Healthcare service quality measurement in Malaysia: A scoping review

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ABSTRACT

Introduction: Although healthcare service industry has been thriving in Malaysia, the types of healthcare service quality models used in past research as well as their key messages had not been explored. A scoping review was performed to determine the validated healthcare service quality models, the key messages of these past studies and potential research gaps that should be addressed in future studies.

Materials and Methods: Relevant, peer-reviewed, English-language articles on healthcare service quality in Malaysia were independently searched by the authors using the SCOPUS and EMERALD databases. Articles that do not directly address healthcare service quality within the Malaysian setting were excluded. Additional articles were identified from the reference lists of the selected articles and from Google search engine. A total of 43 out of 2,749 articles were selected.

Results: Most of these studies (28 out of the 43 articles, 65.1%) in this scoping review used either the original or a modified version of SERVQUAL instrument to measure healthcare service quality. Significant positive relationships between tangibles, assurance and empathy with patient satisfaction were identified. As SERVQUAL primarily measures the functional dimension of service quality, this suggests that past studies on Malaysian healthcare services emphasised heavily on the functional dimension of healthcare service quality. Functional dimension refers to the expressive performance on how the healthcare service is rendered whereas technical dimension refers to the types of services rendered as well as its safety and efficacy.

Conclusion: A pertinent research gap identified in this review is the lack of studies that measure both technical and functional dimensions comprehensively. Future research should adopt a more holistic (incorporating both technical dimension and functional dimension) measurement of healthcare service quality.

KEYWORDS:
Service quality; SERVQUAL; healthcare; Malaysia

INTRODUCTION

According to Endeshaw[1], there are five major generic models of healthcare service quality. These are (1) the Donabedian's model[2] (2) SERVQUAL instrument[3] (3) HEALTHQUAL instrument[4] (4) PubHosQual instrument[5] and (5) HospitalQual instrument[6] (see Table I for the detailed descriptions on these models). Interestingly, Endeshaw[1] also commented that as the majority of these models (i.e., Donabedian's, SERVQUAL and HEALTHQUAL) were developed in the Western countries, they may not be suitable to be used in developing countries. Furthermore, service quality perception can be highly culturally centric.[7] As a result, healthcare models conceptualised in a Western setting may not be able to fully capture a patient's personal health beliefs in a non-Western setting. These personal beliefs, however, can be an important force in shaping how patients consume healthcare services. Hence, whilst past literature[1-7] can shed light on the dimensions of healthcare service quality commonly measured in developed countries, the dimensions of healthcare service quality commonly measured in developing countries, including in Malaysia, are less well known.

A service product does not take place in a vacuum. Rather, it involves the interactions between the service provider and the customer. Hence, the totality of a service quality rendered to a customer is not just dependent on what the customer receives, but how the customer receives it. As explained by Grönroos[8], service quality is broadly divided into two dimensions: (1) the technical dimension and (2) the functional dimension. Technical dimension refers to the instrumental performance of a service product delivered to and consumed by the consumer (e.g., the types of treatment or surgery received by the patient) whereas functional dimension refers to the expressive performance of a service product (e.g., the conditions of the ward or operation suite where the treatment or surgery is carried out). Basically, the technical dimension answers the question of "what" the customer receives whereas the functional dimension answers the question of "how" the customer receives the services.[8]

To the best of our knowledge, although healthcare service industry has been a thriving industry in Malaysia, the types of healthcare service quality models used in past research as well as their key messages or metanarrative had not been explored. To address these overarching questions, we conducted a scoping review to answer three questions: (1) What were the common validated models or instruments that had been used to measure Malaysian healthcare service quality in past studies? Are these models primarily reflect the technical dimension or the functional dimension of service quality or a combination of both? (2) What were the key

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messages emerged from these past studies? (3) What are the potential research gaps in the Malaysian healthcare service quality that should be addressed in future studies?

MATERIALS AND METHODS

Procedure

Scoping review is a type of literature review aimed "to map rapidly the key concepts underpinning a research area, its main sources as well as the types of evidence available in the body of literature".[9] This scoping review was conducted using the 5-step methodological framework by Arksey & O'Malley.[9] These five steps are: (1) identifying research objectives or research questions; (2) identifying relevant studies; (3) selecting studies to be included based on the inclusion and exclusion criteria; (4) charting and interpreting data and (5) collating, summarising, synthesising and reporting the results.[9]

Eligibility Criteria

Only peer-reviewed academic articles that specifically address healthcare service quality in Malaysia were included in our scoping review. General review articles on service quality, articles that do not specifically describe the application of a service quality model within the Malaysian healthcare context as well as anecdotal reports were excluded. Only English-language articles were included. No specific publication time period was imposed as part of our search criteria.

Literature search was conducted using the search strategy described by Aromataris and Riitano.[10] The keywords and Boolean operators used for our search on titles and article abstracts were: (1) service qualit* AND Malaysi* AND hospital*, (2) service qualit* AND Malaysi* AND healthcare, (3) service qualit* AND Malaysi* AND health care, (4) service qualit* AND Malaysi* AND clinic* as well as (5) service qualit* AND Malaysi* AND medical.

The search was conducted on Scopus, Emerald and Google Scholar databases. Reporting of these studies was performed based on the Preferred Reporting Items for Systematic reviews and Meta-analysis (PRISMA) guideline.[11] Following the initial identification of records generated in the selected databases, a preliminary screening of the texts in titles and abstracts was conducted to look for eligible articles. Two of the authors (KSC and KLS) independently screened for articles eligibility. If there was any disagreement between the authors, discussions were held together with the other two authors (SSLW and RAB) to resolve the disagreement through consensus. Additional articles were then manually searched by authors KSC and KLS from the reference lists of the articles identified for review as well as from google search engine. The eligible articles were then charted using the PRISMA flow diagram for scoping review process.

Quantitative and qualitative synthesis of the studies were then conducted. For quantitative synthesis, the authors' names, the year of publication, the objectives of the study, the settings where the study took place (i.e., whether in public healthcare system or private healthcare system or both) and the types of service quality models were recorded. For qualitative synthesis, the full texts of the identified articles were first iteratively read by the two authors. Open coding via NVivo software was first performed using thematic content analysis. After the initial open coding, a second axial coding was performed by re-analysing these open codes to look for key trends or key findings on Malaysian healthcare service quality reported in these studies. Finally, focus group discussions were held among all authors to specifically answer research questions no. 2 and no. 3.

RESULTS

From our initial search, a total of 1662 articles were identified from the Scopus, Emerald and Google Scholar databases. An additional 1087 potentially relevant articles were found by manual searching for citations within the reference sections of the identified articles as well as from google search engine. Out of these 1662 articles identified from databases, 949 articles were initially removed due to duplicates. A total of 1718 articles were then excluded or not retrieved as these articles were considered irrelevant, abstract-only articles or articles written in languages other than the English language. Out of these remaining 82 articles, another 39 articles were further excluded from our analysis. This is because albeit the fact that these articles describe some aspects of healthcare service quality, they did not specifically describe the application of any specific service quality instruments within the Malaysian healthcare context. Eventually, 43 full-text articles were identified to be included in this scoping review (see Figure 1 for the PRISMA diagram). Most of these included papers were published in the recent decade, i.e., 13 papers (30.2%) were from the period of 2011–2015 and another 24 papers (55.8%) from the period of 2016–2020.

With regards to the first research question, SERVQUAL (or a modified form of SERVQUAL) was found to be the only validated generic model (out of the five described by Endeshaw[1]) used in studies identified in this review. SERVQUAL was used in 28 out of the 43 (65.1%) studies identified. In all other studies, the authors defined their own dimensions of service quality. Interestingly, only 18 studies (41.9%) were conducted solely in private healthcare settings, another 20 studies (46.5%) were conducted solely in public healthcare settings (e.g., in public hospitals, community health clinics, armed forces medical centers and public university healthcare services) and another 5 studies (11.6%) were conducted in both private and public healthcare settings (Table II). Hence, as most of the papers identified in this scoping review used SERVQUAL instrument to measure healthcare service quality, this suggests that research on healthcare service measurement in Malaysia thus far leaned heavily on the functional dimension.[8]

With regards to the second research question, a key message gleaned from these past studies is the existence of a clear positive relationship between healthcare service quality and patient satisfaction.[12-24] Greater patient satisfaction, in turn, leads to positive behavioral intention.[14-16,18-20] The dimensions of service quality most commonly found to have significant relationships with patient satisfaction and behavioral intentions were tangibles, assurance and empathy.[12;17-19] (see Figure 2 of the word cloud generated from NVivo).

Table I: Description of five major models or instruments of healthcare service quality

Healthcare Service Quality Model/Instrument	Description
Donabedian Model[2]	According to Donabedian, there are three inter-related components that determine healthcare quality. These three components are structure, process and outcome.[2] "Structure" refers to tangibles such as buildings, qualifications and competencies of the healthcare staff and the equipment. "Process" refers to all interactions (e.g., diagnostic processes, treatment and intervention, patient education) that occur within the "structure" of a healthcare organisation and "outcome" refers to the result of a "process" that has happened within the "structure" of a healthcare organisation.
SERVQUAL model[3]	A commonly used service quality instrument in many different types of industries including healthcare services by Parasuraman et al.[3] This model addresses five dimensions of a customer's overall perceptions of quality.[4] These five dimensions are (1) R = reliability, (2) A = assurance, (3) T = tangibles, (4) E = empathy and (5) R = responsiveness (hence, the acronym, RATER). "Reliability" refers to the capability of a healthcare organisation to provide services in a consistent and timely manner as promised. "Assurance" refers to the competency of the healthcare staff to deliver healthcare services in a manner that can inspire trust and confidence. "Tangibles" refer to the physical aspects (the environment, the building, etc.) where the healthcare services are delivered. "Empathy" refers to the healthcare staff's ability to build positive relationships with compassion and understanding of a patient's needs and "responsiveness" refers to the ability of the healthcare organisation to respond to the patient's needs in a prompt manner.
HEALTHQUAL[4]	This is an integrated model aimed to measure healthcare service quality from both the perspectives of patients as well as the hospital. The five components measured using this instrument are empathy, tangibles, safety, efficiency and improvement of care services.
PubHosQual[5]	This instrument measures five dimensions of service quality, i.e., (1) admission, (2) medical service, (3) overall service, (4) discharge and (5) social responsibility, in a public hospital setting in India.
HospitalQual[6]	This instrument was developed for the purpose of monitoring, controlling and improving the quality of inpatient healthcare services.

Table II: Characteristics of studies included in this scoping review

Variables		Number (%)
Publication years		
	2001–2005	1 (2.3)
	2006–2010	5 (11.7)
	2011–2015	13 (30.2)
	2016–2020	24 (55.8)
Types of healthcare studied		
	Private healthcare services	18 (41.9)
	Public healthcare services	20 (46.5)
	Both	5 (11.6)
Types of service quality instruments used		
	SERVQUAL or modified versions of SERVQUAL	28 (65.1)
	Others	15 (34.9)

With regards to the third research question, as much fewer studies had included the technical dimension of service quality (4.6%) compared to functional dimension, a pertinent research gap identified is the lack of studies measuring both technical and functional dimensions comprehensively.

DISCUSSION

The findings from this scoping review suggest that past studies on healthcare service quality measurement in Malaysia are customer-centric and gravitates toward the functional dimension of service quality. As explained by Andaleb[25], measuring customer-centric service quality is important as patient satisfaction is pivotal for long-term sustainability and profitability of healthcare services, particularly private healthcare services. A dissatisfied patient leads to a number of negative behaviors including switching healthcare service providers as well as spreading and influencing others with the news of their unpleasant experiences.[26] A satisfied customer, on the other hand, is more likely to continue using the services rendered and to spread the positive news to others.[27] In fact, Petersen[28] went as far as to say that "it really does not matter if the patient is right or wrong. What counts is how the patient felt even though the caregiver's perception of reality may be quite different." As patients become more and more educated, coupled with the easy availability of information from the

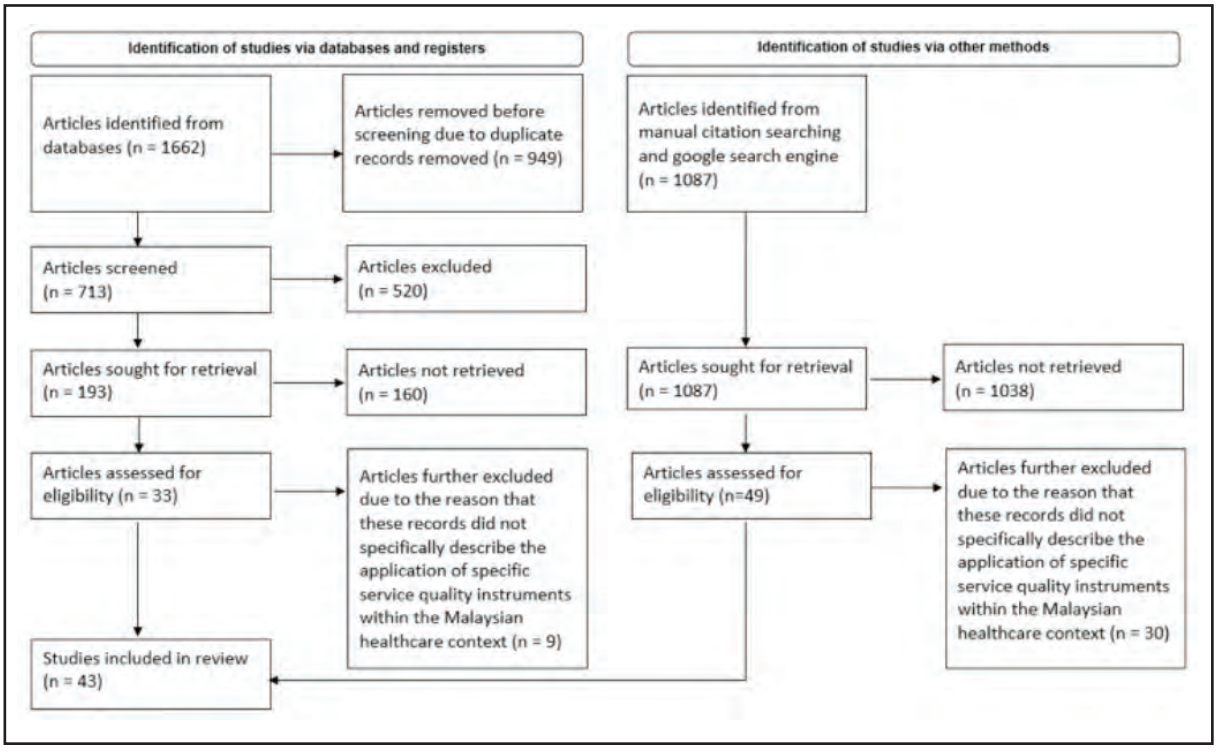

Fig. 1: Preferred reporting items for Systematic Reviews and Meta-analysis (PRISMA) flow diagram

Fig. 2: Word cloud of relative importance of keywords identified in the study

internet, these patients can become even more critical of the quality of services that they receive as well as becoming more aware of the various options available to them.[29]

However, due to the complexity of healthcare services,[30] the patient, as a customer, is often not the best judge of healthcare service quality, particularly the technical dimension of healthcare service quality.[30-31] A patient often lacks the necessary knowledge to provide a valid assessment of the technical dimension of healthcare service quality.[31] For example, the patient may not be able to fully comprehend and evaluate the surgeon's skills or the appropriateness of a suggested diagnostic tool (i.e., the sensitivity, specificity, negative and positive predictive values of plain radiography in detecting intracranial tumor).[31,32] This inability to assess the technical dimension inadvertently causes the patient to place relatively more emphasis on the functional dimension of healthcare service quality (e.g., the personal hygiene or demeanor of the paramedic, the cleanliness of the toilet or the aesthetics of the ward).[33]

A service product (or good), where a customer is not able to fully evaluate the quality of a product due to the lack of technical knowledge is known as "credence good".[34] In the context of healthcare service, due to the credence nature of the healthcare service, the patient, as a customer, often has to depend on other "signals" or "cues" from the functional dimension (the brand of the hospital, the cleanliness of the ward, the dress code of the staff, the quality of hospital food, etc.) to gauge its quality.

On the other hand, the Institute of Medicine in United States defines healthcare service quality very differently in these six domains: (1) safety (i.e., minimising risk of harm to patients); (2) effectiveness i.e., (providing healthcare services based on scientific knowledge that would benefit and refraining from services that would not benefit the patients); (3) patient-centeredness (i.e., providing care that is respectful of and responsive to the patient's preferences, needs and values); (4) timeliness (i.e., reducing waits and sometimes harmful delays to the patients); (5) efficiency (i.e., avoiding waste and redundancy of resources) and (6) equitability (i.e., ensuring that the services rendered does not vary in quality because of personal characteristics and socioeconomic status of the patients).[35]

Therefore, as fewer studies had included the technical dimension of service quality (4.6%) compared to the functional dimension (100%), a pertinent research gap identified in this review is the lack of studies that measure a combination of both technical and functional dimensions comprehensively. While customer-centric measurement ("what the patient think are important as a customer") remains an integral part of any research on Malaysian healthcare service quality, it is incomplete if it is not accompanied by the measurement of technical dimension of service quality ("what are actually important for the customer as a patient").

CONCLUSION

In summary, we found that (1) SERVQUAL or a modified version SERVQUAL was the only validated generic instrument used in past studies on healthcare service quality measurement in Malaysia; (2) there were positive relationships between healthcare service quality (notably from the dimensions of tangibles, assurance and empathy) with patient satisfaction and (3) as most of these studies adopted a very customer-centric approach to primarily measure the functional dimension of service quality, future studies should include measurement on the technical dimension as well to ensure that a holistic healthcare service quality is measured.

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