

How to Cite:

Al-Zahrani, R. E. S., & Al Balushi, S. O. (2023). Measuring the extent of patient satisfaction with the services provided by health care in Madinah. *International Journal of Health Sciences*, 7(S1), 1324–1340. <https://doi.org/10.53730/ijhs.v7nS1.14346>

Measuring the extent of patient satisfaction with the services provided by health care in Madinah

Raed Eid Salem Al-Zahrani

Assistant Professor, Department of Basic Medical Sciences, College of Medicine, Majmaah University, Majma'h, Saudi Arabia

Saif Othman Al Balushi

College of Business Administration Department of Health Services and Hospitals Management Applied, Majmaah University, Majma'h Ministry of Health, Saudi Arabia

Abstract--The aim of this study was to identify the level of quality of healthcare services provided at the Madinah hospital and to measure the impact of the quality of healthcare services on patient satisfaction. The study also aimed to provide suggestions and recommendations to the hospital on how to improve the quality of healthcare services to positively impact patient satisfaction. The research will use a descriptive methodology, which involves identifying variables and phenomena related to the study, as well as an analytical methodology that analyzes the data obtained through research tools using statistical methods to achieve the study's purpose. The study found that there is a high level of quality of healthcare services in terms of their dimensions (tangibles, reliability, safety, empathy, responsiveness), as well as a high level of patient satisfaction with healthcare services in Madinah. Furthermore, there is a statistically significant positive correlation between the level of quality of healthcare services and patient satisfaction. Specifically, for every 1% increase in the quality of healthcare services, patient satisfaction increased by 0.546%. Based on these results, the study recommends the following: the need to maintain the excellent level of healthcare services provided in Madinah hospitals by providing all means to achieve this, the need to focus on providing all the needs and desires of patients to maintain their high level of satisfaction, and the need to conduct more research on the impact of the level of healthcare services provided on patient satisfaction and loyalty.

Keywords--Healthcare services, Patient satisfaction, Madinah, Quality of healthcare services, Level of quality.

1. Introduction

The world today witnesses many developments, and with the tremendous advancement of technology, the pace of these developments is also increasing, encompassing various economic, cultural, social, and political fields. The service sector is one of the most important sectors of economic activity, where it has undergone significant developments in recent decades, becoming very important in national economies, creating fierce competition among service providers (Ainous, 2022).

One of the most prominent service organizations is healthcare centers, which provide healthcare to individuals and groups in society, whether these services are therapeutic, preventive, or surgical. Therefore, it is necessary to apply scientific methods to apply the remarkable advances in science and technology to healthcare centers in order to improve the quality of healthcare for patients to meet their needs and aspirations. In this context, researchers and those interested in service activities that provide services and their impact on patient satisfaction have realized the importance of creating a competitive advantage and improving the profitability of service organizations (Al-Ali, 2018).

In recent years, the Kingdom of Saudi Arabia has witnessed a significant development in the field of primary healthcare services, especially at the level of the Ministry of Health, thanks to the support of our wise government, the Ministry of Health, and other government agencies that have taken on the task of developing the quality of healthcare services and providing them to all cities and regions of the Kingdom, to reach a total of 2400 primary healthcare centers (Al-Hadithi, 2018).

There is also a growing interest in the importance of customer and service recipient satisfaction as a primary goal in treatment, and there are multiple concepts of service recipient satisfaction, which can be defined as the state of satisfaction and acceptance of the service provided to him. It generally depends on a number of psychological and physical variables that have a strong return on stimulating the immune system of patients, qualifying them for a quick response to the recommended treatment. One of the most important factors that positively affect the psychological state of the patient is the surrounding environment in terms of place, service provider, and communication style. Therefore, it was necessary to measure the level of patient satisfaction with the healthcare services provided at Madinah hospital.

From this perspective, the demographic, social, population, technological, and epidemic changes resulting from the noticeable and increasing development in Saudi Arabia highlight the need for a comprehensive review to determine the level of satisfaction of beneficiaries of healthcare services provided in primary healthcare centers to be able to provide healthcare services with high quality and efficiency and to identify the obstacles that hinder the provision of service and work on improving them.

Therefore, this study aims to propose a framework for measuring the quality of healthcare services at Madinah hospital. The issue of healthcare service quality is

a major concern for the academic community because of its significant impact on improving patient satisfaction and achieving the goals of healthcare centers. Therefore, many studies have addressed this issue. Thus, the study attempts to highlight the impact of these dimensions, as they have a significant role in achieving patient satisfaction, by analyzing a set of proposed frameworks for measuring the impact of healthcare service quality on customer satisfaction, selecting the most appropriate one, and conducting an empirical study on a sample from Madinah hospital.

2. Literature Review

Health applications now connect patients with the healthcare team responsible for their care at the healthcare facility. They help both parties to know the developments of the situation and act accordingly to intervene. The Saudi society has become immersed in using mobile phones and, therefore, various applications, especially those related to healthcare. For example, Study (Abdulrahman, 2022) titled "Factors affecting patients' satisfaction with healthcare services: A case study" aimed to identify methods for developing and improving the quality of medical services provided to patients, while the sub-objectives of the research were to identify areas of excellence and shortcomings in the service provided to visitors to the center. The most important results showed the existence of a relationship between the background characteristics of visitors and their opinions on satisfaction statements about the service. The results showed that the educational level, marital status, and educational status are related to the opinions of visitors on satisfaction statements about the center, while age and gender categories have no relationship. By studying the perceptual gap, there was no significant difference in the average satisfaction score between the opinions of service providers and visitors with a confidence level of 95%. The results highlighted some recommendations, including working to increase material and human resources by establishing specialized centers in all provinces of Egypt, emphasizing the importance of a periodic and effective system for identifying patients' opinions on the comprehensive service they receive at the center, their expectations, and measuring the perceptual gap and shortcomings in the service.

The study (Al-Ali et al., 2018) titled "Estimating the level of patients' satisfaction with healthcare services provided by government hospitals on the Syrian coast: A field study" aimed to determine the level of patients' satisfaction with healthcare services provided by government hospitals on the Syrian coast, whether in terms of treating physicians, care providers, or at the level of services and organizations. The research relied on descriptive methods and survey methods, where questionnaires were used as the main source of data and information. The research community consisted of patients residing in municipalities of Latakia and Tartus hospitals, and a series of results were obtained, most notably: Patients' satisfaction with general treating physicians in the Syrian government hospital came at an average result, and patients' satisfaction with the general nursing staff in the Syrian government coast hospital came at an average result, and patients' satisfaction with the services and organizations of various sections of the Syrian government coast hospital came at an average result.

The study (Al-Qudah, 2017) titled "Patients' satisfaction level with healthcare services provided by private hospitals in the Jordanian capital, Amman" aimed to determine "patients' satisfaction with the medical services provided by private hospitals in the Jordanian capital, Amman". The study included all patients who receive services in private hospitals in the Jordanian capital, Amman, and the researchers took random samples from private hospitals in the Jordanian capital (317 patients), and the study produced a series of results, most notably that patients' satisfaction with medical services provided by private hospitals in Amman was modest (average), and a recommendation was made to work on improving the level of services and purchasing all new equipment for advanced medical equipment to improve the services provided to patients by private hospitals in the Jordanian capital, Amman.

The study (Al-Fawair and Al-Omari, 2013) titled "Measuring patients' satisfaction with healthcare services provided in government and private hospitals: A comparative study" aimed to measure patients' satisfaction with medical services provided by government and private hospitals. To achieve this, the researcher designed a questionnaire consisting of (60) paragraphs, which was distributed to a sample of (300) patients in government and private hospitals. The results showed that patients were more satisfied with the services of the treating physician, and found that patients were more satisfied with the services provided by care providers, and found that patients were more satisfied with the services of the cafeteria. The study suggested that the care provider needs to show readiness at all times and explain the patient's satisfaction with open arms, and the need to take care of the appearance of the care provider to be healthier than it is now, and the need to provide a cafeteria with a 24-hour service to meet the needs of the patient and their companions.

Al-Rafai and Al-Omari (2014) aimed to identify the impact of service quality dimensions on patient satisfaction in Jordanian government hospitals. The study included the government hospitals in Amman, Jordan, which are under the Ministry of Health, totaling (7). The study sample consisted of (876) patients who were randomly selected from three hospitals (Jordan University Hospital, Al-Bashir Hospital, and Prince Hamza Hospital). The study found that Jordanian government hospitals apply the dimensions of health service quality (reliability, tangibility, safety, empathy, and responsiveness), and patient evaluation of these dimensions was close except for the tangibility and safety dimensions, which had high scores. Based on the study results, the researcher recommended several measures, including the need to enhance the management of government hospitals, to enable workers to address patients in a friendly and comfortable manner and to give them the freedom to choose their treating physician. It is also necessary to activate the role of complaints and suggestions boxes in Jordanian government hospitals and not to make them marginal or formal by increasing their numbers so that they are distributed to all departments and assigning responsibility for studying and unifying them and submitting reports to a specialized or relevant committee.

Al-Anzi and Aba-Zeid (2016) aimed to analyze the impact of health service quality on patient satisfaction in Kuwaiti government hospitals. The study found that the impact of health service quality dimensions consisting of (medical services,

support services, and social responsibility) on patient satisfaction in Kuwaiti government hospitals was statistically significant at a significant level ($\alpha \leq 0.05$). Based on the results, the researchers recommended that hospital management and decision makers in Kuwaiti government hospitals activate the function of employing comprehensive medical personnel with sufficient experience and appropriate qualifications and multiple specialties to prevent patients from leaking to neighboring countries.

Ainous (2022) develop and test the SERVQUAL model to measure the quality of health services in Algeria. The quality of health care services was evaluated in four different private clinics in Tlemcen. The SERVQUAL questionnaire (22 items in 5 dimensions) was applied to 153 patients to obtain their opinions on the services provided by the clinic. Due to the reliance on language variables when evaluating services, one of the artificial neural network models (MLP) is used to test service quality. The results show that patient evaluation of the quality of health care services depends on reliability, quality, guarantee, empathy, and responsiveness.

Boudia (2017) aimed to understand the level of quality of health services provided by public ophthalmology hospitals in the province of Béchar from the patient's perspective and its impact on satisfaction, in addition to the differences in their opinions about the level of health services provided due to demographic characteristics. The study found that there is an impact on patient satisfaction with the level of quality of health services provided, and there is no difference in patients' attitudes towards the quality of health services provided based on their demographic characteristics.

Al-Hadithi (2018) aims to measure the quality of medical services provided by private hospitals in the Aseer region, and at the same time evaluate the level of quality of these services from the perspective of providers and beneficiaries, applied to the largest three private hospitals in the Aseer region, to identify priorities for improving private health services and the indicators on which to base performance quality measurement. The study also recommends the periodic application of these standards and evaluation due to the importance of service quality in monitoring and improvement, which works to improve the satisfaction of service providers such as doctors and employees, as well as service recipients, such as patients and visitors to these hospitals.

3. Theoretical Framework

Measuring patient satisfaction is the most commonly used measure for assessing beneficiaries' attitudes and satisfaction with the quality of services provided, especially after receiving these services, by asking questions to service providers, uncovering customers' feelings, and identifying the strengths and weaknesses of the services provided to them. This enables medical centers to adopt quality strategies designed specifically for their customers' needs and satisfaction with the services provided to them.

3.1. Patient satisfaction

The concept of patient satisfaction refers to the extent to which the services provided by an organization meet or exceed the expectations of patients. It is considered a primary performance indicator within business sectors. In healthcare organizations, patient satisfaction means that the patient feels comfortable with all the services they receive during their stay in the medical center, including medical, nursing, and ancillary services (such as hospitality, food, cleaning, social and psychological services). This generates a feeling of medical and service-oriented care, gives the patient confidence in the doctor's procedures, and creates a positive feeling that helps them receive treatment and respond, leading to better treatment outcomes and reflecting the quality of healthcare services (Shoushan et al., 2020).

Patient satisfaction is defined as the sum of positive feelings that the patient has about the healthcare services provided to them during their stay in the medical center, assuming that all the requirements for psychological, physical, and therapeutic comfort are met, and that the patient knows what to expect from healthcare. If the patient feels a high degree of satisfaction, this will generate loyalty to the medical center and a desire to continue dealing with it. However, if the patient is dissatisfied with the services provided by the medical center and has negative feelings towards it, it is natural for them to leave and not return.

Patient satisfaction has gained widespread recognition as a measure of the level of healthcare services provided in both public and private hospitals. Patient satisfaction is a relative condition that varies from patient to patient and is determined by the level of service provided by a particular medical center. The satisfaction achieved from the service represents the difference between the perceived service and the expected service, and patient satisfaction with healthcare services can be expressed by the following equation:

Patient satisfaction = Perceived healthcare services - Expected healthcare services
 Patients can immediately feel whether the medical center is performing at its best, and if the patient needs to know the quality of medical services provided by the medical center, they should look for patient satisfaction with medical services and care provided by the center, as this indicator is the best measure of quality (Bahreiz and Khoshaba, 2020).

The key to satisfying patients is to constantly strive to meet their needs and desires. Achieving patient satisfaction is a difficult task faced by medical centers, as patients are often exposed to a large and confusing range of healthcare services from which they must choose. Therefore, medical centers that seek to satisfy patients and gain their loyalty must provide the highest level of these services.

3.2. Patient satisfaction dimensions

Healthcare centers are interested in identifying the most important characteristics and indicators that patients use to judge their satisfaction or dissatisfaction, and in general, reliability, cooperation, and respect for time are the factors that determine patient satisfaction and its level. Based on this, the concept of patient satisfaction includes several dimensions, the most important of which are:

- Professional medical care: This refers to the degree of control that physicians have over their knowledge, skills, experiences, and behaviors while providing clinical, therapeutic, and behavioral services to patients through scientific research, critical thinking, and logical analysis based on evidence (Alramahi and Alsheikh, 2020).
- Professional nursing care: This refers to the degree of control that nurses have over their knowledge, skills, experiences, and behaviors while providing nursing and behavioral services to patients during their stay in the medical center.
- Behavioral healthcare: This is part of the general organizational culture used by healthcare centers in treating patients.
- Organizational characteristics: These are a set of attributes that describe the medical center as a system and affect how it performs and how patients perceive the quality of its services.
- Hospitality: This refers to the comprehensive hotel service provided to patients who are staying for treatment, including tranquility, cleanliness, food, and furniture.

3.3. Factors affecting patient satisfaction

Patient satisfaction depends on comparing the perceived healthcare services with their prior expectations. If the services provided fail to meet the patient's expectations, they will be dissatisfied. Conversely, if the healthcare services can actually meet the patient's expectations, this will achieve the satisfaction they seek and make them happy (Ahmed and Al-Kulas, 2020). It is worth mentioning that if the perceived services exceed the patient's prior expectations, this will increase their degree of satisfaction or achieve what is called "patient delight". There are several factors that affect patient satisfaction, including (Bouznad and Tommy, 2021):

- Patient expectations of the healthcare services provided.
- Age, meaning that older patients give better ratings of their satisfaction with the medical center than younger patients.
- The nature of the illness, as diseases that are more difficult to treat affect patient satisfaction, while reassurance of the patient's health increases their satisfaction.
- Previous patient experience, as the patient's experience in dealing with medical institutions reflects their satisfaction.
- Building a strong relationship with the patient, as communication with the patient during and after their illness increases long-term satisfaction.
- Choosing the service provider, as this choice is related to satisfaction and the level of healthcare quality.
- Social factors, where gender, ethnicity, socio-economic status, and other social factors have a proven importance in patient satisfaction.

Successful healthcare centers search for all possible ways to maintain patient satisfaction because these satisfied patients will show loyalty to the medical center and share their positive experiences with others. The key to achieving this

lies in working to achieve compatibility and alignment between patient expectations and perceived services.

3.4. Research design

The research will use a descriptive approach, which involves identifying the variables and phenomena related to the study, and an analytical approach that analyzes the data obtained through research tools using statistical methods, in order to achieve the purpose of the study.

3.5. Research population

The study population is limited to the patients of the City General Hospital in the spring of 2023, and the sample size of the study is 100 individuals.

3.6. Research tool

The questionnaire will include characteristics of the sample (gender, age, educational qualification) and statements of the study axes (healthcare service quality, consisting of 20 statements, and patient satisfaction, consisting of 12 statements), and a five-point Likert scale will be used.

Table 1: Likert scale correction method

Scale	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Weight	5	4	3	2	1
Range	5.00-4.20	3.40- 4.19	2.60-3.39	1.80-2.59	1.00-1.79
Level	Very high	High	Moderate	Low	Very low

3.7. Data analysis

The research used the following methods through SPSS software:

- Cronbach's alpha coefficient to calculate the reliability level of the research tool.
- Correlation coefficient to determine the validity of the research tool and to know the relationship between variables.
- Ratios and frequencies to describe the characteristics of the study sample.
- Mean and standard deviation to describe the level of response of the study sample individuals to the statements of the research tool.
- Simple regression equation to test the study hypotheses.

3.8. Validity

Table 2: Correlation coefficients for the terms of the study tool

Paragr aph	Correl ation coeffici ent	Signific ance	Paragr aph	Correl ation coeffici ent	Signific ance	Paragr aph	Correl ation coeffici ent	Signific ance
Quality of health services								
Tangible aspects			Reliability			Security		
1	0.752*	0.000	1	0.905*	0.000	1	0.772*	0.000
2	0.791*	0.000	2	0.800*	0.000	2	0.886*	0.000
3	0.856*	0.000	3	0.886*	0.000	3	0.821*	0.000
4	0.832*	0.000	4	0.881*	0.000	4	0.892*	0.000
Empathy			Response speed			---	---	---
1	0.903*	0.000	1	0.922*	0.000	---	---	---
2	0.726*	0.000	2	0.931*	0.000	---	---	---
3	0.898*	0.000	3	0.892*	0.000	---	---	---
4	0.884*	0.000	4	0.899*	0.000	---	---	---
Patient satisfaction								
1	0.637*	0.000	5	0.946*	0.000	9	0.877*	0.000
2	0.906*	0.000	6	0.931*	0.000	10	0.939*	0.000
3	0.914*	0.000	7	0.655*	0.000	11	0.903*	0.000
4	0.876*	0.000	8	0.910*	0.000	12	0.915*	0.000

It appears that all the statements of the research tool are statistically significant at 0.01, indicating that the tool has a high level of validity and is suitable for the purposes of the study.

3.9. Reliability

Table 3: Reliability of the research tool using Cronbach's alpha method

Axis	N	Cronbach's alpha
Healthcare service quality	20	0.981
Patient satisfaction	12	0.970
Total	32	0.987

The high reliability of the research tool is indicated by the Cronbach's alpha value being greater than 0.70.

3.10. Ethical Concerns

Permission was obtained from the Ministry of Public Health and the Population, as well as the administrators of the research hospitals and respondents, wherein the author depended on presenting an inquiry for prior consent from each responder, and the survey was then provided solely to the governance in Madinah, Saudi Arabia.

4. Analysis and Results

4.1. Sample characteristics:

Table 4: Distribution of Study Sample by Gender

Categories	N	Percentage (%)
Male	36	63
Female	64	64
Total	100	100

Table 5: Distribution of Study Sample by Age

Categories	N	Percentage (%)
Less than 30 years	34	34
From 30 to less than 40 years	48	48
From 40 to less than 50	12	12
≥ 50 years	6	6
Total	100	100

Table 6: Distribution of Study Sample by Educational Qualifications

Categories	N	Percentage (%)
Middle	17	17
Bachelor's	68	68
Postgraduate studies (Masters - PhD)	15	15
Total	100	100

4.2. Quality of healthcare services

4.2.1. Tangible aspects

Table 7: Tangible Aspects Statements

Phrase	Mean	Deviation	Arrangement	Agreement
--------	------	-----------	-------------	-----------

1	3.770	0.983	1	High
2	3.600	1.146	4	High
3	3.740	1.160	2	High
4	3.640	1.097	3	High
Mean	3.688	1.096		High

It appears that Statement (1) ranked first with a value of 3.770, while Statement (2) ranked last with a value of 3.600. The tangible aspects statements received high agreement, indicating a high level of tangible aspects in healthcare services in Madinah with a value of 3.688 and a standard deviation of 1.096.

4.2.2. Reliability

Table 8: Reliability Statements

Phrase	Mean	Deviation	Arrangement	Agreement
1	3.860	0.985	2	High
2	3.780	1.069	4	High
3	3.940	1.033	1	High
4	3.850	1.175	3	High
Mean	3.858	1.066	High	

It appears that Statement (3) ranked first with a value of 3.940, while Statement (2) ranked last with a value of 3.780. The reliability statements received high agreement, indicating a high level of reliability in healthcare services in Madinah with a value of 3.858 and a standard deviation of 1.066.

4.2.3. Safety

Table 9: Safety Statements

Phrase	Mean	Deviation	Arrangement	Agreement
1	3.920	0.992	3	High
2	3.950	1.009	2	High
3	3.980	0.995	1	High
4	3.590	1.156	4	High
Mean	3.860	1.038	High	

It is evident that phrase (3) ranks first with a value of 3.980, while phrase (4) ranks last with a value of 3.590. It also appears that all the safety phrases received high agreement, indicating a high level of safety in healthcare services in Al Madinah with a value of 3.860 and a standard deviation of 1.038.

4.3. Empathy towards patients

Table 10: Empathy towards patients phrases

Phrase	Mean	Deviation	Arrangement	Agreement
1	3.980	0.995	1	High
2	3.910	0.889	2	High
3	3.980	0.995	1	High
4	3.740	1.211	3	High
Mean	3.903	1.022	High	

It is evident that phrases (1, 3) rank first with a value of 3.980, while phrase (4) ranks last with a value of 3.740. It also appears that all the empathy towards patient's phrases received high agreement, indicating a high level of empathy towards patients in healthcare services in Al Madinah with a value of 3.903 and a standard deviation of 1.022.

4.4. Responsiveness

Table 11: Responsiveness phrases

Phrase	Mean	Deviation	Arrangement	Agreement
1	3.740	1.353	2	High
2	3.710	1.289	3	High
3	3.900	1.000	1	High
4	3.690	1.195	4	High
Mean	1.209	3.760	High	

It is evident that phrase (3) ranks first with a value of 3.900, while phrase (4) ranks last with a value of 3.690. It also appears that all the responsiveness phrases received high agreement, indicating a high level of responsiveness in healthcare services in Al Madinah with a value of 3.760 and a standard deviation of 1.209. There is also a high level of healthcare service quality in Al Madinah with a value of 3.814 and a standard deviation of 1.086.

4.5. Patient satisfaction

Table 12: Patient satisfaction phrases

Phrase	Mean	Deviation	Arrangement	Agreement
1	4.210	0.902	2	High
2	3.910	1.207	7	High
3	3.940	1.003	5	High
4	3.920	0.992	6	High
5	3.970	0.989	4	High
6	3.980	0.995	3	High
7	4.220	0.799	1	High
8	3.890	1.118	9	High
9	3.540	1.329	12	High

10	3.830	1.055	10	High
11	3.740	1.160	11	High
12	3.890	1.034	8	High
Mean	1.049	3.920		High

It is evident that phrase (7) ranks first with a value of 4.220, while phrase (9) ranks last with a value of 3.540. It also appears that two of the patient satisfaction phrases received very high agreement, while ten phrases received high agreement, indicating a high level of patient satisfaction with healthcare services in Al Madinah with a value of 3.920 and a standard deviation of 1.049.

4.6. Stusy assignment test

Table 13: Study assignments test

Assignment	B- value	t- value	F- value	R2- value	R value	Significance	Significance
Main	0.546	**24.326	**591.765	0.858	0.926	0.000	0.01
Subgroup 1	1.990	**10.286	**105.792	0.519	0.720	0.000	0.01
Subgroup 2	2.557	**20.045	**401.800	0.804	0.897	0.000	0.01
Subgroup 3	2.752	**21.907	**479.926	0.830	0.911	0.000	0.01
Subgroup 4	2.740	**20.942	**438.582	0.817	0.904	0.000	0.01
Subgroup 5	2.236	**27.614	**762.516	0.886	0.941	0.000	0.01

- There is a statistically significant positive correlation between the quality of healthcare services and patient satisfaction at 0.01, with a positive relationship between healthcare services and patient satisfaction at a value of 0.926. As the quality of healthcare services increases by 1%, patient satisfaction increases by 0.546%.
- There is a statistically significant positive correlation between tangible aspects and patient satisfaction at 0.01, with a positive relationship between tangible aspects and patient satisfaction at a value of 0.720. As tangible aspects increase by 1%, patient satisfaction increases by 1.990%.
- There is a statistically significant positive correlation between reliability and patient satisfaction at 0.01, with a positive relationship between reliability and patient satisfaction at a value of 0.897. As reliability increases by 1%, patient satisfaction increases by 2.557%.
- There is a statistically significant positive correlation between safety and patient satisfaction at 0.01, with a positive relationship between safety and patient satisfaction at a value of 0.911. As safety increases by 1%, patient satisfaction increases by 2.752%.
- There is a statistically significant positive correlation between empathy towards patients and patient satisfaction at 0.01, with a positive relationship between empathy towards patients and patient satisfaction at a value of 0.904. As empathy towards patients increases by 1%, patient satisfaction increases by 2.740%.
- There is a statistically significant positive correlation between responsiveness and patient satisfaction at 0.01, with a positive relationship

between responsiveness and patient satisfaction at a value of 0.941. As responsiveness increases by 1%, patient satisfaction increases by 2.236%.

5. Discussion

- There is a high level of healthcare service quality in its dimensions (tangibles, reliability, safety, empathy, responsiveness).
- There is a high level of patient satisfaction with healthcare services in Al-Madinah Al-Munawwarah.
- There is a statistically significant positive correlation between the level of healthcare service quality and the level of patient satisfaction, and for every 1% increase in healthcare service quality, patient satisfaction increases by 0.546%.
- There is a statistically significant positive correlation between the level of tangibles and the level of patient satisfaction, and for every 1% increase in tangibles, patient satisfaction increases by 1.990%.
- There is a statistically significant positive correlation between the level of reliability and the level of patient satisfaction, and for every 1% increase in reliability, patient satisfaction increases by 2.557%.
- There is a statistically significant positive correlation between the level of safety and the level of patient satisfaction, and for every 1% increase in safety, patient satisfaction increases by 2.752%.
- There is a statistically significant positive correlation between the level of empathy and the level of patient satisfaction, and for every 1% increase in empathy, patient satisfaction increases by 2.740%.
- There is a statistically significant positive correlation between the level of responsiveness and the level of patient satisfaction, and for every 1% increase in responsiveness, patient satisfaction increases by 2.236%.

6. Conclusions

In conclusion, measuring the extent of patient satisfaction with the services provided by healthcare in Madinah is a crucial aspect of healthcare quality assessment. The reviewed studies indicate that patient satisfaction with healthcare services in Madinah is influenced by various factors, including service quality, communication, staff competence, waiting time, and hospital infrastructure. While some patients express high satisfaction with the services provided, others report dissatisfaction with various aspects of healthcare delivery. Therefore, healthcare providers in Madinah need to continue improving their services to meet patients' expectations and enhance their satisfaction levels. By addressing the identified factors affecting patient satisfaction, healthcare providers in Madinah can improve the quality of healthcare services and foster better patient experiences. Further research on patient satisfaction with healthcare services in Madinah is needed to provide more insights into the factors that affect patient satisfaction and identify areas that require improvement.

7. Recommendations

- Efforts should be made to maintain the excellent level of healthcare service quality provided in the hospitals of Al-Madinah Al-Munawwarah by providing all means to achieve this goal.
- Attention should be given to providing patients with all their needs and desires, which contributes to maintaining their high level of satisfaction.
- Further research should be conducted on the impact of the level of healthcare services provided on patient satisfaction and loyalty levels.

References

1. Al-Agha, Alaa Fathi Ali, Nassar, Sadeq Tawfiq Mohammed, and Radwan, Abdul Kareem Said. (2022). Evaluation of the quality of healthcare services provided in outpatient clinics at the European Gaza Hospital and its impact on patient satisfaction (Unpublished master's thesis). Islamic University of Gaza, Gaza.
2. Al-Hadithi, Abdulatif bin Ibrahim Rashid. (2018). Measuring the quality of healthcare services performance in private hospitals in the Asir region. *Al-Baha University Journal for Humanities*, 16, 360-394.
3. Al-Rifa'i, Ola Lu'ai, and Al-Omari, Mohammed Abu Yemen. (2014). The impact of service quality dimensions on patient satisfaction in Jordanian government hospitals (Unpublished master's thesis). Amman Arab University, Amman.
4. Al-Ramhi, Ihab Mohammed Abdullah, and Al-Sheikh, Mustafa Saeed. (2020). Social responsibility and its impact on patient satisfaction: An applied study on beneficiaries of services at Al-Zarqa Government Hospital in Jordan (Unpublished master's thesis). Al-Zarqa University, Al-Zarqa.
5. Al-Rawashdeh, Firas Mohammed, and Al-Samadi, Ziad Mohammed Ali. (2010). Evaluating the level of healthcare services from the perspective of health insurance beneficiaries in Jordan. *Jordan Journal of Business Administration*, 6(4), 476-497.
6. Al-Ziyadi, Hussein Aliwi Nasser, and Al-Atabi, Ali Abdul Hadi Abdul Ali. (2022). Efficiency of healthcare services provided to visitors of the fortieth anniversary of Imam Hussein "peace be upon him": The city of Nasiriyah as a model. *Al-Sabt Journal*, 8(4), 247-362.
7. Al-Abbasi, Ramzi, and Naaroura, Boubekeur. (2020). Contribution to improving the quality of healthcare services from the patients' perspective: A field study on a sample of patients at the public hospital "Qarin Elayachi" in Annaba Province. *Journal of the Institute of Economic Sciences*, 23(1), 857-877.
8. Al-Ali, Ibrahim Mohammed, Ahmed, Waseem, and Dreibati, Yassira Hassan. (2018). Estimating the level of patient satisfaction with healthcare services provided by government hospitals on the Syrian coast: A field study. *Tishreen University Journal for Research and Scientific Studies - Series of Economic and Legal Sciences*, 40(1), 169-185.
9. Al-Olyani, Mohammed Awadhah Mohammed. (2020). The extent of satisfaction of long-term stay patients in government hospitals with the role of the social worker: A field study on hospitals in the Asir region. *Journal of Social Services*, 66J, 160-188.

10. Al-Anzi, Mohammed Ayal Hamoud, and Aba Zaid, Riyadh Ahmed Mohammed. (2016). The impact of healthcare service quality on the satisfaction of resident patients in government hospitals in Kuwait (Unpublished master's thesis). Al al-Bayt University, Mafraq.
11. Al-Fawa'ir, Duaa Saad, and Al-Omari, Mohammed Abu Yemen. (2013). Measuring patient satisfaction with healthcare services provided in government and private hospitals: A comparative study (Unpublished master's thesis). Arab Open University, Amman.
12. Al-Qudah, Hassan Saleh Sulaiman. (2017). Level of patient satisfaction with healthcare services provided by private hospitals in the Jordanian capital Amman. *Algerian Journal of Economic Sciences*, 1(31), 245-271.
13. Abaro, Mona Mohammed Abdullah, and Al-Hilali, Mubarak Abdul Qadir. (2018). Evaluation of the health insurance experience from the beneficiaries' perspective: A field study - within the state of Khartoum (Unpublished master's thesis). Nilein University, Khartoum.
14. Abu Rahma, Abdel-Basit Hassan. (2021). Quality of healthcare services provided in government hospitals in the southern provinces of Palestine: An applied study on a sample of hospitals in 2019. *Journal of Economic, Administrative and Legal Sciences*, 5 (7), 19-36.
15. Ahmed, Mohamed Ahmed Hassan, and Al-Kalas, Nasr al-Din Al-Amin Fadlallah. (2020). The impact of healthcare quality on patient satisfaction: A case study of Bashair University Hospital (Unpublished master's thesis). University of Khartoum, Khartoum.
16. Bukhari, Mohammad Bukhari Abu Bakr, and Adam, Amin Ibrahim. (2014). Measuring the satisfaction of insured individuals with health insurance services in North Darfur State (Unpublished master's thesis). Omdurman Islamic University, Omdurman.
17. Bahreiz, Ahmed Yousif Abdul Salam Mohamed Ali, and Khashaba, Islam Omar. (2020). The role of electronic customer experience courses in achieving the satisfaction of private hospitals' patients in Mansoura city through WhatsApp and Facebook. *Egyptian Journal of Business Studies*, 44 (2), 64-89.
18. Bouznad, Delila, and Tommy, Abdelrahman. (2021). The reality of patient satisfaction with the quality of hospital services in French public hospitals under activity-based pricing mechanism. *Journal of Financial, Accounting and Managerial Studies*, 8 (3), 263-280.
19. Boudia, Bachir. (2017). Measuring the impact of healthcare service quality provided at the Eye Hospital on patient satisfaction in Béchar state, Algeria. *Journal of Total Knowledge*, 4, 141-152.
20. Hamed, Osman Taj Al-Sir Masaad. (2020). Quality of healthcare services provided to patients in government hospitals in the Greater Wad Medani localities of Al-Jazirah State - Sudan "2020". *International Journal of Economics and Business*, 9 (2), 318-332.
21. Khreisat, Hala Emad, and Al-Shamaileh, Adel Ya'qoub. (2017). The impact of the service quality provided by government hospitals in Jordan on patient satisfaction: A case study of the King Hussein Medical City Hospital (Unpublished master's thesis). University of Jordan, Amman.
22. Khalifa, Nouri Khalifa Othman, Al-Shweirf, Mohammed Ali, and Ammar, Emad Ramadan Omar. (2020). Measuring the quality of healthcare services

- provided at Nalut Central Hospital from the perspective of its beneficiaries. *Journal of Economic and Political Sciences*, 16, 77-112.
23. Suleiman, Hassan Saleh. (2008). Measuring patient satisfaction with the quality of healthcare services provided: An applied study on a sample of Jordanian public and private hospitals. *Journal of Financial and Commercial Research*, 1, 217-233.
 24. Shoushan, Ammar, Qasmi, Wafa, and Belkheiri, Salima Mohammed. (2020). The role of healthcare in achieving patient satisfaction among hospital inpatients: A field study at the specialized hospital in Tébessa. *Journal of the Research in Humanities and Social Sciences*, 12 (2), 407-420.
 25. Abd Elrahman, Dalia Mohamed. (2022). Factors affecting patient satisfaction with healthcare services: A case study. *Arab Journal of Educational and Psychological Sciences*, 26, 213-230.
 26. Issa, Islam Qasim Allah Ahmad and Mustafa, Anwar Zain Babiker. (2016). Measuring the level of satisfaction with health insurance services from the beneficiaries' perspective in Khartoum state: An analytical-local study in Giraykh during 2015 (Unpublished master's thesis). Omdurman Islamic University, Omdurman.
 27. Ainous, Ridwan. (2022). Measuring patient satisfaction with healthcare services: Using artificial neural network (ANN) models. *Journal of the Institute of Economic Sciences*, 25 (1), 333-352.
 28. Nawwar, Hanin Imran Sabhi and Al-Qattanah, Manar Ibrahim. (2021). The impact of empowering healthcare workers on improving the quality of services provided in health centers in Al-Balqa Governorate (Unpublished master's thesis). Al-Balqa Applied University, Al-Salt.