



EVALUATION OF THE QUALITY LEVEL OF HEALTH SERVICES IN GOVERNMENT HOSPITALS OF LIBYA

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Article Received on 13/12/2024

Article Revised on 03/01/2025

Article Accepted on 23/01/2025

ABSTRACT

Background: healthcare quality is defined as the extent to which healthcare services provided to individuals and patient populations improve desired health outcomes. Therefore, this study was conducted to find out how the patients evaluated the service quality of the Government Hospital of Libya. **Methods:** This a prospective study was conducted in the Government Hospital during the first half of 2023 and 400 patients were randomly. The patients were selected by multistage systematic random sampling, but due to limited time and resources, only one hospital and share were allocated based on its size (number of beds). **Results:** Most of the respondents were women (n=221; 55.3%). The most significant age belonged to the 50-64 age group. According to the level of education, (n=229; 57.3%) respondents had No schooling and (n=162; 40.5%) school education, There were significant differences between age, and waiting time in Hospital. **Conclusion:** The majority of the patients had a positive experience with Government hospitals and perceived the service quality as good. The most positive perceptions of the patients were related to the quality of physician consultation, admission processes, and information provision to patients. Also, the relationship between age, and waiting time in Hospitals to patients were two factors determining the clinic's service quality.

KEYWORDS: Health quality, Outpatients, Hospitals.

INTRODUCTION

Background

According to World Health Organization, healthcare quality is defined as the extent to which healthcare services provided to individuals and patient populations improve desired health outcomes.^[1] In order to achieve this, health care must be safe, effective, timely, efficient, equitable, and people-centered. In this context, safe means delivering healthcare without risks and harm to patients, including avoiding preventable injuries and reducing medical errors. Effective, means providing healthcare services based on scientific knowledge and evidence-based guidelines.^[2] Timely, denotes reducing delays in providing healthcare services. Efficient, means delivering healthcare in a manner that maximizes resource use and avoids waste.

Equitable, refers to delivering healthcare that does not differ in quality according to personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status. People-centered, indicates providing care that takes into account the preferences and aspirations of individual service users and the culture

of their community.^[3] Any government health care system provides services for national and non-national citizens, that include, but are not limited to physician consultation, operation, out/inpatient services, diagnostic procedures, and all prescribed medications.^[2] However, the healthcare system needs a significant increase in the quantity and quality of healthcare institutions and services to meet the increasing demands of its patients that are increasing rapidly. The government provides healthcare services through three levels: hospitals, primary healthcare centers, and ambulance centers. The health status must be improved in the future and The entire population has access to primary healthcare services from hospitals, and clinics. Healthcare service quality has become one of the most important choice criteria for patients in government and private hospitals.^[4] Indicated that service quality is a very important concept that must be understood if the company wants to remain competitive and evolving.

The existing evidence shows that assessment of the healthcare service quality in transitional and developing countries has been traditionally and for a long time based

on professional standards.^[1-3] however, over the past two decades, and especially due to the high growth rate of the healthcare industry in these countries in recent years,^[4] patient perception of the healthcare services provided has emerged as an important quality indicator and as such represents a valuable approach for measuring and improving healthcare organization performance.^[5]

Hospitals are at the top of healthcare systems, their share in healthcare budgets is significant (e.g., in European countries accounting for 50%-70% of the budget), and most often they represent the central part of the healthcare reform processes. Furthermore, hospitals are professionally managed; pharmaceutical and technological advances in their practices, as well as a commitment to evidence-based practices, point to a conclusion that services provided by hospitals can significantly affect the health of the population.^[5] Therefore, service quality measurement and implementation of safety^[6] principles in hospitals (and other healthcare institutions) represent an essential way to improve the overall healthcare systems in countries that are going through major economic and managerial transformations.^[7]

Sabratha Government Hospital is one of the oldest and largest healthcare institutions in Libya, which besides healthcare performs activities of medical education and scientific research. admits over thousand inpatients and carries out many different healthcare services annually.

It tries to maintain its reputation and significance for several years, nurturing the tradition of Libyan medicine, but also following the trends of modern medicine and the requirements of the social environment more specifically, improvement and further development of the quality standards in the hospital include humanity, ethics, expertise, and professionalism of all employees; patient and his/her family as the central part of the process; development of an environment that promotes a culture of quality; development of innovative processes and excellence; development of scientific research in the field of healthcare and use of evidence-based knowledge, as well as the efficiency and effectiveness of all processes.

Goals of the study

- The aim of this study is to look at healthcare service quality in Government hospitals of Libya.
- Measuring and evaluating the quality of health services is one of the most important objectives of stakeholders in the health sector.
- Healthcare service quality is regarded as a strategic tool for the hospital to improve healthcare services quality through improving tangibility, reliability, response, security, and empathy the thing which in turn leads to a reduction of waiting time for the patient, supporting patients' confidence in health institutions.

- Stimulating improvement of the healthcare service quality is one of the strategic goals of the National Strategy for Health Care.
- The development strategy highlights the quality of healthcare services and their improvement as the foundation of the management aimed at meeting the needs of all stakeholders, i.e. patients, staff, citizens, and society as a whole.

Health information systems for healthcare Information system

The assimilation and dissimulation of health information and data within the healthcare system is an important task that influences healthcare outcome. Within the healthcare setting, IS plays a significant role in the assimilation and dissimulation of health information needed by healthcare stakeholders. Many continents endorse the deployment of IS mainly to consolidate mutable information from different sources within the systems. The primary objective for these systems' deployment has been centered on bringing together unique and different components such as institutions, people, processes, and technology in the system under one umbrella.^[8] An overview of the extant literature reveals that this has rarely been easy, as integration within this system has always been difficult in many contexts. In the context of HIS, many reported the integration phenomena to be problematic, attributing this to the global transformation within the healthcare arena.^[9] This revolution, coupled with the advancement of the healthcare arena, has resulted in the need for robust allied health IS systems that incorporates different IS and information technology.^[8] These allied health information systems are necessary to consolidate independent information systems within their healthcare arena use to enhance healthcare applications.^[9] Organizations in the healthcare arena expect these systems to be sustainable and resilient; however, in order to satisfy these requirements, an integrated information system is needed to unify all independent, agile, and flexible health IS to mitigate challenges for HIS.^[10]

An aligned HIS that is allied is essential, as it supports health information networks (HIN) that subsequently enhance and improve healthcare applications.^[11] Thus, many organizations within the healthcare settings are fine-tuning their HIS to be resilient and sustainable. However, the realization of a robust information system within the healthcare arena is challenging and depends on the flow of information as a crucial constituent for suave and efficient functioning.^[12]

Knowledge management

The process of constructing value and generating a maintainable edge for an industry with capitalization on building, communicating, and knowledge applications procedures to realize set aspirations is denoted as knowledge management.^[13] The literature reveals knowledge management as an important contributor to organizational performance through its knowledge-

sharing capabilities.^[14] In the healthcare industry, there is a high demand for knowledge to enhance healthcare applications.^[15] Several studies reported that the deployment of knowledge management in the healthcare arena is set to enhance healthcare treatment effectiveness.^[13] Many stakeholders such as governments, World Health Organization (WHO), and healthcare workers rely on the management of healthcare knowledge to complement healthcare applications. According to Kim, Newby-Bennett,^[14] the focus of knowledge management is to efficaciously expedite knowledge sharing. However, integrating knowledge from different sources is challenging and requires an enabler.^[14]

The HIS is an indispensable enabler of health knowledge generated from amalgamated health information within the healthcare arena.^[15] Dixon, McGowan^[16] asserted that efficacious modifications in the healthcare arena are made possible by knowledge codification and collaboration from information technologies. Similarly, some authors have pinpointed information and communication technologies within the healthcare arena to be a major determinant in the attainment of a sustainable health system development.^[10] The knowledge management relationship with HIS is considered complementary and balanced, as it enables the availability of knowledge that can be shared. The importance of knowledge management is relevant for the realization of an enhanced healthcare application via HIS. Soltysik-Piorunkiewicz and Morawiec^[10] claimed that the information society effectively uses HIS as an information system for management, patient knowledge, health knowledge, healthcare unit knowledge, and drug knowledge.

The role of HIS as an integrated IS and key enabler of healthcare knowledge management highlights its potential within the healthcare arena. From the conception of HIS and the records of its evolution, significant achievements have been attained that are demonstrated at different levels of its structural deployment. HIS deployment in several settings of healthcare have positively influenced clinical processes and patients' outcomes.^[17] Globally, the need for HIS within the healthcare system is critical in the enhancement of healthcare. Many healthcare actions are dependent on the use of HIS.^[15] This demand is substantiated by the offerings of HIS in tackling the transformation and digitalization confronting the healthcare system. However, despite the need for HIS and its potential within healthcare, several barriers limit its optimization. Some authors posited the role and involvement of healthcare professionals such as physicians to be important measure that is paramount to decreasing the technical and personal barriers sabotaging HIS deployment.^[18] Nonetheless, the design of HIS is accentuated on augmenting health and is considered to be lagging behind in attaining quality healthcare.^[19]

MATERIAL AND METHOD

Study design

This was a cross-sectional study conducted on a random sample of 400 patients who were referred to outpatient departments in Government Hospitals of Libya. The Government Hospital during the **first 6 months** of the **year 2025**. The patients were selected by multistage systematic random sampling, but due to limited time and resources, only one hospital and share were allocated based on its size (number of beds). Outpatient departments work seven days a week, thus in order to increase the likelihood of patient participation in the study, a systematic sampling technique was used to select patients every day from Saturday to Friday.

The patients were then asked to complete a questionnaire before leaving the hospital and following the physician's consultation. The individual's consent was a requirement and the patients who declined to participate in the study (n= 15) were substituted by other patients. Since the perception of quality is a subjective judgment, in order to have an accurate yet close-to-reality evaluation, only patients at least 20 years old and willing to participate were included in the study.

Data were collected using a questionnaire that was designed for this study. The reliability of the instrument, in this study, was assessed using Cronbach's Alpha Coefficient, which ranged from 0.6 to 0.9 for service quality dimensions and 0.92 for overall service quality, indicating a sufficient level of reliability.

The questionnaire consisted of 20 questions on demographic and socio-economic variables and the hospital's outpatient services quality; waiting time, admission process, physical environment, physician services, and disclosure of information to the patient.

Statistical analysis

Data were analyzed by **SPSS 20** using **T-test, ANOVA** and Pearson correlation to compare service quality in terms of patient's demographic variables and assess the relationship between quality dimensions.

THE RESULTS

Table I: Variables characteristics of the study groups.

Variables	N	%	Mean (\pm SD)	Test results
Gender				
Male	179	44.8	3.81 (0.42)	T = -2.99 P = 0.003
Female	221	55.3	3.66 (0.56)	
Education level				
No schooling	229	57.3	3.69 (0.51)	F = 11.90 P < 0.001
school	162	40.5	3.82 (0.48)	
University	9	2.3	3.04 (0.17)	
Marital status				
Married	290	72.5	3.70 (0.54)	F = 1.71 P = 0.14
Single	88	22	3.78 (0.52)	
Widowed	10	2.5	4.04 (0.15)	
Divorced	12	3	3.64 (0.19)	

N; number of patients, %; percentages.

The data collected from 20 questionnaires were analyzed using SPSS software packages, with the results presented descriptively.

significant age belonged to the 50-64 age group. According to the level of education, (n=229; 57.3%) respondents had No schooling and (n=162; 40.5%) school education.

Table 1 summarizes the profile of the sample. Most of the respondents were women (n=221; 55.3%). The most

Table II: Rate of Visit and Admission and Source of recommendation.

Variables	N	%	Mean (\pm SD)	Test results
Rate of visit				
First	60	15	3.78 (0.44)	P = 0.08
Second	78	19.5	3.81 (0.54)	
Third	130	32.5	3.70 (0.51)	
Fourth	34	8.5	3.91 (0.45)	
more	98	24.5	3.59 (0.51)	
admission				
New disease	136	34	3.81 (0.49)	P = 0.04
Postoperative follow-up	139	34.8	3.62 (0.49)	
Previous disease	125	31.2	3.75 (0.53)	
Source of recommendation				
Doctors	176	44	3.76 (0.55)	P = 0.04
Family	66	16.5	3.63 (0.36)	
Friends or Relatives	110	27.5	3.69 (0.52)	
Media	15	6.3	3.89 (0.50)	
Other patients	23	5.8	3.73 (0.43)	
Health status				
Excellent	27	6.8	3.89 (0.46)	P = 0.04
Good	125	31.3	3.75 (0.54)	
poor	66	16.5	3.59 (0.43)	

N; number of patients, %; percentages.

About 34% of the patients visited the hospital once whereas 25% of the patients visited the hospital more than 6 times. The results also indicated a postoperative follow-up for 35% of the visits. Most patients (44%)

were referred to clinics by their physicians, and the majority of them (about 77%) reported their health status as good or moderate (**Table 2**).

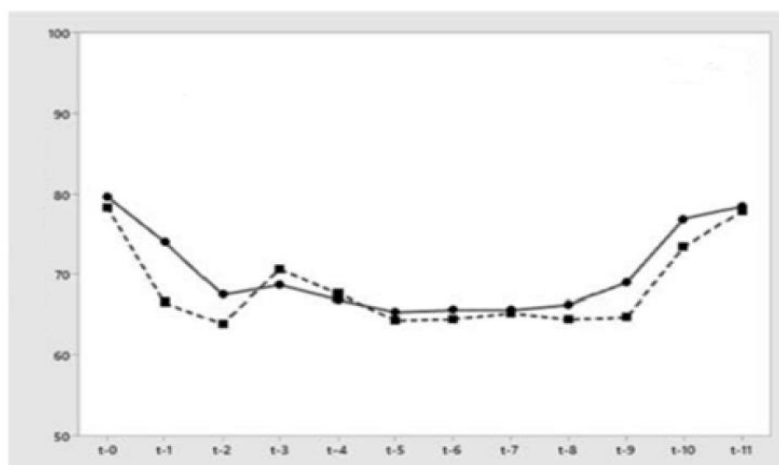


Fig. 1: Shown The Relationship between age and waiting time in Hospital.

In Fig.1 are seen changes. It was also found that the minimum, average and maximum waiting times were 10 min, three, and four hours, respectively. There were significant differences between age, and waiting time in Hospital.

DISCUSSION

This study aimed to evaluate the health service quality of the Government in Libya from the patients' viewpoint and results showed that the quality of the overall service was assessed as good by 3.75% of the patients while 3.59% of the patients defined it as poor.

The findings of the study indicated a same status of service quality compared with the service quality in Shiraz Teaching hospitals clinics where about 37% of the patients were satisfied with service quality.^[8]

In a study conducted by Mpinganjira, the patients reported status of service quality as good.^[8] In another study at cancer clinics in Canada^[9] the quality score was reported above average (3.66) which is consistent with our result.

The findings demonstrated that the highest score of service quality was attributed to the physician's consultation. Patients often lack sufficient information and knowledge to assess the medical staff, and perhaps this is the reason why they tend to assess them positively.^[10]

It should also be noted that in the process of health service delivery, patients are more sensitive to care provided by physicians and nurses^[11] in fact, human elements are more important compared with non-human elements in patient perception of care quality.^[12] Doctor-patient interpersonal relationship also plays a key role in

shaping service quality judgments.^[13] Personal relationships greatly affect the service quality perception since the services are intangible and inseparable from consumers.^[20] The findings of studies in Greece, Norway, France and Finland, also indicated that the highest mean score was related to the quality of physician's consultation.^[21]

The provision of information to patients which had a high correlation with service quality, took the fourth rank in this study. This is in contrast with the findings of other studies in which the patients did not give a high score to the quality of information; consequently, this dimension was not included in the highest-ranked dimensions.^[22]

The appointment process, which ranked fifth, was perceived as moderate and good by approximately 72% of the patients. The negative perception could be attributed to bureaucratic processes, lack of proper appointment systems, or inappropriate staff behavior. The results are in line with those the findings of studies conducted in Greece and Norway where the patients also perceived the quality of the appointment process as good and moderate.^[23]

CONCLUSION AND RECOMMENDATIONS

According to the findings, the majority of the patients had a positive experience with the Government Hospital hospitals and perceived the service quality as good. The most positive perceptions of the patients were related to the quality of physician consultation, admission processes, and information provision to patients. Also, the relationship between age, and waiting time in Hospitals to patients were two factors determining the clinic's service quality.

For that reason, it is suggested to improve the 'disclosure of information to patients which is one of the most important factors in service quality and use a web-based appointment system to reduce waiting time for physician appointments. It is also recommended that clinics improve their physical environment to increase their patient's positive perceptions.

The findings could be valuable for healthcare managers/providers and provide them with useful information about the special needs of their patients and their existing problems. In this case, they can channel their efforts to satisfy their patients' demands and eliminate the weak points.

ACKNOWLEDGEMENTS

The authors would like to thank the staff and anesthesiology team at Libyan Teaching Hospital for their help and support during the research study. They appreciate their cooperation which was invaluable in enabling the **author to conduct** the research, and also, they are grateful to who participated in the study.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author's contributions

Ahmed EBshena and ZUBAEDA ALSAYEH conducting studies, interpreting data, and drafting the manuscript. Both authors approved the paper for publication.

Authors' contributions

AAE and ZMA conducting study, interpreted data and draft the manuscript. All authors approved the paper for publication.

REFERENCES

- Izadi A, Jahani Y, Rafiei S, Masoud A, Vali L. Evaluating health service quality: using importance performance analysis. *Int. J. Health Care Qual. Assur*, 2017; 30(7): 656.
- T D, Karunes S. An integrated framework for quality in education: application of 2. Sahney S, Banwequality function deployment, interpretivestructuralmodelling and path analysis. *Total Qual Manag* 85. –Bus Excell, 2006; 17(2): 265.
- C and private hospital careservice quality. *Int. J. 3. Camilleri D, O'Callaghan M. Comparing publi33.–Health Care Qual. Assur*, 1998; 11(4): 127.
- Pantoja T, Beltrán M, Moreno G. Patients' perspective in Chilean primary care: a questionnaire validation study. *Int J Qual Health Care*, 2008; 21(1): 51–7.
- Cronin JJ Jr, Taylor SA. Measuring service quality: a reexamination and extension. *J Mark*, 1992; 55–68.
- Alhassan RK, Duku SO, Janssens W, Nketiah-Amponsah E, Spieker N, vanOstenberg P, et al. Comparison of perceived and technical healthcare quality in primary health facilities: implications for a sustainable National Health Insurance Scheme in Ghana. *PLoS One*, 2015; 10(10): e0140109.
- Labarere J, Francois P, Auquier P, Robert C, Fourny M. Development of a French inpatient satisfaction questionnaire. *Int J Qual Health Care*, 2001; 13(2): 99–108.
- Farnham, A.; Utzinger, J.; Kulinkina, A.V.; Winkler, M.S. Using district health information to monitor sustainable development. *Bull. World Health Organ*, 2020; 98: 69–71.
- Faujdar, D.S.; Sahay, S.; Singh, T.; Kaur, M.; Kumar, R. Field testing of a digital health information system for primary health care: A quasi-experimental study from India. *Int. J. Med. Inform*, 2020; 141: 104235.
- Jabareen, H.; Khader, Y.; Taweel, A. Health information systems in Jordan and Palestine: The need for health informatics training. *East. Mediterr. Health J*, 2020; 26: 1323–1330.
- Ayabakan, S.; Bardhan, I.; Zheng, Z.; Kirksey, K. The Impact of Health Information Sharing on Duplicate Testing. *MIS Q*, 2017; 41: 1083–1104.
- Mayer, F.; Faglioni, L.; Agabiti, N.; Fenu, S.; Buccisano, F.; Latagliata, R.; Ricci, R.; Spiriti, M.A.A.; Tatarelli, C.; Breccia, M.; et al. A Population-Based Study on Myelodysplastic Syndromes in the Lazio Region (Italy), Medical Miscoding and 11-Year Mortality Follow-Up: The Gruppo Romano-Laziale Mielodisplasie Experience of Retrospective Multicentric Registry. *Mediterr. J. Hematol. Infect. Dis*, 2017; 9: e2017046.
- Soltysik-Piorunkiewicz, A.; Morawiec, P. The Sustainable e-Health System Development in COVID 19 Pandemic—The Theoretical Studies of Knowledge Management Systems and Practical Polish Healthcare Experience. *J. e-Health Manag*, 2022; 2022: 1–12.
- Seo, K.; Kim, H.N.; Kim, H. Current Status of the Adoption, Utilization and Helpfulness of Health Information Systems in Korea. *Int. J. Environ. Res. Public Health*, 2019; 16: 2122.
- Mahendrawathi, E. Knowledge management support for enterprise resource planning implementation. *Procedia Comput. Sci*, 2015; 72: 613–621.
- Kim, Y.M.; Newby-Bennett, D.; Song, H.J. Knowledge sharing and institutionalism in the healthcare industry. *J. Knowl. Manag*, 2012; 16: 480–494.
- Nwankwo, B.; Sambo, M.N. Effect of Training on Knowledge and Attitude of Health Care Workers towards Health Management Information System in

- Primary Health Centres in Northwest Nigeria. *West Afr. J. Med*, 2020; 37: 138–144.
18. Mpinganjira M. Understanding service quality and patient satisfaction in private medical practice: a case study. *Afr J Bus Manag*, 2011; 5(9): 3690.
 19. Carlucci D, Renna P, Schiuma G. Evaluating service quality dimensions as antecedents to outpatient satisfaction using back propagation neural network. *Health care manag sci*, 2013; 16(1): 37–44.
 20. De Man S, Gemmel P, Vlerick P, Van Rijk P, Dierckx R. Patients' and personnel's perceptions of service quality and patient satisfaction in nuclear medicine. *Eur J Nucl Med Mol Imaging*, 2002; 29(9): 1109–17.
 21. Alrubaiee L, Alkaa'ida F. The mediating effect of patient satisfaction in the patients' perceptions of healthcare quality–patient trust relationship. *Int J Mark Stud*, 2011; 3(1): 103.
 22. Keshtkaran A, Heydari AR, Keshtkaran V, Taft V, Hashiani A. A. Outpatient satisfaction level of teaching hospitals clinics in Shiraz. *J Monit*, 2012; 11(4): 459–65. (In Persian).
 23. Moosazadeh M, Nekoei-moghadam M, Amiresmaili M. Determining the level of hospitalized patients' satisfaction of hospitals: a systematic review and meta-analysis. *J Hospital*, 2013; 12(1): 77–87.