A Systematic Review of Dimensions for Measuring Quality of Healthcare Facilities Management Services Using Prisma Guidelines

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ABSTRACT

Purpose - This paper provides access to the study in measuring the quality of healthcare services, specifically in healthcare Facilities Management (FM). This paper provides a comprehensive understanding of the service dimensions that influence the measurement of healthcare quality services.

Methodology/approach - The methodology of this research is qualitative research with the systematic analysis of literature review using PRISMA Guidelines which was gathered from several research journals from Web of Science (WOS) and SCOPUS database.

Findings – Data were gathered through electronic database, N=27,600 with specific criteria from 2017 to 2025 research timelines. As a result, 60 peer reviewed papers relevant to the aim and objectives of the research were utilised. The research findings indicate that original SERVQUAL dimensions: reliability, assurance, tangible, empathy, and responsiveness (RATER) are still relevant. Until today, SERVQUAL Model with RATER dimensions are used to measure customer satisfaction in many sectors including healthcare. By measuring services quality, the gap that is identified would be addressed and improved. This is important to demonstrate best practice in healthcare quality.

Research limitations/implications – The findings highlight the intricate mechanism by which a systematic review study using PRISMA guidelines could help strengthen the research methodology in healthcare FM. These results provide useful insights for a healthcare FM to investigate the quality of service in healthcare FM.

Originality/values - To the best of the authors' knowledge, a limited number of journals exist to examine the systematic review that focuses on service quality and customer satisfaction.

Keywords: Systematic Review, Dimensions, Measuring Quality, Healthcare Facilities Management (FM), Prisma Guidelines.

INTRODUCTION

Healthcare had grown rapidly worldwide with many changes and improvement in the healthcare industry. Healthcare facilities vary from one to another in term of their services, speciality and resources availability. A study of healthcare quality services is widely measured and common within customer orientation to measure the best quality that meet the customer expectation and perception. Healthcare facilities vary from one another in term of their services, specialty and resources availability. The quality of services in healthcare FM is predominantly assessed using scales grounded in the customer's perspective. Consequently, service quality has been a central theme in numerous literature reviews. Among the most influential works is the research study by Parasuraman et al. (1988), which conceptualised service quality as the degree and direction of the discrepancy between customers' expectations and perceptions. Within the healthcare sector, competition between public and private institutions is well recognised. In many regions, efforts to deliver high-quality healthcare services have prompted the development of strategies aimed at meeting evolving market demands.

The ultimate goals of the strategies are mainly to continuously improve standards and to ensure safe, efficient, effective and client-centred institution. As quality has become the most important element in services industry, people are constantly looking for quality product and services. This desire has caused many institutions to consider quality as a strategic goal to achieve competitive advantage (Amos et al., 2021). There is a strong direct relationship between service quality and organization performance, where if there is an improvement in service quality, the productivity is said to increase and thus the performance (Mosadeghrad, 2013). However, it is difficult to define the word "quality" because of its subjective nature and intangible characteristic. Due to that, the concept of quality is worth looking at from the customer's point of view since the ultimate goal of the provider is to satisfy customer needs and to ensure customer satisfaction. This is evident in most research which is based on the quality concept as customer needs and expectations form the basis of the research. Providing high-quality service is the key importance in any management of the organization. Hospital or healthcare in particular aim to provide excellent clinical care and quality services to their patients.

In general, service quality comprises of two elements which are technical quality; which is based on the result of the service encounter and also functional quality; which focuses on the internal procedures involves in providing a service (Teshnizi et al., 2018). Service quality has become prominent in healthcare sector as it values the relationship between human lives', quality assurance and promotion. On the part of healthcare management, an improvement in service quality is known to lead to an increase in profit, cost saving and market share (Bisschoff & Clapton, 2014).

This research paper aims to provide comprehensive review for measuring dimension of healthcare quality services with the objectives to study the adaptation of the dimension to healthcare FM services and the significant relationship between service quality and customer satisfaction in healthcare FM.

LITERATURE REVIEW

Service Quality

In the services industry, quality can be defined as an intangible activity provided by the service provider as a solution to a customer's problem that does not result in ownership of anything. (Kotler & Armstrong, 2001). Service quality is therefore essential for service providers aspiring to attract and retain their customers (Butt & Run, 2009) and it is a services of deeds, processes and performances (Zeithaml, V.A. and Bitner, 1996). Customers evaluation of service quality is not only their subjective assessment of services meeting the set standards but also an evaluation of their performance in the process of service delivery. Customers usually have prior expectations of the service that they are going to receive (Upadhyai et al., 2019). In service quality literature, the discrepancy or gap between the prior expectation of the customer before receiving the service and the perception formed by the customer post-services delivery is called perceived service delivery (Gronroos, 1984). Service quality, thus, can be defined as the discrepancy between customers' perceptions about the firm offering such services (Bolton & Drew, 1991). This concept was expended, with the formation of five dimension of service quality that comprises of tangible, reliability, responsiveness, assurance and empathy (Parasuraman et al., 1988).

In many emerging and developed countries, over the years this servicing industry have played a major role in the growth of businesses and organizations. Numerous studies have proven that service quality is an important contributing factors of customers' satisfaction, which thus, equally affects customer's loyalty (Fida et al., 2020; Kuo et al., 2013; Santouridis & Trivellas, 2010). When quality of service surpasses customer satisfaction, this results in the effect of customer satisfaction and thus loyalty.

Impact of Service Quality on Customer Satisfaction

Customer satisfaction is the act of delivering expected service that meets customers' satisfactions (Gonzalez, 2019). Satisfaction is an inner feeling of pleasure or displeasure arising from comparison of perceived performance of service or product in relation to actual performance (Korfiatis et al., 2019). Customer satisfaction has been of interest to most researchers and organizations. Service quality is said to be very significant issue as far as customer satisfaction is concerned (Iglesias et al., 2019). A positive correlation is said to exist between

superior service quality and enhanced performance of organization ("Enabling a Transformative Service System by Modelling Quality Dynamics," 2019; (Iglesias et al., 2019; Roth & Van Der Velde, 1991). The most important attributes that result in satisfaction include the delivery of goods and personal services, which are recognized by the customer to be significant. It exerts an impact on customers' recommendations through word-of-mouth to others(Pakurár et al., 2019; Stauss & Seidel, 2019; Zhang et al., 2019). Further, Porter & Kramer, (2019)stated that customers develop a more positive perception towards organizations that they believe value and care about its customers and their feedback.

In the following discussion, we will examine the relevant publications and from there, extract the information regarding the dimensions of measuring quality of healthcare Facilities Management. The research goals are formalized in the following questions:

Q1: What is the best way to define healthcare service quality?

Q2: Why measure performance of customer satisfaction in healthcare hospital?

Q3: What is the model of dimension to measure healthcare service quality?

METHODOLOGY

To achieve the research objectives of this paper, a systematic review was conducted. This review focused on the articles that explicitly describe the dimension applied in measuring quality of healthcare FM services. The PRISMA (Preferred documenting Items for Systematic Review and Meta-Analyses) guidelines (Moher et al., 2009) were used as the primary framework for collecting data and documenting the process of review in this study. A PRISMA reporting guideline instructs writers how to properly report findings of systematic reviews. There are other fields where PRISMA can be used for improving the reporting of systematic reviews and meta-analyses besides medical research (Moher et al., 2009). It has been used by several academics for reporting the assessment of quality services in healthcare management to increase customer happiness and loyalty (Bakar et al., 2008; Shabbir et al., 2016; Tan et al., 2019). There were several phases involved in the review process namely identification of the articles, duplicate screening on articles, eligibility assessment on article, inclusion and exclusion of articles. This review process has been explained in the following section. However no meta- analysis was conducted for this research due to diversity of service typologies.

Data Collection

This comprehensive literature review utilized the qualitative approach. The literature was collected and compiled from various publications and previous research papers prior to the research study area. The literature search was conducted in 2021 to collect relevant articles where the articles were obtained and included in the review and analytical review and synthesis had been conducted in order to strengthen the gap of research from the literature review. The searches utilised relevant electronic database including original qualitative and quantitative papers. The most acknowledge electronic database used for the searches are WOS (Web of Science), PubMed, Scopus and Google Scholar. The main keywords used for the searching were service quality in healthcare management, dimension in measuring healthcare quality services and service quality dimension in healthcare FM services. Prior to conducting the literature search, inclusion and exclusion criteria were established to assist the researchers in identifying suitable articles from the huge database for inclusion in this study.

Screening Process

During the process of screening, PRISMA guidelines were followed where search result of the database was checked for duplicates using Mendeley Software. At this point, all duplicates were removed. Abstract were read and full text were thoroughly studied.

Data Extraction Eligibility Criteria

Standardized excel sheet were developed for data extraction from selected studies. At this stage eligibility criteria for the research type includes either quantitative or mix method only. Most required articles are with empirical data either using questionnaire survey or interview survey.

Selection of articles

The data extraction sheet was used to collect basic characteristics of included studies (author and year, country, study design, respondents, survey administration, and so on). Second, detailed information was obtained on the determination of service quality dimensions, the development of measurement instruments, and their properties. These properties were concerned with the domains of respective instruments' item generation and response scale.

The following inclusion criteria (ICs) were met by this paper; hence it was included in the review:

EC1: Pre-2016 publication.

EC2: Composed in a non-English language.

EC3: Concise documents (1-4 pages) such as extended abstracts or research in progress.

IC4: Clearly stated and describe dimension measuring service quality specifically in healthcare FM sector.

IC5: Empirical research that conducted field experiments to explore the dimension in service quality for healthcare FM.

Papers excluded from the inclusion criteria.

EC1: Published before 2016.

EC2: Written in a language other than English.

EC3: short papers (1-4 pages, i.e. extended abstract or research in progress).

EC4: Mention “dimension for service quality” but not as part of healthcare FM research being conducted.

EC5: Medical or clinical related articles

All the duplicate articles were removed from the database group.

The papers retrieved from the electronic database using the specified search terms underwent multiple rounds of eligibility assessment according to the PRISMA framework. This process was used to identify the publications that met the review criteria.

Data Analysis

The outcome of the research study shows that 60 articles appeared to be relevant to the subject under investigation.

Figure 1.0 shows the flowchart of the systematic literature review for this paper as follow;

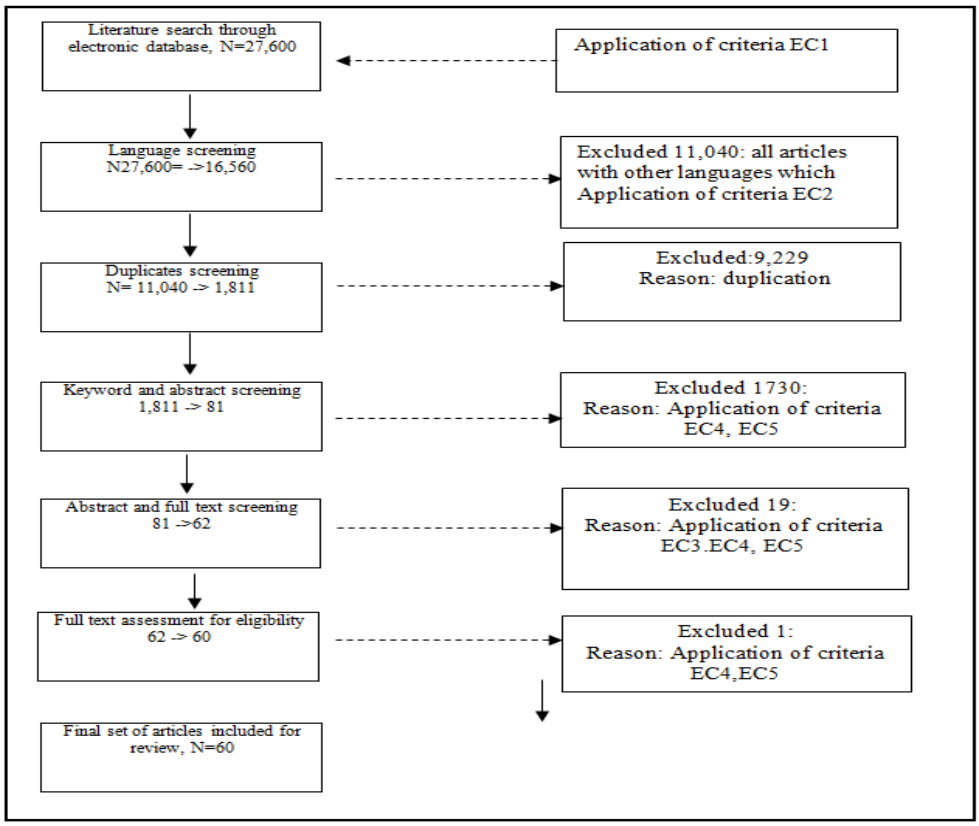

Fig 1.0 Review process based on PRISMA framework

RESULTS AND FINDINGS

Table 1.0 summarizes the 60 eligible articles included in this review. The table outlines key research characteristics for each study, including respondent type, sample size, data collection instrument, and the specific service quality dimensions applied. The chronological distribution of these studies is illustrated in Figure 2.0 (i) and (ii). As shown in the figure, the highest number of publications appeared in 2016 with 19 papers, followed by 2017 and 2018, each contributing seven papers. Between 2020 and 2025, the number of studies published per year was 6, 2, 2, 2, 5, and 5, papers respectively, reflecting a steady continuation of research interest in the field.

The SERVQUAL Model is used in Figure 3.0 to display the frequency of RATER in healthcare dimensions. Many of the publications used the RATER dimension in their research papers in accordance with the pioneer dimensions taken from Valarie A. Zeithaml, A. Parasuraman, Leonard L. Berry, (1990) according to all the review papers. According to the pie chart, 30 papers used RATER while the remaining 14 used either modified RATER or other dimensions to fit their research studies.

Table 1.0 List of selected articles with data collection tools and service dimensions.

Researchers	Country	Respondents	Sample size	Data collection tools	Service Dimensions	Journal
Sumaedi et al., (2016)	Indonesia	Patient	161	Questionnaire	Quality of healthcare delivery, quality of healthcare personnel, the adequacy of health resource and the quality of administration process, perceive sacrifice, perceive value and image	International Journal of Productivity and Performance Management

Yarmen et al., (2016)	Indonesia	Patient	100	Questionnnaire	Healthcare service outcome, healthcare service interaction and healthcare service environment	International Journal of Productivity and Performance Management
Kalaja et al., (2016)	Albania	Inpatient	200	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Procedia - Social and Behavioral Sciences Journal
Meesala & Paul, (2016)	India	Patient	440	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Journal of Retailing and Consumer Services
Mohebifar et al., (2016)	Iran	Patient	360	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Osong Public Health and Research Perspectives journal
Aliman & Mohamad, (2016)	Malaysia	Outpatient	273	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Procedia - Social and Behavioral Sciences journal
D. Lee, (2016)	South Korea	Patient	368	Questionnaire	Empathy, tangible, safety, efficient,	Service Business by Springer
Nadi et al., (2016)	Iran	Patient	600	Questionnaire	Empathy, physical appearance, responsiveness, assurance and reliability	Journal of Academic of Medical Sciences of Bosnia and Herzegovina.
Jandavath & Byram, (2016)	India	Inpatinet	493	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal of Pharmaceutical and Healthcare Marketing
Torabipour et al., (2016)	Iran	Indoor patient	100	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Jundishapur Journal of Health Sciences
Sandhyaduhita et al., (2016)	Indonesia	patient	297	Questionnaire	Responsiveness, assurance, professionalism, reliability, empathy and tangible	International Journal of E-Health and Medical Communications
Pouragha & Zarei, (2016)	Tehran	Outpatient	500	Questionnaire	Acceesibility, appoinment, perceived waiting time, admission process, physical environment, physician consulation, infomration to patient, perceived cost of service	Materia Socio Medica – Journal of the Academy of Medical
Shafii et al., (2016)	Yazd, Iran	Patient	300	Questionnaire	Responsiveness, security, assurance, tangible, health communication and patient orientation	Osong Public Health and Research Perspectives
Fraihi & Latif, (2016)	Suadi Arabia	Outpatient	306	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Saudi Medical Journal

Amole et al., (2016)	Nigeria	Patient	326/420	Questionnaire	Staff communication and relibility, assurance, Output quality, hospital environment	Journal of Varna University of economics
Pramanik, (2016)	India	Patient	368	Qestionnaire	Reliability, assurance, tangible, empathy and responsiveness	Journal of Health Management
Pooja Kansra and Abhishek Kumar Jha, (2016)	India	Patient	50	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Services and Operations Management
Dammaj et al., (2016)	Jordan	Patient	100	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Productivity and Quality Management
Ali et al., (2016)	India	Patient	210	Questionnaire	Tangible, assurance, empathy and responsiveness	Benchmarking: an International Journal
Fan et al., (2017)	China	Patient	1589	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Journal Information- PLOS ONE
Ahmed et al., (2017)	Malaysia	Hospital staff	438	Questionnaire	Progress of quality management, medical service cost, reduce error, patient waiting time, reduce waste in process, patinet compaint, employee job satisfaction and patient satisfaction	International Journal of Quality and Service Sciences
Shafiq et al., (2017)	Pakistan	Inpatient and outpatient	340	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	The Journal of Health Care Organization, provision and Financing
Singh & Prasher, (2017)	India	patient	650	Questionnaire	Relibility, assurance, tangible, empathy, responsiveness and Trustworthiness	Journal of Total Qualtiy, Management and Business Excellent
Samal et al., (2017)	India	Patient	120	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Research Journal Pharmacy and Technology
Pekkaya et al., (2017)	Turkey	Outpatient	1029	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal of Healthcare Management
Owusu Kwateng et al., (2017)	Ghana	patient	400	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Of Healthcare Management
Al-Neyadi et al., (2018)	UAE	Patient	127	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal of Healthcare Management

Gichangi & Mwanda, (2018)	Kenya	patient	2217	Questionnaire	Consultation time, communication by the healthcare workers, availibility of staff, privacy in wards,availibility of drug	Journal of Environmental and Public Health
Dar, (2018)	India	Outpatient	100	Questionnaire	Doctor's empathy, assurance, responsiveness, tangibility and efficiency	International Journal Healthcare Technology and Management
Skordoulis & Chalikias, (2018)	Greece	Patient	630	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Productivity and Quality Management
Dullie et al., (2018)	Malawi	Patient	440	Questionnaire	First contact access, communication continuity, relationsl continuity, service available, service provided, communication orientation	BMC Healthcare Services Research
Tripathi et al., (2018)	India	Patient	338	Questionnnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal of Healthcare Management
Madhura Prabhu & Iyer, (2018)	India	Patient	100	Questionnnaire	Reliability, assurance, tangible, empathy and responsiveness	Journal of Health Management
Akdere et al., (2018)	Turkey	Inpatient	972	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Total Quality Management & Business Excellence
Amankwah, Choong, et al., (2019)	Ghana	Patient	660	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Evironmental Health Insight
Sood et al., (2019)	India	Helathcare provider incuding clinicians, staff nurses, lab & Imaging technologists, pharmacists and hospital management staff	362	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Indian Journal of Public Health Research and Development
Javed et al., (2019)	Pakistan	Patient	550	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Health Planning Management
Umoke et al., (2020)	Nigeria	Patient	400	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	SAGE Open Medicine

Zun et al., (2020)	Malaysia	Patient	386	Questionnaire	Reliability, responsiveness, assurance, empathy and tangible.	Malaysian Journal of Medicine and Health Sciences
Barrios-ipenza & Calvo-mora, (2020)	Peru	Patient	250	Questionnaire	Healthcare personnel, non-healthcare personnel, facilities, equipment and tangible,	International Journal of Environmental Research and Public Health
Mohammad et al., (2020)	Bangladesh	Post-stroke outpatient	331	Questionnaire	Modified RATER Reliability, assurance, tangible, empathy, responsiveness. Cost and availability	Iranian Rehabilitation Journal
Kot & Syaharuddin, (2020)	Indonesia	Patient	360	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	International Journal Of Economics And Finance Studies
Došen et al., (2020)	Crotia	Patient	564	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	Acta Clinica Croatica
Perera & Dabney, (2020)	United States America (USA)	Inpatient	125	Questionnaire	Tangible and Non-tangible (Reliability, assurance, empathy and responsiveness)	Journal of Health Organization and Management
Agyei et al., (2020)	Ghana	Patient	540	Questionnaire	Reliability, assurance, tangible, empathy and responsiveness	British Journal of Health Care Management
Kipo-sunyehzi, (2021)	Ghana	Hospital implementer and benefeciaries	107	Questionnaire	Referral, effectiveness in monitoring, timeliness, efficiency, reimbursement, compliance with standard guidelines of GHS and accreditation process.	Journal of Public Administration and Policy
Sanıl & Eminer, (2021)	North Cyprus	Patient	388	Questionnaire	Modified RATER Affordability, accessibility, acceptability and perceived value	BMC Public Health-Scimago Journal
Yarmak, (2022)	Russia	Patient	120	Questionaire	Reliability, assurance, tangibility, empathy, responsiveness	ArtyKuty
Jonkisz et al., (2022)	Poland	Review	-	Review	Reliability, assurance, tangibility, empathy, responsiveness	MDPI IJERPH
Alrwashdh & Alishaq, (2023)	Jordan	Patient	420	Questionnaire	Reliability, assurance, tangibility, empathy, responsiveness	IJQHC Communications
Değer & İşsever, (2024)	Turkey	Patient	310	Questionnaire	Reliability, assurance, tangibility, empathy, responsiveness; Physical characteristics	MDPI Healthcare
Hosseinzadeh et al., (2024)	Iran	Patient	280	Questionnaire	Reliability, assurance, tangibility, empathy, responsiveness	JJCDC

Rahman & Islam, (2024)	Bangladesh	Patient	275	Survey	Modified RATER Reliability, assurance, tangibility, empathy, responsiveness; Safety; Communication	Discover Public Health
Wulandari et al., (2024)	Indonesia	Patient	380	Survey	Reliability, assurance, tangibility, empathy, responsiveness	Open Access Journal
Hijazi et al., (2024)	Jordan	Patient	959	Questionnaire	Reliability, assurance, tangibility, empathy, responsiveness	PubMed
Alfatafta et al., (2025)	Jordan	Patient	390	Questionnaire	Reliability, assurance, tangibility, empathy, responsiveness	BMC Health Services Research
Al-Balas et al., (2025)	Jordan	Patient	415	Survey	Reliability, assurance, tangibility, empathy, responsiveness	Int. J. Healthcare Management
Alizadeh et al., (2025)	Iran	Patient	8021	Quesnionnaire	Reliability, assurance, tangibility, empathy, responsiveness	Wiley
Beheshtinia et al., (2025)	Iran	Mixed	386	Mixed	Alternative model: QFD / SERVQUAL House of Quality for healthcare improvement	MDPI
Kristianti & Sriwijaya, (2025)	Indonesia	Patient	300	Quentionai	Reliability, assurance, tangibility, empathy, responsiveness	Open Access Journal

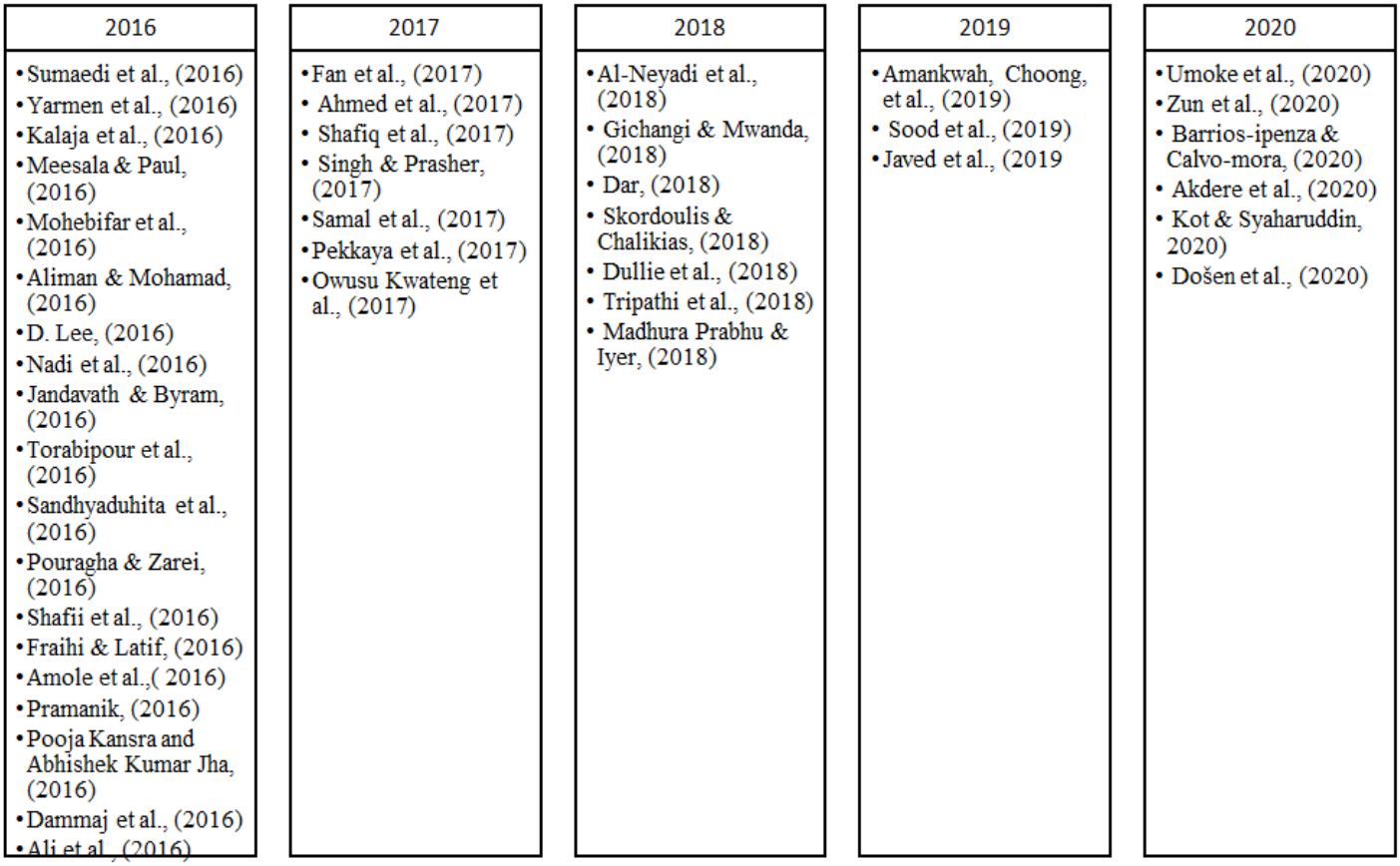

Fig 2.0 Timeline of review papers

2021	2022	2023	2014	2025
•Kipo-sunyehzi, (2021) •Sanıl & Eminer, (2021)	•Yarmak, (2022) •Jonkisz et al., (2022)	•Alrwashdh & Alishaq, (2023)	•Değer & İşsever, (2024) •Hosseinzadeh et al., (2024) •Rahman & Islam, (2024) •Wulandari et al., (2024) •Hijazi et al., (2024)	•Alfatafta et al., (2025) •Al-Balas et al., (2025) •Alizadeh et al., (2025) •Beheshtinia et al., (2025) •Kristianti & Sriwijaya, (2025)

Fig 3.0 Timeline of review papers

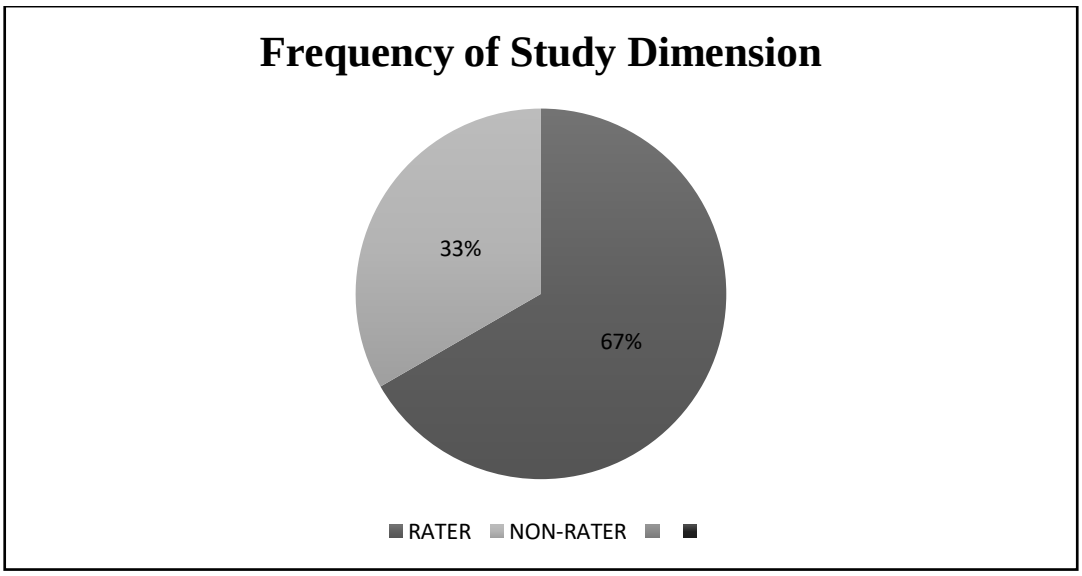

Fig 4.0 Frequency of Healthcare Dimensions Using SERVQUAL Model

DISCUSSION

Q1: What is healthcare service quality?

Managing and evaluating service quality is an intricate procedure. This is because in order to improve the quality of the services, it is important to understand the characteristic of the services which are considered important by the customer. For the organization which are responsible to the facilitates management service provision must evaluate the level of satisfaction of the customer with the services provided (Lepkova & Žūkaitė-Jefimovienė, 2013). Previously, service quality was described in terms of functional and technical quality, whereas latter known as five dimensions of service quality: tangibles (physical facilities, equipment, and personnel appearance); reliability refers to (the capacity to consistently and precisely deliver the promised services); responsiveness (willingness to assist customers and provide prompt service); assurance (employees' knowledge, politeness and their capacity to instil trust and confidence) and empathy (caring, individualised attention the organisation provides its customers) (Parasuraman et al., 1988). Generally, as the healthcare service is part of services, it might seem similar to other types of services around the market; however, healthcare is said to be inherently different from other industries in the service sector. Healthcare is a credence service where the evaluation of clinical quality is often difficult for patient to judge even after post-treatment (Berry, 2007). As

defined by WHO healthcare services should be safe, prevent injuries, and be effective as well as providing evidence- based healthcare services to people who need them, while being people- focused; responding to individual preferences, needs, and values in a timely manner; and reducing waiting times and delay that could be harmful. It is also said that healthcare service quality is critical to healthcare business due to the different stakeholders including patients, health professionals and hospital management. Due to that, it is important to sustain and constantly develop service quality for both parties as the hospital service encompasses the welfare of humans (Bautista & Tangsoc, 2016). As this paper focusing on healthcare FM service quality and to avoid confusion, frankly there is a close relationship between the study of healthcare service quality and healthcare FM service quality as agreed by (Amankwah et al., 2019). The quality of healthcare FM services should be evaluated using service quality concept with SERVQUAL as the measuring tools as suggested by (Parasuraman et al., 1988). As the healthcare services quality is advocated with healthcare FM, it should be tailored towards patients' needs (Pheng & Rui, 2016). Therefore, for the purpose of this study, the term "quality" in healthcare FM refers to excellence in healthcare facilities resource management to ensure the best of healthcare standards through monitoring and evaluation of standards of available healthcare resources to ensure patient's safety thus achieve patients' satisfaction.

Q2: Why Measure performance of customer satisfaction in healthcare hospital?

Hronec (1993) defines performance measurement as a quantification of how well the activities within the process or the output of the process achieve a specific goal in an organization. Mainly the performance measurement has become accepted as a management strategy as it is deemed to provide a standard by which the main business of an organization can be measured to ensure success. Some benefit that can be achieved through performance measurement are client focus, value for money and high standard of service delivery. FM has been involved in the performance measurement revolution. Through that, key performance indicators for measuring facilities in healthcare has been introduced and grouped into four main categories such as development, organization and management, performance and efficiency (Shohet, 2006). Most often, quantitative dimensions are used in FM performance measurement while performance metrics are used in performance evaluation process as it has significant indicators to evaluate performance of the facility. In healthcare sector as the industry facing rapid changes in practice, the role that patient plays to justify quality has become the competitive concern. Focusing on mortality and morbidity rate is just a part of the way in reviewing the competency of the hospital, but asking the patient about their satisfaction of the services provided is becoming the essential and valuable tools for the optimum evaluation of the healthcare providers (Hafiz et al., 2011). Due to that, performance measurement system (PMS) tools have become necessary to determine and measure the performance of the services in hospitals. Investigation on patient satisfaction survey aid healthcare provider in finding areas in which their service might be improved and enable policy makers to understand patients need and therefore create strategic plans for more effective and high- quality services (Rahim et al., 2021).

Q3: What is the model of dimension to measure healthcare service quality?

Parasuraman et al., (1985) discovered ten dimensions of service excellence across five distinct sectors, one of the sectors is healthcare. Later the following year, the dimensions had been reduced to five dimensions namely responsiveness, assurance, tangible, empathy and reliability (RATER). The dimensions are recognized and widely applied worldwide in many sectors to measure service quality. The dimensions of healthcare service quality can be categorized into medical care and non-medical components. The medical aspect encompasses technical and interpersonal dimensions. The technical dimension refers to the knowledge, skills, professional judgment, and competence of medical treatment in an effective and efficient patient-centered services. The interpersonal dimension focuses on the quality of interaction between healthcare providers and patients, including effective communication, friendliness, attentiveness, empathy, and understanding (Donabedian, 1988). Meanwhile, the non-medical aspect of care includes three dimension which are servicescapes, accessibility; and responsiveness. Servicescape includes the basic amenities and physical environment which the service delivers. The list includes accommodation, building appearance, landscaping, staff uniform, signage, cleanliness and others (Gronroos, 1984). In terms of accessibility, the facility's location, the time required to get there, and the cost-effectiveness of the service were considered. These factors represented how simple admission, billing, discharge, and other non-health-related activities were. Furthermore, responsiveness refers to the realistic expectations that a person has for care, which include respect for the patient's autonomy and dignity, the

confidentiality of care, prompt service, availability of social support networks while receiving care, and the quality of basic facilities (Silva, 2000). Additionally, latest update by Rahim et al., (2021) stated that physical facility environment such as parking, cleanliness and waiting room directly contributed to the high rating of customer satisfaction. When talking about measurement, patient expectation and perception are valuable insight in healthcare FM service quality. For further improvement on the healthcare service quality dimensions, Parasuraman et al., (1988) suggested that for future application of the dimensions measurement, the earlier suggested basic dimensions which is "RATER", are allowed to be modified to suit peculiar situations (Amankwah, Choong, et al., 2019). Even though SERVQUAL is the most applied measurement in the market, it is still being challenged by other modified measurement such as SERFPERF, PRIVHEALTHQUAL, PubHosQual and HEALTHQUAL. Thus, for comparison, the SERVPERF scale can be used because of its psychometric validity and instrument economy if all that is desired is to evaluate a company's overall service quality or to compare service quality across service industries. However, because of its greater diagnostic capability, the SERVQUAL scale should be preferred when pinpointing the areas of a firm's service quality shortcomings for managerial adjustments (Jain & Gupta, 2004). PRIVHEALTHQUAL happened to be the SERVQUAL modified dimensions which was developed in Mauritius by adding extra 2 dimensions from the original RATER which are equitable treatment, reliability or fairness, image or tangibility, core medical services or skill, responsiveness, empathy or assurance apparatus and record, dissemination of information (Hammanjoda, 2022). For PubHosQual it was first developed in India where the model measured patients' perspective in healthcare service quality. The dimensions used for the measurement model are admission, medicals service, overall service, discharged and social responsibility. It is said to be grounded on the Indian public hospital context and did not incorporate with technical aspect of healthcare services (Endeshaw, 2021; Kilbourne et al., 2004). HEALTHQUAL is an adaptation of SERVQUAL. During the development of the model, only one hospital in Malta, was used as a case study to test the HEALTHQUAL Model. In its early application, it is not often welcomed. In addition, the model had identified six key dimensions that can be use: admission processes, medical staff (doctors) attitudes, nursing officer attitudes, ward/hospital environment, patients' amenities/facilities, and discharge planning and coordination. The work of (Donabedian, 1988), Camilleri & Callaghan, (1998) work provided valuable insight into what was required for hospital service standards (Endeshaw, 2021). However, the model's dimensions are uncertain because they can change depending on the process of care services and the outcome of treatment. (D. H. Lee, 2016).

CONCLUSION

This paper seeks to address the existing gap in the literature on service quality dimensions by conducting a systematic review guided by the PRISMA framework. A comprehensive body of academic studies was examined, revealing that the work by Parasuraman remains a pioneering and highly cited reference on service quality dimensions, particularly within the context of healthcare services. Through a rigorous screening and selection process, a total of 60 relevant studies were identified and analysed to inform this review.

Healthcare quality is found to be multidimensional with many different sub-dimensions based on their contextual need. Evidence synthesized from this review also concludes that SERVQUAL still the most used model for healthcare service quality measurement along with limited use of other models. There are possibilities to measure the services using the original dimensions which are reliability, assurance, tangible, empathy and responsiveness (RATER) while in some cases, modified dimensions might also be applicable depending on the scope of the research study. Until today, RATER dimensions are used to measure customer expectation which customer always consider when using services. In measuring services quality, the gap that is identified within the healthcare services industry have to be addressed and improved. This is important to meet customer expectation.

Furthermore, SERVQUAL model mostly used in accessing hospital service quality especially in developing countries such as Malaysia, India, Iran, Ghana, Indonesia and other countries and the applicable of the model along with the RATER dimension is still relevant until today.

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