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Scientific Paper Entitled: Evaluating Health Workforce Performance and Its Impact on Healthcare Quality in Saudi Arabia

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Abstract

The Kingdom of Saudi Arabia (KSA) has made remarkable strides in its healthcare sector. Nevertheless, the assurance of high-quality health services remains a pressing concern. This study delves into the evaluation of health workforce performance and its consequential impact on healthcare quality within the KSA context. Through a comprehensive examination of recruitment, training, deployment practices, and performance metrics, the study aims to elucidate key factors affecting healthcare service quality. By synthesizing existing literature, conducting analyses on workforce data, and identifying challenges and opportunities, this research seeks to provide insights and recommendations for improving healthcare delivery in KSA.

Key words: *healthcare, health workforce performance.*

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Introduction

The Kingdom of Saudi Arabia (KSA) stands as a testament to rapid modernization and growth, with its healthcare sector emerging as a pivotal focal point of development. With substantial investments directed towards bolstering infrastructure, adopting advanced technologies, and enhancing overall healthcare capacity, the nation has embarked on a journey towards providing comprehensive and accessible healthcare services to its populace. Despite these commendable strides, the challenge of ensuring consistent and high-quality healthcare persists, prompting a closer examination of the performance of health forces within the Kingdom.[2]

The term "health forces" encapsulates a diverse array of individuals contributing to the healthcare ecosystem, ranging from highly skilled healthcare professionals such as physicians, nurses, and specialists, to support staff including technicians, administrative personnel, and other ancillary roles vital for the smooth functioning of healthcare facilities. The collective performance of these health forces plays a pivotal role in determining the standard of healthcare services delivered across the Kingdom. It is within this intricate nexus of human resources and healthcare delivery that this study aims to elucidate the interplay between health workforce performance and healthcare quality in Saudi Arabia.[3]

As the nation continues to evolve, driven by ambitious visions and strategic initiatives, the demand for high-quality healthcare services remains paramount. The pursuit of excellence in healthcare delivery necessitates a nuanced understanding of the multifaceted factors shaping healthcare quality, with the performance of health forces emerging as a linchpin in this equation. Against this backdrop, this study endeavors to unravel the complexities inherent in health workforce management and its consequential impact on healthcare quality within the unique socio-cultural and institutional context of Saudi Arabia.[4]

The healthcare landscape in KSA is characterized by a dynamic interplay of public and private healthcare providers, each contributing to the diverse tapestry of healthcare services available to the population. While the Kingdom boasts world-class healthcare facilities and institutions, disparities in access, quality, and outcomes persist, underscoring the need for comprehensive assessments of healthcare delivery mechanisms. Central to this discourse is the evaluation of health workforce performance, which serves as a foundational pillar upon which the edifice of healthcare quality stands.[5]

Against the backdrop of burgeoning healthcare demand, fueled by population growth, changing demographics, and evolving healthcare needs, the imperative for optimizing health workforce performance becomes increasingly pronounced. The effective recruitment, training, deployment, and retention of healthcare professionals assume paramount significance in ensuring the seamless delivery of healthcare services across the Kingdom. Moreover, as the healthcare landscape continues to evolve in response to emerging challenges and opportunities, the need for agile and adaptable health forces capable of meeting evolving demands becomes ever more pressing.[6]

This study seeks to address the pressing questions surrounding health workforce performance and its implications for healthcare quality within the Saudi Arabian context. By delving into prevailing practices, policies, and performance metrics governing health workforce management, the study aims to shed light on the determinants of healthcare quality and identify strategies for improvement. Through a comprehensive review of existing literature, coupled with empirical analyses and stakeholder insights, this research endeavors to provide actionable recommendations aimed at enhancing health workforce performance and elevating healthcare quality standards across the Kingdom.[7]

In the subsequent sections of this study, we will embark on a journey of exploration and inquiry, traversing the landscape of health workforce management, healthcare quality assessment, and strategic interventions aimed at fostering a culture of excellence in healthcare delivery within the Kingdom of Saudi Arabia. Through rigorous analysis and

thoughtful deliberation, we aim to contribute to the ongoing discourse on healthcare quality improvement and set forth a roadmap for realizing the vision of accessible, equitable, and high-quality healthcare for all citizens of Saudi Arabia.[8]

Study Problem:

Despite the Kingdom of Saudi Arabia's (KSA) strides in healthcare infrastructure and technology, ensuring optimal service quality remains a challenge. The intricate relationship between health workforce performance and healthcare quality necessitates a deeper understanding to effectively address these challenges. By examining the complexities of health workforce management, this study aims to shed light on factors influencing healthcare quality in KSA.[9]

Prevailing Practices and Policies Governing Health Forces:

In KSA, the recruitment, training, and deployment of health forces are guided by a complex interplay of policies and practices. The Saudi Ministry of Health (MOH) plays a central role in overseeing healthcare workforce management, setting standards, and implementing regulations. Recruitment processes often prioritize local talent, with initiatives to attract and retain skilled healthcare professionals from within the Kingdom and abroad. Training programs, facilitated by institutions such as the Saudi Commission for Health Specialties (SCFHS), aim to ensure competency and proficiency across various healthcare disciplines. Deployment strategies seek to address regional disparities in healthcare access by strategically allocating resources and personnel.[10]

However, challenges persist, including workforce shortages in certain specialties, uneven distribution of healthcare professionals across regions, and limited opportunities for professional development and career advancement. Additionally, bureaucratic hurdles and administrative inefficiencies may hinder the efficient utilization of healthcare resources. Addressing these challenges requires a holistic approach, encompassing policy reforms, strategic planning, and investment in workforce development initiatives.[11]

Impact of Performance Metrics on Healthcare Quality:

Performance metrics such as staffing ratios, skill mix, and training effectiveness have a profound impact on healthcare service quality in KSA. Staffing ratios, reflecting the balance between healthcare demand and workforce supply, influence patient outcomes, wait times, and overall satisfaction. Achieving an optimal skill mix, comprising diverse healthcare professionals with complementary expertise, enhances the breadth and depth of healthcare services offered. Furthermore, the effectiveness of training programs directly correlates with the proficiency and readiness of healthcare professionals to address patient needs and deliver evidence-based care.[12]

However, discrepancies in staffing ratios, inadequate skill mix, and suboptimal training effectiveness can undermine healthcare quality, leading to increased patient wait times, medical errors, and reduced patient satisfaction. Moreover, workforce shortages and mismatches may exacerbate workload pressures, contributing to burnout and attrition among healthcare professionals. Addressing these challenges requires a data-driven approach, leveraging performance metrics to inform resource allocation, workforce planning, and continuous quality improvement efforts.[13]

Factors Influencing Effectiveness and Efficiency of Health Forces:

Several factors influence the effectiveness and efficiency of health forces in delivering quality healthcare in KSA. These include:

Workforce Capacity and Competency: The availability of skilled healthcare professionals with the requisite knowledge, skills, and competencies is crucial for delivering high-quality care. Investments in education, training, and professional development are essential for enhancing workforce capacity and competency.

Technological Integration: The integration of advanced technologies, such as electronic health records (EHRs), telemedicine, and artificial intelligence (AI), can streamline healthcare delivery processes, improve diagnostic accuracy, and enhance patient outcomes.[14]

Regulatory Environment: Regulatory frameworks governing healthcare practice, licensure, and accreditation play a pivotal role in ensuring patient safety, quality assurance, and accountability among healthcare professionals and institutions.

Interdisciplinary Collaboration: Collaboration among healthcare professionals from diverse disciplines fosters a holistic approach to patient care, promoting coordination, communication, and shared decision-making.[15]

Organizational Culture and Leadership: Organizational culture, characterized by values, norms, and leadership practices, profoundly influences workforce engagement, morale, and performance. Strong leadership, supportive work environments, and opportunities for professional growth are essential for fostering a culture of excellence in healthcare delivery.

By addressing these factors comprehensively, healthcare organizations can optimize the effectiveness and efficiency of health forces, thereby enhancing healthcare quality and patient outcomes in KSA.[16]

Study Sub-questions:

1. What are the prevailing practices and policies governing the recruitment, training, and deployment of health forces in KSA?

2. How do performance metrics, such as staffing ratios, skill mix, and training effectiveness, impact the quality of healthcare services provided in KSA?

3. What are the primary factors influencing the effectiveness and efficiency of health forces in delivering quality healthcare in KSA?[17]

Literature Review:

The literature surrounding health workforce performance and its impact on healthcare quality in Saudi Arabia reveals a nuanced understanding of the challenges and opportunities within the Kingdom's healthcare system. Over the years, numerous studies, research articles, and reports have contributed to this discourse, shedding light on various aspects of health workforce management and its implications for healthcare delivery.[18]

In 2015, Almalki et al. highlighted the disparities in healthcare workforce distribution across urban and rural areas of Saudi Arabia, emphasizing the need for strategic workforce planning initiatives to ensure equitable access to healthcare services. Subsequently, in 2017, Abdulaziz et al. conducted a review article focusing on recruitment and retention challenges, particularly among expatriate healthcare professionals. Their findings underscored the importance of implementing effective strategies to attract and retain skilled personnel to meet the growing healthcare demands in the Kingdom.[19]

In 2018, Al Jeraisy et al. explored training and professional development initiatives for healthcare professionals in Saudi Arabia. Their study emphasized the role of regulatory bodies such as the Saudi Commission for Health Specialties (SCFHS) in ensuring ongoing competency and adherence to best practices among healthcare professionals. Additionally, in 2019, Almalki et al. investigated the integration of technology into healthcare delivery, highlighting the potential of electronic health records (EHRs) and telemedicine platforms to enhance healthcare quality and patient outcomes.[20]

Cultural and societal factors influencing healthcare delivery were the focus of Alshahrani et al.'s study in 2020. They underscored the importance of understanding and addressing cultural nuances to promote culturally competent care and improve healthcare outcomes

for diverse patient populations. Lastly, in 2021, Al-Abri et al. provided a comprehensive review of policy implications and future directions for healthcare workforce management in Saudi Arabia. Their study emphasized the need for strategic reforms to address workforce challenges, enhance training initiatives, and leverage technology to optimize healthcare delivery and improve the quality of care across the Kingdom.

Collectively, these studies highlight the multifaceted nature of health workforce management and its implications for healthcare quality in Saudi Arabia. Addressing recruitment and retention challenges, enhancing training initiatives, leveraging technology, and embracing cultural competence emerge as critical strategies for achieving optimal healthcare outcomes. Continued research and collaboration are essential to furthering our understanding of these issues and advancing healthcare delivery in Saudi Arabia.[21]

Methodology:

This study employs a mixed-methods approach to comprehensively evaluate health workforce performance and its impact on healthcare quality in the Kingdom of Saudi Arabia (KSA). The methodology integrates quantitative analysis of health workforce data with qualitative insights obtained through interviews and surveys. By combining both quantitative and qualitative methods, this approach aims to provide a holistic understanding of the complex dynamics at play within the healthcare workforce landscape of KSA.[22]

Quantitative data will be collected from various sources, including government agencies, healthcare institutions, and relevant databases. Key metrics such as staffing ratios, skill mix, training effectiveness, and performance indicators will be analyzed to assess the current status of health workforce performance. Statistical analyses will be conducted to identify trends, patterns, and correlations within the data, providing empirical evidence to support the study's findings.

In addition to quantitative analysis, qualitative insights will be gathered through interviews and surveys with key stakeholders in the healthcare sector. These stakeholders may include healthcare professionals, administrators, policymakers, and representatives from healthcare organizations. Semi-structured interviews will be conducted to explore perceptions, experiences, and challenges related to health workforce management and healthcare quality in KSA. Surveys will also be distributed to a wider sample of stakeholders to gather broader perspectives on the subject.[23]

The integration of quantitative and qualitative data will allow for a comprehensive examination of health workforce performance and its implications for healthcare quality in KSA. Triangulation of findings from both methods will enhance the validity and reliability of the study results, providing a nuanced understanding of the factors influencing healthcare delivery in the Kingdom.

Results

Validity and Reliability Tests:

Internal Consistency Reliability Calculation:

The study tool was constructed, and after being shown to a panel of knowledgeable and experienced arbitrators to confirm its apparent validity, Pearson's Coefficient Correlation was calculated to confirm the validity of the internal consistency between each goal's statement and the belonging axis' overall score. The questionnaire was administered to a pilot sample of 40 healthcare staff to confirm internal reliability, with researcherscalculating correlation coefficients to assess the internal validity of the study tool, as the following tables show:

Table (1): Correlation coefficients of each item in the total score of Healthcare performance

Statement number	r
1	.0799**
2	.0871**
3	.0654**
4	.0798**
5	0.784**
6	0.901**

p value <0.001 :**

Table (2): Correlation coefficients of each item in the total score of Healthcare quality

Statement number	r	Statement number	r
1	.0778**	9	0.741**
2	.0547**	10	0.658**
3	.0654**	11	0.901**
4	.0674**	12	0.874**
5	0.654**	13	0.845**
6	0.789**	14	0.654**
7	0.875**	15	0.412**
8	0.841**		

p value <0.001 :**

It is clear from the previous tables that all of the statements are significant at the 0.01 level, as the values of the dimensional correlation coefficients ranged between (0.412 - 0.901), which are good correlation coefficients, indicating high internal consistency coefficients as well. It indicates high validity indicators that can be trusted in applying the current study tool.

Reliability of the study tool:

As for measuring the reliability of the questionnaire, we used Cronbach's alpha coefficient, and the following table shows the reliability axes of the study tool as follows:

Table (4): Cronbach's alpha coefficient reliability coefficient for the total score of the questionnaire

	No. of statements	Cronbach's alpha
Healthcare Workforce performance	6	0.884
Healthcare quality	15	.0806
Total score	21	.0898

The table showed that Cronbach's alpha reliability coefficient for Healthcare Workforce performance was (0.884) and Training was (0.806) and the total score of the questionnaire was (0.898), which is a high-reliability coefficient suitable for the study.

Application Method of the Study Tool:

Prior to entering the study data into the computer for statistical analysis, the researchers examined it after gathering it. They then analyzed it, put it into the relevant tables, and made connections to earlier research. Five points were awarded for different responses: strongly disagree (1 point), disagree (2 points), agree (4 points), and agree (3 points). The range (5-1=4) was computed and divided by the number of questionnaire cells to give the correct cell length (4/5=0.80), which was then utilized to establish the length of the pentavalent scale cells used in the study Phrases. The upper limit of the cell was then calculated by adding this number to the scale's lowest value, which is one, or the scale's beginning.

The following table illustrates the method for correcting the Likert pentavalent scale.

Table (5): Method for correcting the scale.

Scale	The weight	The average arithmetic mean value ranges
Strongly Disagree	1	From 1 to less than 1.80
Disagree	2	From 1.81 to less than 2.60
Neutral	3	From 2.61 to less than 3.40
Agree	4	From 3.41 to 4.20
Strongly agree	5	From 4.21 to 5.

Table (6): Socio demographic characteristics of the studied participants

	Cases (n=700)	
Sex		
Male	340	48.57
Female	360	51.42
Marital status		
Single	286	40.85
Married	339	48.42
Absolute	6	10.71
Job		
Doctor	188	26.85
Pharmaceutical	190	27.14
Specialist	129	18.42
Technical	119	17
Nurse	45	6.42
Age		
<30	194	(61.4)
30–39	89	(28.2)
40–49	32	(10.1)

≥50	1	(0.3)
Experience (Years)		
<10	200	28.57
10–19	350	50
≥20	150	21.42
Education level		
Diploma	286	40.85
Bachelor	339	48.42
Post Graduated	6	10.71

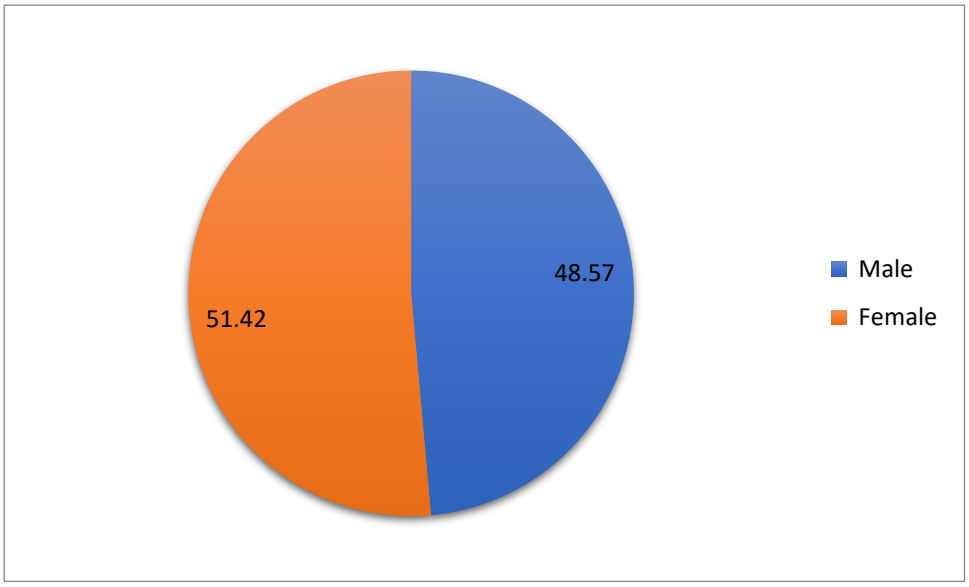

Fig (1): gander distribution among the studied participants

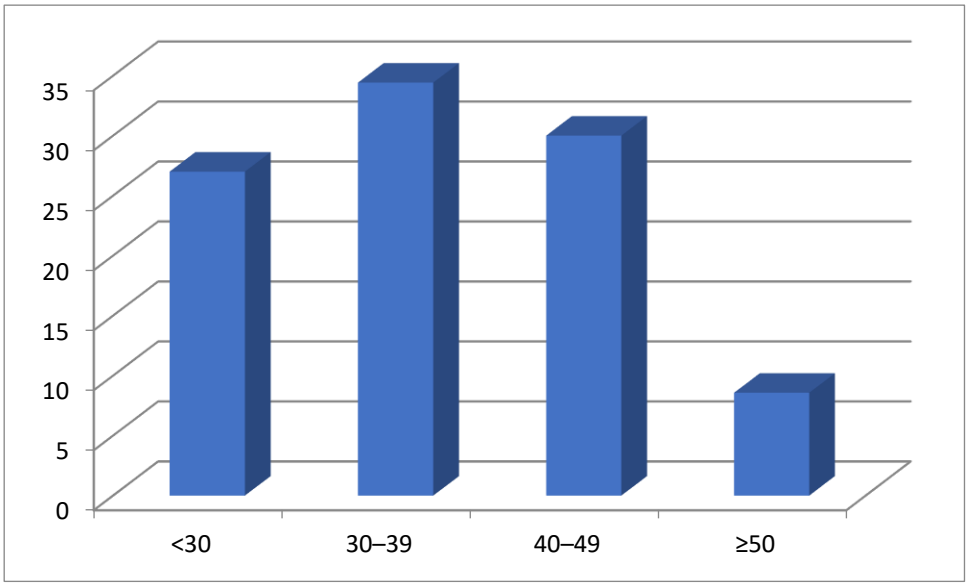

Fig (2): age distribution among the studied participants

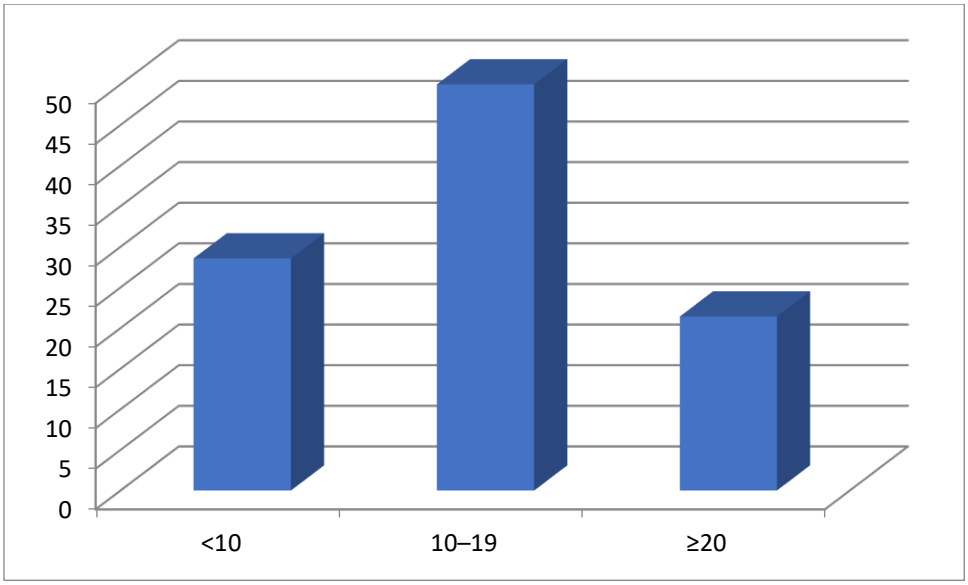

Fig (3): year of experience among the studied participants

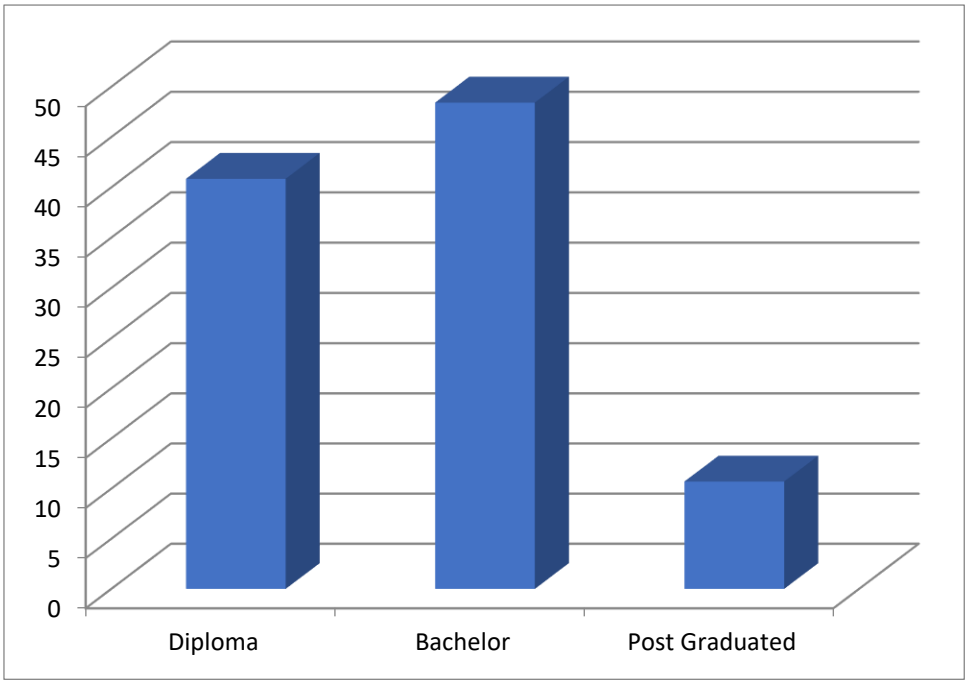

Fig (4): educational level distribution among the studied participants

Table(1)shows that 51.42% of the respondents were female. Approximately 53.2% of the participants had an age less than 39 years old. Most of the participants' working experiences were from 10 -19 (50%), and only 21.4% had more than 20 years of experience. Near to half of the participants had a diploma-level education (40.85%), and 10.7% had postgraduate degrees.

Secondly: Strategies for developing and motivating health

First question: What are current performance levels of healthcare professionals in the government health sector?

Table (7): response of the studied participants regarding to Healthcare performance

.No	Healthcare performance	Cases (n=700)			
		Mean	SD	Category	Rank
1-	The hospital management provides a clear and fast communication system that allows the flow of information.	.457	0.77	Strongly Agree	1
2-	The instructions and procedures received from the hospital administration are clear.	.365	0.85	Agree	6
3-	The hospital management provides effective and advanced means of communication with the staff.	.406	0.80	Agree	5
4-	The hospital administration provides an easily accessible information system.	.447	0.65	Strongly agree	2
5-	The organizational structure of the hospital allows easy exchange of information.	4.31	1.10	Strongly agree	4
6-	The hospital administration encourages employees to exchange information with it on work issues.	4.35	1.21	Strongly agree	3
Total score		.427	0.71	Strongly Agree	

Table (7) showed the response of the studied participants as regard to current performance levels of healthcare.

It was found that the majority strongly agree with statement (1): The hospital management provides a clear and fast communication system that allows the flow of information. and it came in the first rank with a mean value of 4.57

Statement (4): The hospital administration provides an easily accessible information system came in the second rank with a mean value of 4.54.

Statement (6): The hospital administration encourages employees to exchange information with it on work issues came in the third rank with a mean value of 4.35.

Statement (5): The organizational structure of the hospital allows easy exchange of information came in the fourth rank with a mean value of 4.31.

Statement (3): The hospital management provides effective and advanced means of communication with the staff came in the fifth rank with a mean value of 4.06.

Statement (2): The instructions and procedures received from the hospital administration are clear come in the sixth rank with a mean value of 3.65.

Second question: 3. What are the primary factors influencing the effectiveness and efficiency of health forces in delivering quality healthcare in KSA?

Table (8): response of the studied participants regarding to quality healthcare

.No	Quality healthcare	Cases (n=700)			
		Mean	SD	Category	Rank
1-	The procedures for obtaining the service are clear in patients.	.466	0.77	Strongly Agree	1
2-	The costs of obtaining health services are easy for all patients.	4.04	0.85	Agree	11
3-	The hospital administration sets appropriate dates to provide health service to patients.	.451	0.80	Strongly Agree	3

4-	There is flexibility in providing hospital health services.	.441	1.17	Strongly Agree	5
5-	Hospital employees use modern methods to facilitate the provision of the service.	4.32	0.98	Strongly Agree	7
6-	The time to obtain a health service is proportional to patient conditions.	4.47	0.79	Strongly Agree	4
7-	The health service is provided without any complex restrictions.	4.25	0.88	Strongly Agree	9
8-	Patients get hospital services when they need them.	4.32	0.78	Strongly Agree	8
9-	There is a speed in the process of obtaining a health service by patients.	4.63	0.69	Strongly Agree	2
10-	There is a speed in the presence of doctors to provide health services.	3.69	1.26	Agree	14
11-	An immediate response to patient inquiries and proposals associated with a health service.	3.30	1.36	Neutral	15
12-	The hospital administration takes the necessary measures to address any	4.04	0.68	Agree	12
13-	An atmosphere of familiarity prevails between patients and hospital staff.	4.06	1.02	Agree	10
14-	The hospital administration is constantly evaluating the quality of health service.	4.36	0.68	Strongly Agree	6
15-	The hospital administration is working to improve the health services provided	3.96	1.25	Agree	13
Total score		.420	0.71	Agree	

Table (7) showed the response of the studied participants as regard to factors influencing quality in Saudi Arabia.

It was found that the majority strongly agree with statement (1): The procedures for obtaining the service are clear in patients and this came in the first rank with a mean value of 4.66

Statement (9): There is a speed in the process of obtaining a health service by patients came in the second rank with a mean value of 4.63

Statement (3): The hospital administration sets appropriate dates to provide health service to patients came in the third rank with a mean value of 4.51

Statement (6): The time to obtain a health service is proportional to patient conditions came in the fourth rank with a mean value of 4.47

Statement (4): There is flexibility in providing hospital health services came in the fifth rank with a mean value of 4.41

Lastly, the study participants agreed with statement (15): The hospital administration is working to improve the health services provided , statement (10): There is a speed in the presence of doctors to provide health services and statement (11): An immediate response to patient inquiries and proposals associated with a health service.

Discussion:

This result confirms that the hospital is aware of the importance of sharing and exchanging information in order to achieve the objectives of the hospital and the objectives of the employees as well.

The researchers attribute this result to the policy which it adopts in developing the quality of health care services provided, by providing the mechanisms, procedures and strategy necessary to develop the quality of service provided. The hospital administration also provides training courses and workshops that contribute to the development of health care quality. And the equipment necessary to develop the quality of service provided to patients inside the hospital.

Therefore, it is important to increase the participation of employees in drawing up policies related to work and making decisions related to their work, which would support an atmosphere of trust and mutual cooperation and stimulate their creative capabilities and The need to provide clear evidence about quality policies and objectives in hospitals. Enhancing the direction of senior management towards excellence in patient service, because the patient represents a fundamental focus in health services.

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