare organization should recognize that it is their personal responsibility to ensure that every patient receives excellent care. It is possible both to prevent many mistakes by fostering a culture of accountability in healthcare contexts and to avoid repeating any mistakes that do occur through an established and responsive system of acknowledgement, investigation, and rational action taken to remediate the situation.

Recently, Al Rahahleh et al. (2023) investigated the correlation between internal control, financial accountability, and financial performance in the Kingdom of Saudi Arabia's (KSA) private healthcare sector. In line with earlier major studies on accountability and practical action (Emanuel & Emanuel 1996; Naher et al. 2020; Nurunnabi & Islam 2012; Vian 2020), their findings emphasize the importance of implementing internal control measures to mitigate errors and enhance performance, especially in the challenging and unpredictable environment of the private healthcare industry. Al Rahahleh et al. (2023) considered the efficacy of using internal controls to improve accountability within a broader discourse on the mechanisms and dimensions of accountability in healthcare settings. Against this general background, they suggest that private healthcare organizations should establish efficient internal control systems to improve financial reporting and accountability and offer insights in regard to improving the financial performance of private hospitals in the KSA through internal control and financial accountability measures.

Jalilvand et al. (2023) examined the structure and dimensions that contribute to accountability in hospital governance. Following Arksey and O'Malley's (2005) scoping review framework, they conducted a literature review for the period of 2010 to 2023 using various databases and search engines to investigate research related to hospital governance structures and accountability. Multiple accountable governance features were identified and then categorized into four primary themes: inclusive governance, commitment to accountability, planning for accountability, and autonomous governance. The research highlighted diverse initiatives designed to reform the governance structure of public hospitals in a number of countries, with a focus on improving financial and clinical accountability. The findings provide valuable insights into the structures and dimensions fostering accountability in hospital governance and underscore the need for initiatives directed at improving both financial and clinical accountability. These concerns align with broader conversations on accountability models and governance in health care as evidenced by Emanuel and Emanuel (1996) and as demonstrated in practical terms by Nurunnabi and Islam (2012). Jalilvand et al.'s (2023) findings also echo with Naher et al.'s (2020) and Vian's (2020) findings on the consequences of corruption in medical settings.

Against this background, the purpose of the present study is to further the field's understanding of accountability in the public healthcare setting through a case study approach. A well-known and highly regarded organization, King Abdullah Medical City (KAMC), was selected as the case study subject. Following Emanuel and Emanuel (1996) and Nurunnabi and Islam (2012), accountability is investigated in relation to four dimensions selected for their relevance to assessing accountability from the patient's standpoint in a government hospital setting. The first two dimensions are internal in that they pertain to the organization's staff and the responsibilities with which they are charged: (1) Medical Professionals (doctors, nurses, pathologists, technicians, etc.) with direct responsibility for rendering patient care; and (2) Administration and Management (managers, directors, etc.) with responsibility for driving and enforcing policy and managing operations whether in terms of fiscal management, hiring, or technology. The second two dimensions are external in that they pertain to the organization's relationship with the general environment in which it operates: (3) Legal Enforcement and Ethical Issues, which refers to the laws applicable to healthcare practice in relation to medical malpractice as well as to the broader context of medical ethics; and (4) Government Action, in particular, the Ministry of Health, which is charged with overseeing healthcare activities in line with policy. In terms of delivering health care through patient interaction, Medical Professionals constitutes the most influential dimension. Nevertheless, in the third and fourth dimensions that frame the actions of medical professionals, the Administration and Management dimension establishes the operational context, with significant power in terms of organizational functions. With consideration of each accountability dimension, accountability at King Abdullah Medical City (KAMC) is investigated from the patient's perspective. Thus, the current study makes a unique contribution to the literature by concentrating on accountability in the public healthcare sector relative to multiple dimensions of accountability. This work can, therefore, contribute to a more holistic comprehension of healthcare management in a public framework. Essentially, the study serves as an incremental contribution to the Saudi Arabian literature offering valuable insights into one of the country's most well-known providers of health care gained from a case study methodology.

Accountability is critical in defining the performance of any healthcare organization, and given the high stakes of healthcare delivery, accountability is necessarily more complex than in healthcare than in many other settings (Kennedy et al. 2014). Further, accountability is strongly associated with not only the health outcomes of but also the experiences and

perceptions of patients. The four dimensions outlined are considered as they relate to the patient's perspective. The goals in this regard are (1) to evaluate patients' perceptions of accountability in the focal healthcare organization; (2) to identify dimensions associated with a high level of accountability according to the patients' ratings; and (3) to identify areas where action is needed to more effectively meet accountability needs in the organization's delivery of health care. The current study constitutes a pioneering effort to deliver comprehensive actionable insights into the organizational structure of accountability in Saudi Arabia's public healthcare system. The findings have significant implications for the country's Health Sector Transformation Program (Saudi Economic 2030 Vision 2016a) and, therefore, contribute to the realization of the goals outlined in the Kingdom's Vision 2030 (Saudi Economic 2030 Vision 2016b). The findings show that although overall accountability levels are satisfactory across various dimensions, specific areas within Administration and Management require immediate attention—a dimension that is crucial to achieving the objectives outlined in the country's Health Sector Transformation Program. The findings indicate the need to improve communication, resource allocation, and decision-making processes in healthcare institutions, all of which are vital to the Health Sector Transformation Program. By identifying these areas as a focus for improvement, healthcare management can concentrate on strengthening overall accountability and ensuring that the highest standards of healthcare management are consistently met. Moreover, the study's findings point to significant differences in accountability perceptions influenced by demographic factors such as age, gender, and employment status—differences that are of immediate concern for the Health Sector Transformation Program's primary objectives centered on improving healthcare service accessibility, service quality and efficiency, and health risk prevention. The insights yielded by the current study can play a pivotal role in meeting these strategic goals. Recognizing these demographic-based disparities in accountability perceptions, healthcare management can tailor accountability measures to specific groups, ensuring that the benefits of their medical programs reach all sectors of the population. In summary, the current study's findings are pivotal in addressing the accountability dimensions required for the success of the Health Sector Transformation Program and in supporting the strategic goals and the broader objectives of Vision 2030.

The rest of the paper is organized as follows: The literature review is presented in Section 2, and the data collection method and the measurement model are described in Section 3. Section 4 comprises an account of the descriptive analysis and empirical results and a discussion of the findings. Finally, the practical implications of the findings together with the conclusion are presented in Section 5.

LITERATURE REVIEW

Although there is an extensive body of literature addressing healthcare service quality in both developed and developing countries (Andaleeb 2001; Andaleeb & Millet 2010; Larsson & Wilde-Larsson 2010; Narang 2010; Rao et al. 2006; Williams et al. 1995, 1998), scant attention has been given to the topic of accountability. However, Emanuel and Emanuel's influential research from 1996, which provides the basis for the literature analysis in this paper, does establish a foundation for apprehending the increasing importance of accountability in the healthcare sector and for taking steps to measure it and improve it. Emanuel and Emanuel defined accountability as the means by which a party justifies and assumes responsibility for its actions. The concept of accountability consists of three key components: firstly, the "loci of accountability," which recognizes that health care involves a multitude of stakeholders, at least 11 in number, who can either be held accountable or hold others accountable. Secondly, the "domains of accountability" in health care span six key activities: professional competence, legal and ethical conduct, financial performance, accessibility, public health promotion, and contributions to the community. Lastly, the "procedures of accountability" encompass both formal and informal processes through which compliance in these domains is assessed, including by facilitating the dissemination of evaluations and responses by those held accountable.

Emanuel and Emanuel (1996) identified three dominant accountability models: the professional model in which physicians are accountable to professional colleagues and patients; the political model in which physicians are accountable to an elected governing board comprising members of the community; and the economic model in which market dynamics and consumer choice are privileged. Arguing that no single accountability model serves healthcare contexts sufficiently, the authors advocated a stratified model in which the professional model guides physician-patient relationships, the political model operates within managed care plans and integrated health networks, and the political and economic models come into play in the relationship between managed care plans and other entities, including employers, government agencies, and professional associations.

Guided by the Emanuel and Emanuel (1996) study, which concentrated on accountability dimensions without providing either a rationale for these dimensions or offering a comprehensive quantitative or qualitative analysis. Nurunnabi and Islam (2012) identified four significant dimensions closely linked to accountability given in order of impact according to their findings—professionals, administration and management, legal enforcement and ethics, and government—in the privatized

healthcare sector in Bangladesh. Following an approach that extends beyond theory to include an empirical investigation and quantitative measurement of the four dimensions, the researchers emphasized the importance of incorporating patient perspectives into efforts to understand accountability. Their study introduced accountability dimensions as crucial intermediaries between accountability and patient satisfaction, as noted by Zeithaml et al. (1990, 1993) and partially aligns with Emanuel and Emanuel (1996) in the use of Structural Equation Modeling (SEM) to analyze accountability dimensions. Nurunnabi and Islam (2012) found that each of the four dimensions is vital in identifying perceived gaps in accountability with doctors, nurses, and pathologists; administration and management; legal enforcement; and government action all found to be in need of strengthening. Making improvements to these areas is essential to both gaining patient trust and improving accountability, as supported by Hye (2003), Collier et al. (2002), and Meyer (1998). In addition, Nurunnabi and Islam (2012) also found that weak government action and legal enforcement give rise to concerns on the part of the public about the effectiveness of government initiatives. Political pressure, government intervention, and corruption are identified as root causes necessitating the reinforcement of the legal framework in Bangladesh, as outlined by Nurunnabi et al. (2011), Rahman (2000, 2007), and the World Bank (2003).

Naher et al.'s (2020) investigative study of corruption and governance in healthcare service delivery in low- and middle-income countries in South and Southeast Asia seamlessly extends the foundational insights of Emanuel and Emanuel (1996). Whereas Emanuel and Emanuel's seminal work laid the theoretical groundwork for comprehending accountability and its core dimensions in the healthcare sector, Naher et al.'s (2020) research takes a substantial step forward by scrutinizing the tangible impact of corruption and governance, which inherently influence accountability in the healthcare realm. In essence, Naher et al.'s (2020) study acts as a bridge connecting the theoretical underpinnings of accountability, as described by Emanuel and Emanuel (1996), with the dimensions identified by Nurunnabi and Islam (2012). Naher et al. (2020) effectively highlight the considerable challenges associated with and the far-reaching implications of corruption and governance for healthcare service delivery, thereby reinforcing the vital connection between these elements and accountability. In more detail, Naher et al. (2020) examined corruption in healthcare systems, underscoring its deleterious effects on the principles of equity, quality, and financial protection. They also explored the diverse policies and strategies used to tackle this pervasive issue. Their findings shed light on inadequacies in terms of preventing and addressing corruption, which are attributed to institutional constraints and a lack of political commitment. Conventional anti-corruption measures have proven largely ineffective in countering these issues. However, community-engagement interventions are shown to result in some promising outcomes although implementing such interventions at scale remains a daunting task. Naher et al. (2020) concluded that corrupt governance undermines the equitable provision of essential healthcare services in low- and middle-income countries in South and Southeast Asia, resulting in an increased financial burden on the disadvantaged and compromised health outcomes.

In a comprehensive review of the relevant literature (46 articles published between 2008 and 2018), Vian (2020) summarized the concepts, frameworks, and approaches employed to identify corruption risks in health systems and their implications for advancing Universal Health Coverage (UHC) in line with the United Nation's (UN) Sustainable Development Goals (SDGs). Additionally, Vian (2020) inventoried various interventions aimed at combatting corruption and improving transparency and accountability in health care. According to the findings, corruption in healthcare systems includes bribes, kickbacks, embezzlement, fraud, political influence/nepotism, and informal payments. A multitude of factors, such as financial pressure, conflicting interests, and shortcomings in regulatory and enforcement mechanisms, are found to give rise to corruption and to undermine efforts to develop more equitable health systems. The result is a negative impact on health outcomes, economic growth, and overall development.

Vian's (2020) review of the literature on corruption in healthcare systems is strongly connected to Naher et al.'s work (2020) given a shared focus on the pervasiveness of corruption in healthcare service delivery. Both articles emphasize the importance of addressing corruption in the healthcare sector and the measures needed to counteract it. Additionally, they emphasize the vital interrelationship among corruption, governance, and accountability in the healthcare context, highlighting the necessity of tackling these issues to advance the cause of UHC.

Aligned with Naher et al. (2020) and Vian (2020) in terms of addressing the repercussions of corruption for healthcare service delivery and governance, Dikmen and Çiçek (2023) underscore the high level of risk associated with corruption in public procurement contexts, particularly the healthcare sector. The process of transferring public resources to the private sector through procurement procedures offers an ideal conditions for corruption. However, Dikmen and Çiçek's (2023) unique contribution to the literature centers on examining corruption in public procurement, elucidating the specific challenges and threats associated with this specific functional area of the healthcare sector.

RESEARCH METHODOLOGY

METHODOLOGY AND STATISTICAL METHODS

King Abdullah Medical City (KAMC) is a well-known and highly regarded healthcare institution strategically located over an area of 800,000 square meters in Mecca, Saudi Arabia. It has the distinction of being the country's third referral specialist medical city after King Fahd Medical City and King Fahd Specialist Hospital in Dammam. KAMC was selected as the case study because it is a prominent and expansive healthcare institution known for its comprehensive healthcare services, specialized facilities, and dedicated research center. Offering a broad range of services and specialized surgery, the institution demonstrates alignment with HRH King Abdullah's vision and aspirations for international recognition. It is also strategically important during the Hajj season.

The medical city boasts a five-story building with 1,500 beds of which 500 are reserved for a specialist referral hospital. The medical city consists of three campuses: (1) a 550-bed quaternary hospital in the holy city of Mecca, which is home to several centers of excellence, including for cardiovascular, neurosciences, oncology, and specialized surgery; (2) an oncology center in Jeddah; and (3) a 1,000-bed quaternary healthcare facility currently under construction between Jeddah and Mecca, which will include an educational center with a specialized hospital, rehabilitation hospital, and research center. Overall, given its prominence and range, KAMC provides an ideal opportunity to explore healthcare management, research, and its impact on patient care.

Accountability was examined in respect to four major dimensions relevant to all healthcare organizations: Medical Professionals, Administration and Management, Legal Enforcement and Ethical Issues, and Government Action. The patient's perspective, represented by outpatients who had received health care from KAMC, constituted the investigative focus. Accordingly, data were collected via a self-administered questionnaire developed by Emanuel and Emanuel (1996) and modified by Nurunnabi and Islam (2012) and then modified further for the current study purpose. Responses were based on a cross-sectional protocol, and a quantitative descriptive approach was used for the analysis.

The first section of the questionnaire concentrated on the patients' socio-demographic characteristics—gender, age, nationality, educational level, occupation, and monthly income—together with the frequency with which they visited the center and their reason for visiting a government hospital. The rest of the survey questions were divided into the four dimensions of Medical Professionals, Administration and Management, Legal Enforcement and Ethical Issues, and Government Action. The respondents were presented with a total of 37 items with response options on a Likert-type scale of 1 to 5: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The questionnaire survey was distributed electronically to the study sample by email between 27/02/2021 to 30/04/2021.

To ensure the questionnaire's adequacy and suitability for the intended audience, a pre-test was performed to assess its language, structure, length, and question order. To ensure that the pre-test would be appropriate for a diverse range of patients, the sample chosen for this purpose 20 was drawn from a heterogeneous group with various educational backgrounds and linguistic skills. The feedback obtained during the pre-test phase was of critical importance in refining the questionnaire, aligning it more closely with the research objectives. To facilitate participation by those with limited English proficiency, the questionnaire was made available in both English and Arabic. Oral consent was obtained from each potential respondent, after which the questionnaire in the patient's preferred language was sent by email to him/her. KAMC IRB approval was given for the study on the 25th of February 2021 with approval number 21-761. Ensuring confidentiality was a top priority throughout the research process such that the questionnaire did not require respondents to disclose their names. To ensure that respondents would be well-informed about the study's purpose, the questionnaire included an introductory section on this subject.

In terms of the statistical methodology used, the data were coded and a descriptive analysis was performed, with differences examined using One-Way Analysis of Variance (ANOVA) and the Independent Samples T-Test. Structural Equation Modeling (SEM) through AMOS was used to perform Confirmatory Factor Analysis (CFA) in order to validate the factorial structure of the instrument (Byrne, 2001).

DATA COLLECTION AND SCREENING

All the respondents had visited the KAMC Outpatient Department during the three-month period of February–April 2021. Simple random sampling procedures were used to choose the initial sample, as a result of which the questionnaire was

distributed to 744 patients. In total, 440 completed surveys were returned (a 59.1% response rate) assuming a minimum response rate of 50% and a +/-5% confidence interval. The inclusion criteria were as follows: all respondents had been admitted to the KAMC Outpatient Department, were at least 18 years of age, could read Arabic and/or English, and were interested in participating in the research.

The 440 completed questionnaires were subjected to coding in SPSS. Regular patterns in the ratings (i.e., the respondents' answers) were checked by examining standard deviation values for the Likert-based items. Through this process, 27 questionnaires were identified as having regular patterns scoring standard values equal to zero. High standard values were found for the remaining 413 questionnaires such that they were determined to be free of patterns in the ratings and, therefore, were, retained for analysis. The overall mean values for the respondents' ratings were visualized using a simple-scatter dot diagram, and no major outliers were found in the dataset. Finally, parametric tests were included as the data were found to be free of normality issues: that is, based on kurtosis and skewness measures, all values were found to be around zero and, therefore, well within the maximum range for normality (± 2.2) as proposed by Sposito et al. (1983). The skewness/kurtosis values were as follows: Medical Professionals (-0.613/0.871), Administration and Management (-0.119/0.361), Legal Enforcement and Ethical Issues (-0.742/0.508), and Government Action (-0.759/1.172).

RESPONDENTS' DEMOGRAPHICS

The first part of the questionnaire focused on the respondents' demographics, which are summarized in Table 1. In regard to age, close to half the respondents were in the 18-to-29-year- old category (n = 196l, 47.5%). The rest of the sample consisted of the following: 24.2% (n = 100) 30 to 39 years, 9.9% (n = 41) 40 to 49 years, 10.7% (n = 44) 50 to 59 years, and 7.7% (n = 32) ≥ 60 years. In terms of gender, almost three quarters of the respondents identified as female (n = 300, 72.6%) with the rest identifying as male (n = 113, 27.4%). This disparity can be explained by cultural factors inasmuch as it was a female researcher who approached the patients to ask them to participate in the online survey. For this reason, it was more comfortable for women than for men to agree to participate. In regard to marital status, given that the majority of the respondents were in the youngest category, it is not surprising to find that approximately half the respondents were also single (n = 193, 46.7%), followed in order by those who were married (n = 171, 41.4%), widowed (n = 25, 6.1%), and divorced (n = 24, 5.8%).

Most of the surveyed respondents had received a formal education, with only 2.7% (n = 11) reporting that they were uneducated. Further, almost half (47.7%) of the respondents reported a school level as their highest educational level with the distribution as follows: primary school (n = 28, 6.8%), intermediate school (n = 32, 7.7%), and high school (n = 137, 33.2%). The remaining respondents were highly educated, with the highest level attained distributed as follows: pre-university diploma (n = 28, 6.8%), college/university degree (n = 146, 35.4%), post-university diploma (n = 9, 2.2%), and postgraduate degree (n = 22, 5.3%). Further, the vast majority of the respondents reported Saudi as their nationality (n = 359, 86.9%) with non-Saudi nationals comprising only a small proportion of the sample (n = 54, 13.1%).

In terms of employment status, the respondents reflected significant diversity: unemployed (n = 166, 28.1%), student (n = 101, 24.5%), government employee (n = 90, 21.8%), private sector employee (n = 56, 13.6%), self-employed (n = 26, 6.3%), and retired (n = 24, 5.8%). Further, the results for monthly income showed that half the respondents (n = 222, 53.8%) had income of less than 3,000 SR, which is in line with the large proportion of young respondents as well as in keeping with the fact that more than half the respondents reported that they were either students or unemployed. Respondents reporting a high level of income accounted for only a small proportion of the sample: SR 3,000 to less than 5,000 (n = 59, 14.3%), SR 5,000 to less than 7,000 (n = 34, 8.2%), SR 7,000 to less than 10,000 (n = 54, 13.1%), SR 10,000 to less than 15,000 (n = 29, 7.0%), SR 15,000 to less than 20,000 (n = 9, 2.2%), SR 20,000 to less than 30,000 (n = 3, 0.7%), and SR 30,000 and above (n = 3, 0.7%).

Finally, in regard to how often the respondents visited the hospital and their reasons for doing so, a large majority reported visiting only as needed (n = 318, 77.0%), followed by those who visited quarterly (n = 41, 9.9%), monthly (n = 35, 8.5%), and annually (n = 19, 4.6%). Concerning their reasons for visiting the hospital, 34.1% (n = 141) selected convenience, 25.9% (n = 107) selected lack of health insurance, 27.8% (n = 115) selected the high quality of the services offered at the hospital, and 12.1% (n = 50) selected that they knew some people employed at the hospital.

TABLE 1. Respondents' demographics

Category	Group/Subgroup	n	%
Age	18 to 29 years	196	47.5%
	30 to 39 years	100	24.2%
	40 to 49 years	41	9.9%
	50 to 59 years	44	10.7%
	≥ 60 years	32	7.7%

	Total	*413*	*100%*
Gender	Male	113	27.4%
	Female	300	72.6%
	Total	*413*	*100%*
Marital status	Single	193	46.7%
	Married	171	41.4%
	Widowed	25	6.1%
	Divorced	24	5.8%
	Total	*413*	*100%*
Education	Uneducated	11	2.7%
	Primary school	28	6.8%
	Intermediate school	32	7.7%
	High school	137	33.2%
	Pre-university diploma	28	6.8%
	College/university degree	146	35.4%
	Post-university diploma	9	2.2%
	Postgraduate degree	22	5.3%
	Total	*413*	*100%*
Nationality	Saudi	359	86.9%
	Non-Saudi	54	13.1%
	Total	*413*	*100%*
Employment status	Government employee	90	21.8%
	Private sector employee	56	13.6%
	Self-employed	26	6.3%
	Student	101	24.5%
	Retired	24	5.8%
	Unemployed	116	28.1%
	Total	*413*	*100%*
Monthly income	< SR 3,000	222	53.8%
	SR 3,000 to less than 5,000	59	14.3%
	SR 5,000 to less than 7,000	34	8.2%
	SR 7,000 to less than 10,000	54	13.1%
	SR 10,000 to less than 15,000	29	7.0%
	SR 15,000 to less than 20,000	9	2.2%
	SR 20,000 to less than 30,000	3	0.7%
	≥ SR 30,000	3	0.7%
	Total	*413*	*100%*
Frequency of hospital visits	As needed	318	77.0%
	Monthly	35	8.5%
	Quarterly	41	9.9%
	Annually	19	4.6%
	Total	*413*	*100%*
Reason for visiting a government hospital	Convenience	141	34.1%
	No health insurance	107	25.9%
	High-quality services	115	27.8%
	Know some people employed at hospital	50	12.1%
	Total	*413*	*100%*

QUALITY OF MEASUREMENT MODEL: CONFIRMATORY FACTOR ANALYSIS (CFA)

To examine the quality of the measurement model, CFA was applied through AMOS. This approach was chosen because model feasibility can be determined with CFA by checking goodness of fit and the validity and reliability of the proposed scales (Anderson & Gerbing 1988; Hair et al. 2019). All statements were entered into the multifactor model corresponding to its suggested factors. Goodness of fit indices were used to check for model fit in line with the literature (Hair et al. 2019; Kline 2015). Our original measurement model exhibited a poor fit: CMIN/DF ($\chi 2$) (2.550), CFI (0.877), SRMR (0.054), and RMSEA (0.061) (Figure 1) such that it was revised to achieve an acceptable fit to the data (Table 2 and Figure 2).

The model was refitted based on factor loading whereby all items with an FL value below 0.50 were dropped (P10, P2, AM3, and AM8). Further, it was observed that the model included multiple MIs exceeding 0.15, which were correlated in order to reduce redundancy in the model and achieve a satisfactory fit for the study's purpose. Following these refinements, it was

concluded that additional revision would not improve the model further. The goodness of fit indices for the revised model produced the following results: CMIN/DF ($\chi 2$) (2.298), CFI (0.915), SRMR (0.045), and RMSEA (0.056). Table 2 presents the goodness-of-fit indices and the values for the original and revised models. Figure 2 shows the revised measurement model.

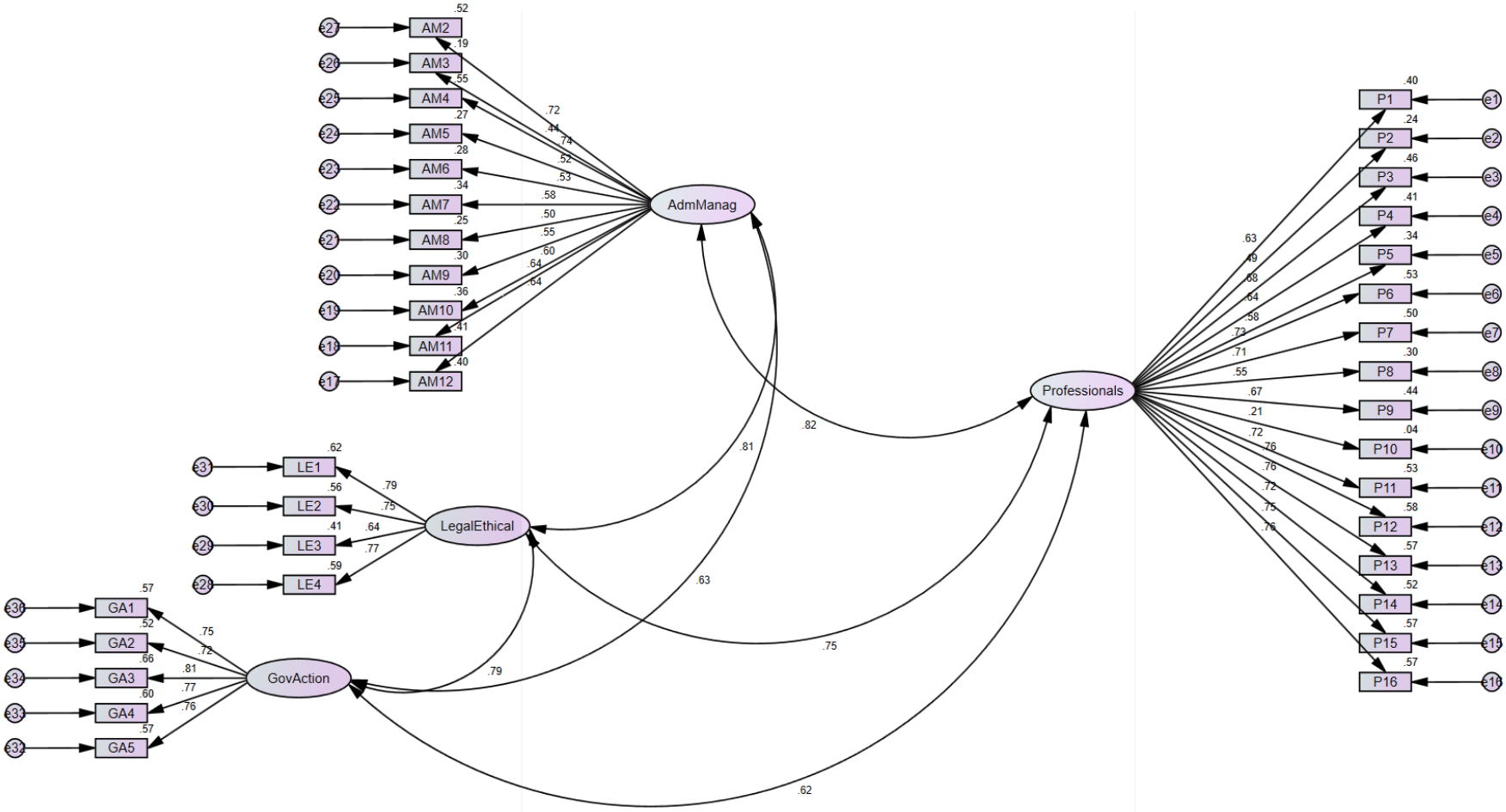

FIGURE 1. Original measurement model

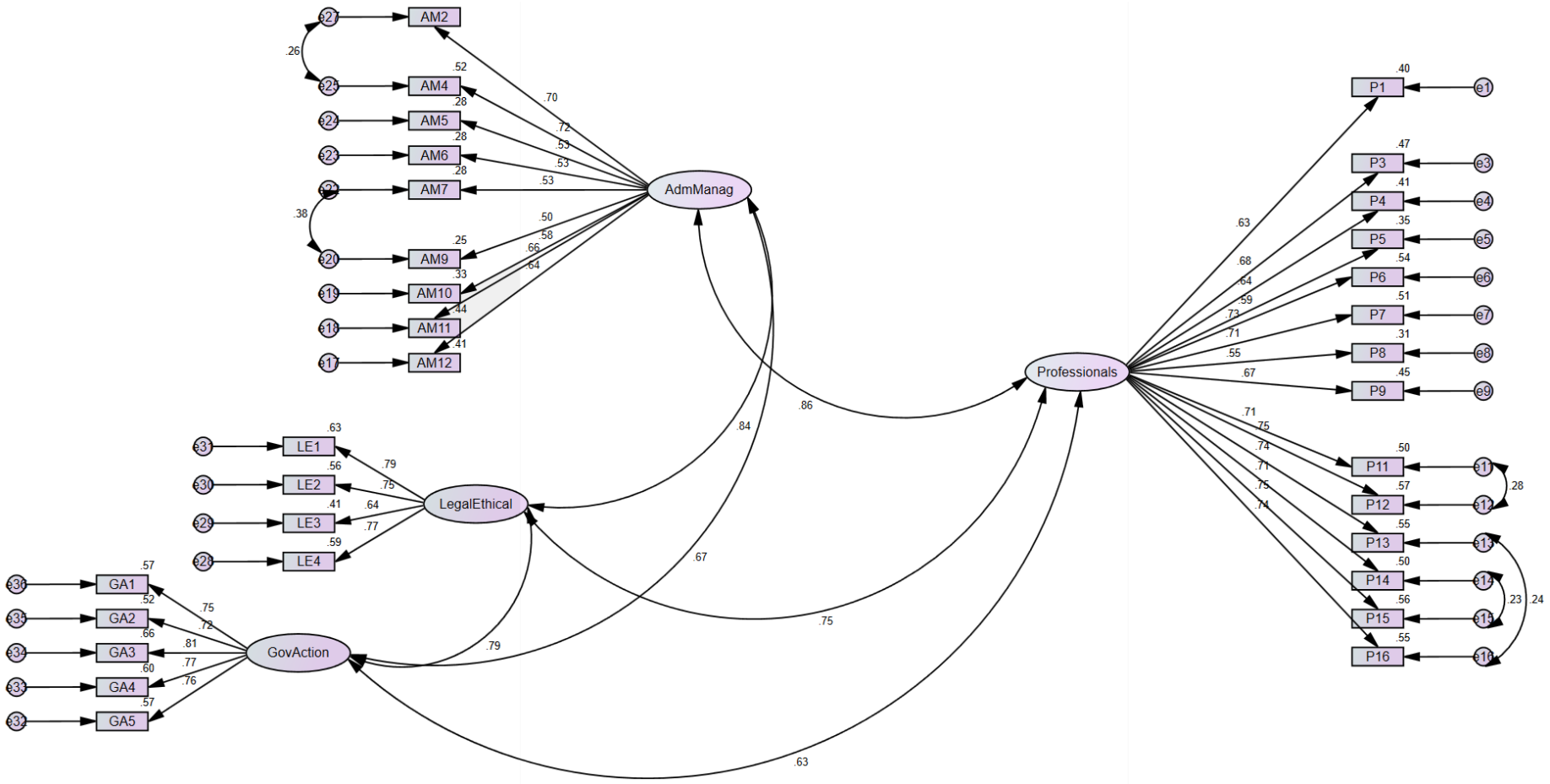

FIGURE 2. Revised measurement model

ISSN2180-3838
e-ISSN2716-6060
(http://dx.doi.org/10.17576/AJAG-2024-21-01)

TABLE 2. Goodness-of-fit indices and values of original and revised models

Indices	Cutoff criteria			Original	Revised
	Unacceptable	Acceptable	Excellent		
CMIN	--	--	--	1499.461	1041.173
DF	--	--	--	588	453
CMIN/DF	> 5	> 3	> 1	2.550	2.298
CFI	< 0.90	< 0.95	> 0.95	0.877	0.915
SRMR	> 0.10	> 0.08	< 0.08	0.054	0.045
RMSEA	> 0.08	> 0.06	< 0.06	0.061	0.056

As satisfactory goodness of fit was confirmed for the revised measurement model, the reliability and validity of the model were confirmed. The Cronbach's alpha values were found to exceed 0.70, showing that the scales used had adequate reliability in line with Hair et al. (2019) and Bougie and Sekaran (2019). The Cronbach's alpha values were as follows: Medical Professionals (0.926), Administration and Management (0.843), Legal Enforcement and Ethical Issues (0.827), and Government Action (0.873). Further, Composite Reliability (CR) contributed to the convergent validity and internal consistency of the model. Following Hair et al.'s (2019) specification of a minimum threshold of 0.70 for CR, all the scales in the model had a CR value above 0.70, indicating adequate convergent validity and internal consistency. The CR values were as follows: Medical Professionals (0.927), Administration and Management (0.835), Legal Enforcement and Ethical Issues (0.827), and Government Action (0.875). Moreover, as all the retained items were found to have an FL value higher than 0.50, convergent validity was again supported for the model (Hair et al. 2019). Table 3 presents the statistical reliability and convergent validity results for the revised measurement model. Finally, all the retained items were entered into one factor to check for unifactorial support. The model showed a misfit in the data: CMIN/DF ($\chi 2$) (3.899), CFI (0.807), SRMR (0.068), and RMSEA (0.084). This result supported the model as multifactorial and provided insights in relation to discriminant validity conformation.

TABLE 3. Statistical reliability and convergent validity results for the revised measurement model

Dimension	Label	Item	Estimate	T-value	Cronbach's α	CR
Medical Professionals	P1	When you have health-related problem/s you can trust your doctor(s).	0.63	--	0.926	0.927
	P3	The practitioners are sincerely interested in providing treatment for your problem/s.	0.68	11.982**		
	P4	The technicians/pathologists can diagnose your problem/s the right way.	0.64	11.414**		
	P5	Primarily, they check your medical history before prescribing anything.	0.59	10.608**		
	P6	The practitioners are well qualified, and you can rely on their care.	0.73	12.688**		
	P7	The practitioners communicate effectively with their patients when discussing health-related problems and possible outcomes.	0.71	12.405**		
	P8	You feel comfortable discussing your problem with the physician, who is friendly and warm towards you and treats you with respect (not cold or abrupt).	0.55	10.072**		
	P9	You feel safe visiting a government hospital.	0.67	11.768**		
	P11	The physician explained things clearly, answered your questions fully, and gave you adequate information (not vague).	0.71	12.328**		
	P12	You feel that the physician understood your case properly, accurately understood your concerns, and did not overlook or dismiss anything.	0.75	12.944**		
	P13	The physician really listens, pays close attention to what you are saying, and does not look at notes or a computer when you are talking.	0.74	12.754**		
	P14	They are positive. They have a positive approach and a positive attitude and are honest but not negative about your problems.	0.71	12.345**		
	P15	The healthcare practitioners are friendly and interested in you as a whole person. They ask about/know relevant details about your life, your situation, and do not treat you as "just a number."	0.75	12.842**		
	P16	You feel some ease after the consultation. You are allowed to tell your story, giving you time to fully describe your illness in your own words, without being interrupted or diverted.	0.74	12.810**		
Administration and Management	AM2	Managers are credible and gain the patient's confidence.	0.70	11.968**	0.843	0.835
	AM4	Administrators have the ability to hire the right people.	0.72	12.279**		
	AM5	The hospital is open 24 hours.	0.53	9.510**		
	AM6	The hospital is conveniently located.	0.53	9.486**		
	AM7	Calls are returned promptly.	0.53	9.512**		
	AM9	Information regarding routine check-ups is received through reports, letters or emails.	0.50	9.057**		
	AM10	Rules about seeing the doctor are not violated (no nepotism).	0.58	10.290**		
	AM11	High-tech medical instruments are in use.	0.66	11.534**		
	AM12	There is easy access for disabled persons.	0.64	--		
Legal Enforcement and Ethical Issues	LE1	Medical malpractice laws exist to protect patients.	0.79	16.215**		
	LE2	The services provided are ethical.	0.75	15.291**		

	LE3	I feel comfortable taking legal action if anything goes wrong (e.g., the doctor is negligent, wrong treatment/prescription).	0.64	12.868**	0.827	0.827
	LE4	Rules and laws are being implemented effectively.	0.77	--		
Government Action	GA1	The government plays a major role in overseeing the activities of the healthcare sector.	0.75	15.262**	0.873	0.875
	GA2	Government initiatives are not lenient towards medical practice.	0.72	14.600**		
	GA3	The government adequately promotes the patients' bill of rights.	0.81	16.563**		
	GA4	Fairness is always maintained to save patients.	0.77	15.690**		
	GA5	The government provides financial, legal, mental, and social support to patients to protect their interests.	0.76	--		

**implies $P < 0.01$

FINDINGS AND DISCUSSION

Accountability, a subset of governance, is a major concern in the healthcare sector, and the perspective of patients is critical to understanding the ways in which and the extent to which public healthcare centers are functioning effectively or ineffectively in this regard. With KAMC as the case study, an investigation of accountability was conducted in terms of four dimensions—Medical Professionals, Administration and Management, Legal Enforcement and Ethical Issues, and Government Action. Quantitative data were collected from outpatients using a questionnaire instrument with items presented on a Likert-type scale.

Mean and standard values were established to explore the level of accountability associated with the health care provided at KAMC for each of the four focal dimensions (Table 4). To interpret the mean values, the scale introduced by Bougie and Sekaran (2019) was used in line with prior studies (Al Rahahleh 2022; Al Rahahleh et al. 2023). The interpretation yielded the following categorizations:

1. Mean values in the range of 3.67–5.00 indicate a high degree of agreement.
2. Mean values in the range of 2.34–3.669 indicate a moderate level of agreement.
3. Mean values in the range of 1 and 2.339 indicate a low level of agreement.

Table 4. Mean and std. values for accountability levels for four dimensions from patients' perspective (n = 413)

No.	Order	Dimension	Mean	Std.	Level
1	2	Medical Professionals	3.76	0.64	High
2	3	Administration and Management	3.55	0.65	Moderate
3	2	Legal Enforcement and Ethical Issues	3.76	0.80	High
4	1	Government Action	4.03	0.70	High

The respondents' answers indicate that the Government Action dimension was associated with the highest accountability level at KAMC. The overall mean value was M = 4.03, which represents a high level of agreement. This result suggests that government action has an influence on a healthcare provider's accountability for health care. Medical Professionals and Legal Enforcement and Ethical Issues were both at the next highest accountability level: A mean value of M = 3.76 for each of these dimensions indicates a high level of accountability from the perspective of the patients.

The Administration and Management dimension ranked lowest for accountability with only a moderate level of agreement, as indicated by a mean value of M = 3.55. This result indicates that action is necessary to improve accountability and/or the communication of accountability in this dimension. None of the std. values were found to be greater than 1, which indicates that the ratings were clustered around the mean values, and, therefore, generally homogenous. Next, a descriptive analysis is provided for each dimension to further the field's understanding of accountability at a more granular level.

LEVELS OF ACCOUNTABILITY FOR EACH OF THE FOUR DIMENSIONS

LEVELS OF ACCOUNTABILITY IN THE MEDICAL PROFESSIONALS DIMENSION

A descriptive analysis of accountability for the items in the Medical Professionals dimension is presented in this section (Table 5). Overall levels of accountability in this dimension had a high overall mean value of M = 3.76. Of 14 items, 12 measuring areas in the Medical Professionals dimension showed a high level of agreement, indicating that the majority of areas are maintained to a high level. Only two items in this dimension showed a moderate level of agreement: "You feel that the physician understood your case properly, accurately understood your concerns not overlooking or dismissing anything" (M = 3.66) and

"Technicians/pathologists can diagnose your problem/s the right way" (M = 3.44). In fact, medical professionals would be well-advised to emphasize these dimensions, as there is significant room for improvement as respondents' ratings indicate.

The remaining results show that patients perceive other areas in the Medical Professionals dimension as functioning at a high level with mean values ranging from M = 4.04 to M = 3.68. These are strongly positive findings for KAMC; yet, it remains the case that it is incumbent on all medical professionals to work towards ever greater accountability over time. The highest level of accountability was found for this item: "You feel comfortable discussing your problem with the physician, who is friendly and warm towards you and treats you with respect (not cold or abrupt)" followed by "When you have health-related problem/s you can trust your doctor(s)" and then "Practitioners are sincerely interested in providing treatment for your problem/s." Std. values lower than 1 were found, suggesting agreement among the respondents on most of the items. However, there was one exception—"Primarily they check your medical history before prescribing anything"—which should be investigated further to determine the reasons for the disagreement among the respondents.

Despite findings related to accountability in the Medical Professionals dimension showing that the respondents thought most areas were relatively sound in terms of accountability, it is vital to consider that two items were omitted from the CFA. These items should be investigated by the center: "Practitioners have specialized education in their respective fields" and "People go abroad for medical treatment although they can get the same services in the Saudi government hospitals."

In contrast to the findings of the current study, which focuses primarily on a case study of a public institution, Nurunnabi and Islam (2012) offered quantitative measurements of accountability in the four dimensions in their pioneering study. Key similarities and differences between the two studies are as follows: In the current study, a high level of accountability was found in the Medical Professionals dimension, with an average score of M = 3.76. However, in Nurunnabi and Islam's investigation into the private healthcare sector, significant patient uncertainty in regard to the qualifications of nurses and the diagnostic capabilities of pathologists was found. This finding points to a potential concern related to the validity of nursing qualifications in Bangladesh. Further, Nurunnabi and Islam found that nearly two-thirds of respondents expressed apprehension regarding decreased service quality in private health care, prompting them to seek higher-quality services abroad. As Nahar (2002) argued, there is widespread unease regarding the demeanor and conduct of physicians. Patients hope to meet with healthcare providers who offer a professional approach, meticulous observation, courtesy, humane treatment, and effective communication—attributes that are frequently found to be lacking in healthcare settings in Bangladesh.

TABLE 5. Mean and std. values for accountability in the Medical Professionals dimension from patients' perspective (n = 413)

No.	Order	Item	Mean	Std.	Level
1	2	When you have health-related problem/s you can trust your doctor(s).	3.95	0.81	High
3	3	The practitioners are sincerely interested in providing treatment for your problem/s.	3.84	0.85	High
4	14	The technicians/pathologists can diagnose your problem/s the right way.	3.44	1.00	Moderate
5	9	Primarily, they check your medical history before prescribing anything.	3.73	1.05	High
6	8	The practitioners are well qualified, and you can rely on their care.	3.75	0.85	High
7	6	The practitioners communicate effectively with their patients when discussing health-related problems and possible outcomes.	3.79	0.87	High
8	1	You feel comfortable discussing your problem with the physician, who is friendly and warm towards you and treats you with respect (not cold or abrupt).	4.04	0.80	High
9	7	You feel safe visiting a government hospital.	3.75	0.98	High
11	12	The physician explained things clearly, answered your questions fully, and gave you adequate information (not vague).	3.68	0.94	High
12	13	You feel that the physician understood your case properly, accurately understood your concerns, and did not overlook or dismiss anything.	3.66	0.88	Moderate
13	11	The physician really listens, pays close attention to what you are saying, and does not look at notes or a computer when you are talking.	3.71	0.93	High
14	5	They are positive. They have a positive approach and a positive attitude and are honest but not negative about your problems.	3.83	0.83	High
15	4	The healthcare practitioners are friendly and interested in you as a whole person. They ask about/know relevant details about your life, your situation, and do not treat you as "just a number."	3.83	0.86	High
16	10	You feel some ease after the consultation. You are allowed to tell your story, giving you time to fully describe your illness in your own words, without being interrupted or diverted.	3.72	0.96	High

Total Mean	3.76	High

LEVELS OF ACCOUNTABILITY IN THE ADMINISTRATION AND MANAGEMENT DIMENSION

As stated earlier, the Administration and Management dimension received the lowest accountability score with an overall mean value of M = 3.55 (Table 6). However, four items in this dimension were rated relatively highly with mean values ranging from M = 4.03 to M = 3.76: "The hospital is open 24 hours," "High-tech medical instruments are in use," "The hospital is conveniently located," and "There is easy access for disabled persons."

Efforts should be directed to the following items and associated areas given the modest extent of respondent agreement associated with them, i.e., in the range of 3.57 to 2.92 given in descending order of agreement: "Managers are credible and gain the patient's confidence," "Administrators have the ability to hire the right people," "Rules about seeing the doctor are not violated (no nepotism)," "Information regarding routine check-ups is received through reports, letters or emails," and "Calls are returned promptly." Further, std. values were below 1 for most of the items, showing a high level of agreement among the respondents. However, three of the items were found to have std. values above 1, such that improvements are needed in these areas: "Calls are returned promptly," "Information regarding routine check-ups is received through reports, letters or emails," and "Rules about seeing the doctor are not violated (no nepotism)." Further, two areas that were not included in the CFA should be considered in additional work to continue this research direction: patients' perceptions of the costs involved in visiting a government hospital and the waiting times patients are likely to encounter.

A comparative analysis of the results of the current study and those of Nurunnabi and Islam (2012) shows a high degree of consistency: In both studies, the respondents expressed skepticism regarding the administrators and managers of healthcare institutions and also identified seeking healthcare as a financial risk, primarily attributing the latter concern to extended waiting times. Additionally, in both studies, respondents thought nepotism had a detrimental impact on the credibility of administrators and managers, particularly in terms of securing an appointment. This uniformity across the findings of the two studies extends to the negative views expressed by the respondents regarding nepotism in this dimension.

TABLE 6. Mean and std. values for accountability in the Administration and Management dimension from patients' perspective (n = 413)

No.	Order	Item	Mean	Std.	Level
2	5	Managers are credible and gain the patient's confidence.	3.57	0.88	Moderate
4	6	Administrators have the ability to hire the right people.	3.53	0.98	Moderate
5	1	The hospital is open 24 hours.	4.03	0.86	High
6	3	The hospital is conveniently located.	3.81	0.96	High
7	9	Calls are returned promptly.	2.92	1.16	Moderate
9	8	Information regarding routine check-ups is received through reports, letters or emails.	3.15	1.14	Moderate
10	7	Rules about seeing the doctor are not violated (no nepotism).	3.39	0.91	Moderate
11	2	High-tech medical instruments are in use.	3.83	0.93	High
12	4	There is easy access for disabled persons.	3.76	0.97	High
Total Mean			3.55		Moderate

ACCOUNTABILITY LEVELS IN THE LEGAL ENFORCEMENT AND ETHICAL ISSUES DIMENSION

From the perspective of patients at the KAMC, a high level of accountability is associated with the Legal Enforcement and Ethical Issues dimension given that the overall mean value was M = 3.76 (Table 7). The respondents rated all but one of the areas highly in this dimension. The exception was "Rules and laws are being implemented effectively," for which the moderate mean value was M = 3.62. The respondents also rated the rest of the items in this dimension highly for accountability: "I feel comfortable taking legal action if anything goes wrong" ("e.g., the doctor is negligent, wrong treatment/prescription"), "The services provided are ethical," and "Medical malpractice laws exist to protect patients." Two items and associated areas warrant further investigation, as the respondents' ratings were not homogeneous: "Medical malpractice laws exist to protect patients" and "Rules and laws are being implemented effectively."

TABLE 7. Mean and std. values for accountability in the Legal Enforcement and Ethical Issues dimension from patients' perspective (n = 413)

No.	Order	Item	Mean	Std.	Level
1	3	Medical malpractice laws exist to protect patients.	3.80	1.06	High
2	2	The services provided are ethical.	3.81	0.91	High
3	1	I feel comfortable taking legal action if anything goes wrong (e.g., the doctor is negligent, wrong treatment/prescription).	3.82	0.98	High
4	4	Rules and laws are being implemented effectively.	3.62	1.00	Moderate
Total Mean			3.76		High

The current study shows a high level of patient satisfaction for the items in the Legal Enforcement and Ethical Issues dimension. In contrast, Nurunnabi and Islam (2012) found that in this same dimension, patients showed a clear understanding of Bangladeshi laws and their rights in regard to taking legal action. However, limited evidence was available relative to patients actually taking legal action against private healthcare staff or institutions. As Nurunnabi and Islam (2012) stated, this absence of legal action suggests a detrimental impact of corruption on healthcare services: "Political pressure, government's intervention and corruption are the root causes for strengthening the Bangladeshi legal framework" (Nurunnabi & Islam 2012: 640). The respondents' ratings indicated that they perceived significant corruption in their country's healthcare system and a tendency on the part of administrators and managers to generate profits without being accountable to patients. The respondents' ratings emphasized the need for clearer guidance and regulatory measures to address these concerns and ensure that high-quality health care is delivered including in regard to ethical standards.

LEVELS OF ACCOUNTABILITY IN THE GOVERNMENT ACTION DIMENSION

Finally, the respondents ranked this dimension highest on accountability with a high level of agreement for all items and an overall mean value of M = 4.03 (Table 8). The mean values for the items in this dimension ranged from M = 4.09 to M = 3.95. The highest-ranked item was "The government plays a major role in overseeing the activities of the healthcare sector" whereas the lowest-ranked item was "Government initiatives are not lenient towards medical practice." Agreement was found among the respondents given that no item had a std. value above 1.

Of the four accountability dimensions, the Government Action dimension received the highest ranking (overall mean value M = 4.03) and a high level of agreement for all items (M = 4.09 to M = 3.95). However, in contrast, Nurunnabi and Islam (2012) found that in this same dimension, half of their Bangladeshi respondents believed that the government had little involvement in overseeing the activities of private hospitals. They perceived government initiatives as lenient towards medical malpractice and as ineffective in terms of protecting patients' rights. Most respondents expressed doubts about whether there is a genuine political will to take decisive actions, which raised questions about accountability in Bangladesh.

In summary, aligned with Nurunnabi and Islam (2012), the current study's findings emphasize the significance of strengthening accountability in relation to the Medical Professionals, Administration and Management, and Legal Enforcement and Ethical Issues dimensions. Effective measures put in place to improve accountability in these dimensions could play a pivotal role in cultivating patient confidence and trust, thereby ultimately enhancing accountability (Collier et al. 2002; Hye 2003; Meyer 1998). It is important to note that Nurunnabi and Islam (2012) highlighted the need for improvement in general but particularly in relation to government action and combatting corruption, an emphasis that diverges from the findings of the context of Saudi Arabia. In the current study, the respondents' perceptions in the Government Action dimension showed the highest level of agreement (M = 4.03) as compared with their perceptions in the other three dimensions, suggesting that the Kingdom, through its Vision 2030 and associated initiatives, is diligently serving patients in this public institution. In contrast, Nurunnabi and Islam's (2012) work sheds light on the challenges associated with inadequate government action and weak legal enforcement, raising concerns about the effectiveness of government initiatives. In recent studies, researchers have addressed the issue of corruption in the healthcare sector and considered its repercussions for healthcare service delivery and governance (Dikmen & Çiçek 2023; Naher et al. 2020; Vian 2020).

TABLE 8. Mean and Std. Values for Accountability in the Government Action Dimension from Patients' Perspective (N = 413)

No.	Order	Item	Mean	Std.	Level
1	1	The government plays a major role in overseeing the activities of the healthcare sector.	4.09	0.83	High
2	5	Government initiatives are not lenient towards medical practice.	3.95	0.92	High
3	3	The government adequately promotes the patients' bill of rights.	4.07	0.81	High
4	4	Fairness is always maintained to save patients.	3.97	0.87	High
5	2	The government provides financial, legal, mental, and social support to patients to protect their interests.	4.08	0.86	High
Total Mean			4.03		High

DIFFERENCES IN RESPONDENTS' RATINGS OF THE ACCOUNTABILITY DIMENSIONS RELATING TO DEMOGRAPHICS

The results presented in the previous sections show the respondents' overall agreement on the measured dimensions. To investigate significant differences relating to demographics, the Independent Samples T-Test and One-Way Analysis of Variance (ANOVA) along with the LSD-Fisher post-test were used to compare the mean values of the subgroups. Differences

in relation to nationality, marital status, income, education, and frequency of hospital visits were not included in the analysis due to large differences in the size of the categories in each of these subgroups, which did not provide a sound basis for comparison.

DIFFERENCES RELATING TO AGE

The ANOVA results presented in Table 9 show non-significant differences in the Administration and Management dimension in relation to age. The test value of F = 1.376, P = 0.241 indicated that the accountability level for Administration and Management was consistent across all age groups. Further, the ANOVA results showed significant differences in all three remaining dimensions: Medical Professionals (F = 2.738, P = 0.028), Legal Enforcement and Ethical Issues (F = 4.557, P = 0.001), and Government Action (F = 2.469, P = 0.044). The LSD-Fisher test for multiple comparisons showed that the respondents aged 50 to 59 years and those ≥ 60 years were significant groups, such that these older participants rated these dimensions significantly higher on accountability than did the younger participants. Further, younger respondents showed a higher level of agreement than did older respondents.

TABLE 9. ANOVA test results for differences relating to age (n = 413)

Dimension	F value	Sig.	Sig. Group
Medical Professionals	2.738	0.028*	50 to 59 years ; ≥ 60 years
Administration and Management	1.376	0.241	–
Legal Enforcement and Ethical Issues	4.557	0.001*	50 to 59 years; ≥ 60 years
Government Action	2.469	0.044*	50 to 59 years; ≥ 60 years

* Differences are significant at $\alpha \leq 0.05$

DIFFERENCES RELATING TO GENDER

The results presented in Table 10 pertain to differences in relation to gender and show that all the tests results were significant: Medical Professionals (T = 3.985, P = 0.000), Administration and Management (T = 2.469, P = 0.014), Legal Enforcement and Ethical Issues (T = 3.809, P = 0.000), and Government Action (T = 4.109, P = 0.000). A comparison of the mean values showed a higher level of agreement among the male rather than the female participants on all accountability dimensions.

TABLE 10. Independent samples T-test results for differences relating to gender (n = 413)

Dimension	T value	Sig.	Sig. Group
Medical Professionals	3.985	0.000*	Male
Administration and Management	2.469	0.014*	Male
Legal Enforcement and Ethical Issues	3.809	0.000*	Male
Government Action	4.109	0.000*	Male

* Differences are significant at $\alpha \leq 0.05$

DIFFERENCES RELATING TO EMPLOYMENT STATUS

The ANOVA results presented in Table 11 show non-significant differences in the Administration and Management dimension relating to employment status. The test value of F = 1.013, P = 0.410 indicates that respondents' perceptions of Administration and Management accountability did not vary in relation to their employment status. Further, the ANOVA results show significant differences for all the other dimensions: Medical Professionals (F = 2.710, P = 0.020), Legal Enforcement and Ethical Issues (F = 4.043, P = 0.001), and Government Action (F = 3.276, P = 0.007). The results of the LSD-Fisher test for multiple comparisons shows that government employees and retirees were significant groups, indicating that these groups ascribed a higher level of accountability to this dimension than other groups did. In terms of employment status, the current research could be extended by determining whether the quality of health insurance afforded to government sector employees and retirees means that they receive better healthcare services than others and, therefore, rate accountability more highly.

TABLE 11. ANOVA test results for differences relating to employment status (n = 413)

Dimension	F value	Sig.	Sig. Group
Medical Professionals	2.710	0.020*	Government employee; Retired
Administration and Management	1.013	0.410	–
Legal Enforcement and Ethical Issues	4.043	0.001*	Government employee; Retired
Government Action	3.276	0.007*	Government employee Retired

* Differences are significant at $\alpha \leq 0.05$

CONCLUSION AND PRACTICAL IMPLICATIONS

This study focused on public health care organizations, with King Abdullah Medical City (KAMC) in Mecca serving as the case study. The primary objective was to identify the dimensions that impact accountability, particularly from the perspective of patients in terms of four overarching accountability dimensions: Medical Professionals, Administration and Management, Legal Enforcement and Ethical Issues, and Government Action.

SEM was applied to validate the questionnaire instrument used to collect the data for analysis, and the main findings were reported via a descriptive analysis. According to the respondents' ratings, Administration and Management elicited a moderate level of agreement, with the three other accountability dimensions for which a high level of accountability was found. In general, therefore, the respondents perceived accountability at KAMC as being at a satisfactory level. Government action showed the highest level of agreement (M = 4.03), followed by the Medical Professionals and the Legal Enforcement and Ethical Issues dimensions, which shared the same value (M = 3.76). However, additional research is needed to maintain and improve current levels of accountability in the long run. The Administration and Management dimension was found to be the lowest-performing accountability dimension in KAMC with an overall moderate level of agreement (M = 3.55) whereas the other dimensions showed a high level of agreement. In general, then, the results point to the need for greater attention to be directed to the Administration and Management dimension.

The results of the study have important implications for healthcare administration, especially in public healthcare contexts. Although the overall levels of accountability were generally satisfactory in various dimensions, specific items in Administration and Management demand immediate attention: This dimension received the lowest accountability rating, with an average score of M = 3.55. Several items in this category show limited agreement among respondents and require special consideration: "Managers are credible and gain the patient's confidence," "Administrators have the ability to hire the right people," "Rules about seeing the doctor are not violated (no nepotism)," "Information regarding routine check-ups is received through reports, letters, or emails," and "Calls are returned promptly." Consequently, healthcare management should give priority to improving accountability in the Administration and Management domain by, for example, promoting better communication, resource allocation, and decision-making processes in the institution. Focusing on these specific areas would significantly improve overall accountability and ensure consistent adherence to the highest healthcare management standards. Additionally, the study results indicate differences in the respondents' perceptions of accountability based on demographic factors such as age, gender, and employment status. Healthcare management should take these distinctions into account and further explore their underlying causes.

The study also offers valuable insights for academics and researchers. Future research could usefully focus on similar studies in private healthcare contexts to compare results. A multicenter comparative study is recommended to investigate patients' concerns further and thereby identify common strengths and weaknesses as well as differences as a basis for establishing and sharing best practices. Numerous areas concerning specific demographic groups, the comparative quality of the health care they receive and their ratings of it, as described, are also very much needed. For example, researchers could investigate the impact of demographic factors on accountability perceptions from multiple angles. Further investigations into why younger participants showed less agreement than older participants could provide valuable insights into accountability from a generational perspective.

The current study has several limitations. At a foundational level, it focuses predominantly on King Abdullah Medical City (KAMC) in Mecca such that extensive surveys across various medical cities in Saudi Arabia to gain a more comprehensive perspective are needed. Additionally, further research is needed in more medical cities to identify and explore variations in how accountability is measured and applied. Further, the current study accounts only for public institutions. However, investigations into private institutions are needed in order to consider accountability in that context but also to make meaningful comparisons with public institutions. The field, healthcare providers, and patients would, therefore, benefit from multi-center comparative studies that include both public and private hospitals in order to identify shared strengths and weaknesses as well

as noteworthy differences in regard to addressing patients' concerns and meeting their needs. It would also be informative to analyze how each accountability dimension influences accountability individually and collectively. Additionally, given the lack of consistency in the respondents' ratings, two specific items—"Having medical malpractice laws in place serves to protect patients" and "Rules and laws are being implemented effectively"—warrant a more in-depth investigation, especially from the perspective of younger patients. It is important to note that various aspects in each dimension were either excluded from the analysis or showed non-uniform ratings, underscoring the need for extensive further investigation. Overall, it is crucial to determine differences in how demographic groups are being treated so that deficits can be identified and addressed as a foundation for ensuring that all patients receive the highest possible standard of care as indicated by their perceptions of accountability.

Nonetheless, the current study makes a significant contribution to the field in identifying perceived accountability gaps in a renowned institution in a developing country through an analysis that can directly benefit KAMC, provide actionable information for other healthcare institutions in Saudi Arabia, and inform actions and policies aligned with the goals of Saudi Arabia's Vision 2030. More generally, the study represents a pioneering effort to identify accountability gaps based on patients' perceptions in the public service institutions of a developing country.

REFERENCES

Al Rahahleh, N., Al-Khyal, T.A., Daghran Alahmari, A. & Al-Hanawi, M.K. 2023. The financial performance of private hospitals in Saudi Arabia: An investigation into the role of internal control and financial accountability. *Plos One* 18(5).

Al Rahahleh, N. 2022. Financial literacy levels among Saudi citizens across budgeting, saving, investment, debt, and insurance dimensions. *Journal of Risk and Financial Management* 15(12): 1-18.

Anderson, J.C. & Gerbing, D.W. 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103(3): 411–423.

Andaleeb, S.S. 2000. Public and private hospitals in Bangladesh: Service quality and predictors of hospital choice. *Health Policy and Planning* 15(1): 95–102.

Andaleeb, S.S. 2001. Service quality perceptions and patient satisfaction: A study of hospitals in a developing country. *Social Science and Medicine* 52(9): 1359–1370.

Andaleeb, S.S. & Millet, I. 2010. Service experiences in hospitals in Bangladesh: Are there gender inequities? *International Journal of Health Care Quality Assurance* 23(6): 591–606.

Arksey, H. & O'Malley, L. 2005. Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology* 8(1): 19–32.

Begum, H. & Hemberg, H. 1998. Healthcare, ethics and nursing in Bangladesh: A personal perspective. *Nursing Ethics* 5(6): 535–541.

Bougie, R. & Sekaran, U. 2019. *Research methods for business: A skill building approach*. John Wiley & Sons.

Byrne, B.M. 2001. Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing* 1(1): 55–86.

Dikmen, S. & Çiçek, H.G. 2023. Fighting against corruption and bribery in public procurements during the Covid-19 pandemic. In the ethics of bribery: Theoretical and empirical studies. 309–328. Springer International Publishing.

Emanuel, E.J. & Emanuel, L.L. 1996. What is accountability in health care? *Annals of Internal Medicine* 124(2): 229–239.

Gelfand, M.J., Lim, B.-C. & Raver, J.L. 2004. Culture and accountability in organizations: Variations in forms of social control across cultures. *Human Resource Management Review* 14(1): 135–160.

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2019. *Multivariate data analysis.* Andover.

Jalilvand, M.A., Raeisi, A.R. & Shaarbafchizadeh, N. 2023. Hospital governance accountability structure: A scoping review. Research Square. https://www.researchsquare.com/article/rs-2973132/v1

Kennedy, D.M., Caselli, R.J. & Berry, L.L. 2011. A roadmap for improving healthcare service quality. *Journal of Healthcare Management/American College of Healthcare Executives* 56(6): 385–402.

Kennedy, D.M., Didehban, R. & Fasolino, J.P. 2014. Creating and sustaining a culture of accountability for patient experience. *Patient Experience Journal* 1(2): 46–52.

Kline, R.B. 2015. *Principles and practice of structural equation modeling.* Guilford Publications.

Mahdy, H.A. 2009. Reforming the Bangladesh healthcare system. *International Journal of Health Care Quality Assurance* 22(4): 411–416.

Nahar, L. 2002, May 16. Improving the health services. *The Daily Star*.
Naher, N., Hoque, R., Hassan, M.S., Balabanova, D., Adams, A.M. & Ahmed, S.M. 2020. The influence of corruption and governance in the delivery of frontline health care services in the public sector: A scoping review of current and future prospects in low and middle-income countries of south and south-east Asia. *BMC Public Health* 20: 1–16.
Narang, R. 2010. Measuring perceived quality of healthcare services in India. *International Journal of Health Care Quality Assurance* 23(2): 171–186.
Nurunnabi, M. & Islam, S.K. 2012. Accountability in the Bangladeshi privatized healthcare sector. *International Journal of Health Care Quality Assurance* 25(7): 625–644.
PowerDMS. 2018. *Creating a Culture of Accountability in Healthcare*. https://www.powerdms.com/blog/creating-culture-accountability-healthcare (Accessed: 16 February 2021).
Saudi Economic Vision 2030. 2016a. Saudi Arabia vision 2030. Health sector transformation program. Accessed October 14, 2023. https://www.vision2030.gov.sa/v2030/vrps/hstp
Saudi Economic Vision 2030. 2016b. Saudi Arabia Vision 2030. http://vision2030.gov.sa/en
Sposito, V.A., Hand, M.L. & Skarpness, B. 1983. On the efficiency of using the sample kurtosis in selecting optimal lpestimators. *Communications in Statistics: Simulation and Computation* 12(3): 265–272.
Vian, T. 2020. Anti-corruption, transparency and accountability in health: Concepts, frameworks, and approaches. *Global Health Action* 13(1).
World Health Organization. 2007. Everybody's business: Strengthening health systems to improve health outcomes: WHO's Framework for action. WHO.

Naseem Al Rahahleh*
Finance Department
Faculty of Economics and Administration
King Abdulaziz University
P.O.Box 80092, Jeddah 21589, SAUDI ARABIA.
Email: nalrahahleh@kau.edu.sa

Waad Alhothaly
Nursing Quality Department
King Abdullah Medical City
PO Box 57657, Makkah 21955, SAUDI ARABIA.
Email: waad.alhothly@outlook.com

Mohammed Khaled Al-Hanawi
Department of Health Services and Hospital Administration
Faculty of Economics and Administration
King Abdulaziz University
P.O.Box 80092, Jeddah 21589, SAUDI ARABIA.
Email: mkalhanawi@kau.edu.sa

Tawfeek A. Al-Khyal
Accounting Department
Faculty of Economics and Administration
King Abdulaziz University
P.O.Box 80092, Jeddah 21589, SAUDI ARABIA.
Email: talkhyal@kau.edu.sa

* Corresponding author