

Analysis of Health Travellers' Satisfaction Based on Service Quality in the Malaysian Fertility Centre

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ABSTRACT

Malaysia has emerged as a popular destination for medical tourism, aiming to offer the best healthcare travel experience by 2025. Specifically, Malaysia aspires to become the leading fertility hub in Asia. This research aimed to analyse the factors influencing medical tourism satisfaction based on health travellers' perceived service quality in Malaysian fertility centres. Service Performance (SERVPERF) also known as customer perception of performance, is recognized as a performance-only indicator of service quality. The model was adopted to analyse the health travellers' satisfaction and experiences that can only be recognized during or after the consumption phase. Five variables tangible, reliability, responsiveness, assurance and empathy serves as the theoretical framework for this quantitative study. The respondents are the female international patients who seek *In Vitro* Fertilization (IVF) treatment at Malaysia's X (female)-fertility centre, specifically those who had Oocytes Picked Up (OPU) or Embryo Transfer (ET) between April 1st, 2022 and March 31st, 2023. 240 valid respondents were obtained and the results of the study indicated a positive relationship between the five variables of the SERVPERF model and health travellers' satisfaction. The findings revealed that in all five SERVPERF dimensions, the highest value among the factors that affect health travellers' satisfaction was assigned to empathy, followed by assurance, reliability and responsiveness. For future development of fertility tourism in Malaysia, service providers need to be mindful of the results of this study and consider them in their marketing, communication and service development strategies. Along with this viewpoint the fundamental elements of both travel destination and healthcare service experience are equally important in understanding the satisfaction of the health travellers and by understanding the relationship between the dimensions of experiential relationship in fertility tourism.

Keywords: Medical tourism; Health traveller's satisfaction; Fertility centre; SERVPERF model

INTRODUCTION

Travelling abroad for medical treatment is not something new [1]. Medical tourism refers to patients who visit another country for medical or healthcare services [2]. When a person travels across a border and outside of their usual environment to seek medical treatment is referred to as "medical tourism", when they arrive such person is referred to as "medical tourist" [3]. Medical tourism has arisen as an industry as a result of the advanced evolution of medical technology and innovative digital information technology. An individual can travel long distances to look for medical treatment outside their home country [4]. The medical tourism industry has helped the nation's economic growth and produces income both directly and indirectly through spill over effects as well as direct and indirect employment. The Malaysian government not only established a framework for health policy, but it also took a leading role by actively supporting the key providers of private healthcare in this market [5]. Medical tourism has proven to be a lucrative economic sector in developing

countries. The Malaysian government has established the Malaysian Healthcare Travel Council (MHTC) to promote the country's medical services abroad [6]. According to MHTC, despite being a latecomer to the industry compared to other countries in the region like Thailand, Singapore and India, the increasing number of international patients entering Malaysia indicates the industry's intensification.

The reopening of international borders in April 2022 was the catalyst for the revival of Malaysia's healthcare travel industry. The industry's revenue target of RM 1.0 billion was exceeded. The crisis has greatly contributed to the devastating impact on the Malaysia domestic tourism sector and the subsector [7]. As illustrated in Figure 1, 2022 industry revenue doubled more than compared to 2021 to RM1.3 billion, a 77% recovery from the pre-pandemic performance of RM1.7 billion, outpacing the international tourism recovery [8,9].

Malaysian market was valued at US\$1.2 billion in 2020 and is expected to grow at a 4.5% Compound Annual Growth Rate (CAGR) over the forecast period (2021-2028), with a market valuation of US\$5.1

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Received: 20-Aug-2024, Manuscript No. JHBM-24-33561; Editor assigned: 23-Aug-2024, PreQC No. JHBM-24-33561 (PQ); Reviewed: 06-Sep-2024, QC No. JHBM-24-33561; Revised: 13-Sep-2024, Manuscript No. JHBM-24-33561 (R); Published: 20-Dec-2024, DOI: 10.35248/2169-0286.24.13.118.

Citation: Shahudin F, Yi LJ, Minhaz SH, Yacob MR (2024). Analysis of Health Travellers' Satisfaction Based on Service Quality in the Malaysian Fertility Centre. *J Hotel Bus Manag*.13:118.

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billion by the end of 2028. Based on the data released by MHTC, the healthcare traveller revenue has increased from RM500 million in 2011 to RM1.7 billion in 2019 (Figure 2). Malaysia attracted 1,220,000 health travellers in 2019, up from 643,000 in 2011 when the MHTC was privatized [10]. This is due to its accessibility to affordable healthcare services and facilities of the highest calibre [11].

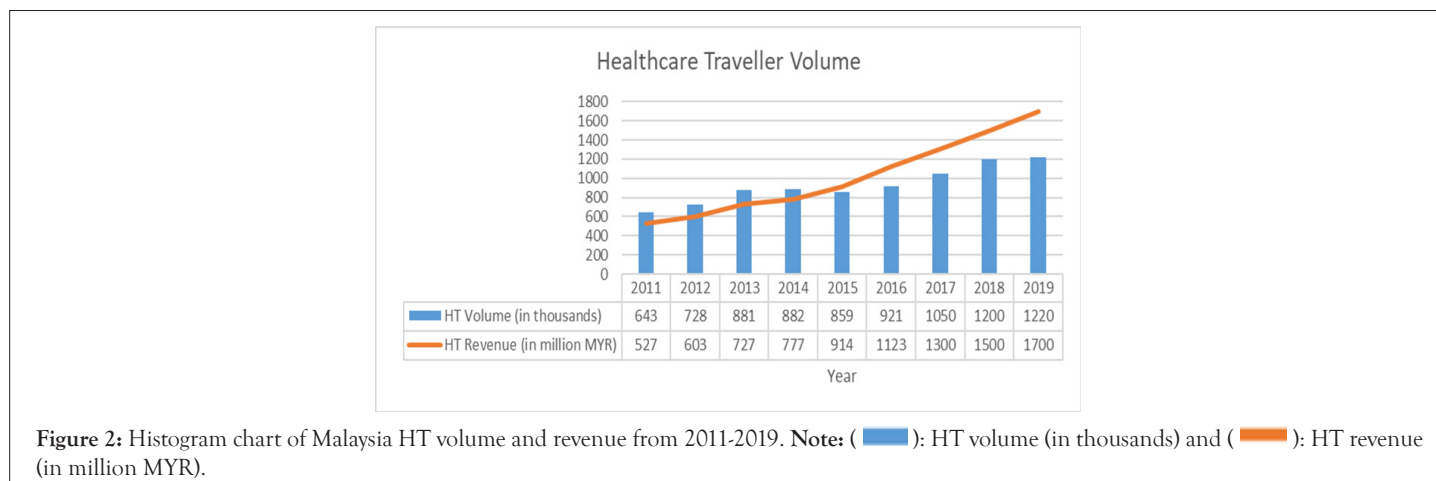
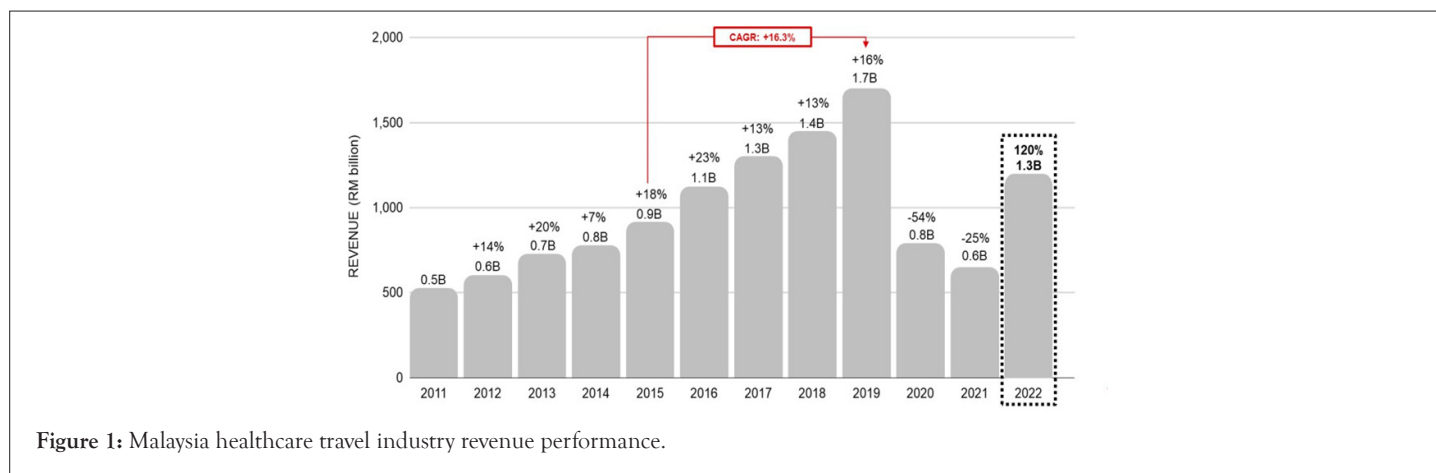
The top nations contributing medical tourists to Malaysia they are Indonesia, China, Singapore, United Kingdom (UK), India, Philippines, Bangladesh, Australia, Japan and United States of America (USA). Aside from that, MHTC reported that Malaysia has emerged as one of the region's top-performing countries when the global market report (2018) produced by Laing Buisson, a UK-based healthcare research intelligence provider. The Malaysia is the number one healthcare travel destination by volume [12]. In the past twenty years, the healthcare travel sector has grown incredibly, awards including the prestigious "Destination of the year" award by the International Medical Travel Journal (IMTJ) for three consecutive years in a row (2015-2017) and the award from International Living as the country with the "Best Healthcare System in the World" for three years in a row from 2015 to 2017 as well as for 2019 have contributed to Malaysia's rapid development in the healthcare travel sector gain international recognition abroad [6].

Research problem

Patients seek fertility treatment that is prohibited in their home countries but available overseas is on the rise. Gender selection of IVF embryos through genetic testing is one of the most controversial procedures in the IVF technology known as 3rd-generation IVF or Pre-implantation Genetic Testing-Aneuploidy (PGT-A) [13]. Besides

the controversial procedures, the advanced IVF technology with high success rates, along with several well-established IVF clinics offering cost-competitive medical fees to medical tourists seeking fertility treatment, has positioned Malaysia to become a leading fertility hub in Asia [14]. Malaysia fertility clinics are outfitted with cutting-edge technology, such as 3rd-generation IVF, in collaboration with highly qualified embryologists, increasing the procedure's effectiveness.

MHTC set out the goal of positioning Malaysia as the fertility hub in Asia and enhancing the healthcare travel ecosystem by improving the quality of care and enhancing the service delivery quality and experience of care [14]. Despite Malaysia's rising recognition as a destination for fertility tourism, there is still a lack of research into health travellers' satisfaction with perceived service quality. There is a need to address the variables affecting patient satisfaction throughout the course of their fertility treatment. Understanding health travellers' satisfaction is important because it can help medical service providers deliver quality medical care. In order to pinpoint areas for development and raise general patient satisfaction, it is essential to understand the challenges and concerns that fertility tourists encounter in Malaysia. By understanding health travellers' perceptions of service quality and satisfaction are important because it can help medical service providers deliver quality medical care. The evaluation of patient satisfaction in health care is a vital component in assessing the quality of care. In addition to 'effectiveness' (pregnancy rate), reproductive medicine must concentrate on other aspects of quality, particularly the patient's satisfaction with the care received and the findings of this study, the service provider will be able to identify the factors that they should priorities in order to effectively improve the satisfaction of health travellers since medical tourism is one of the increasing trends as a major source of income in Malaysia's health sector.



Objectives

The general objectives of this study is to investigate the satisfaction of health travellers with the perceived service quality of fertility medical care they received in Malaysia. The specific objectives of the study are to investigate the satisfaction of health travellers with the service quality of fertility medical care they received in Malaysia have been listed -Tangible, reliability, responsiveness, assurance and empathy.

Service satisfaction is one of the most important key factors for service providers to gain an advantage, so it should be greatly improved and well-measured [15]. With the findings of this study, the service providers will be able to identify the factors that they should priorities in order to effectively improve the satisfaction of health travellers since medical tourism is one of the increasing trends as a major source of income in Malaysia’s health sector.

Research questions

The research questions of this study are:

- What is the satisfaction of the health travellers who received fertility medical care in Malaysia towards the perceived tangible of service quality provided?
- What is the satisfaction of the health travellers who received fertility medical care in Malaysia towards the perceived reliability of service quality provided?
- What is the satisfaction of the health travellers who received fertility medical care in Malaysia towards the perceived responsiveness of service quality provided?
- What is the satisfaction of the health travellers who received fertility medical care in Malaysia towards the perceived assurance

of service quality provided?

- What is the satisfaction of the health travellers who received fertility medical care in Malaysia towards the perceived empathy of service quality provided?

In 1988, Parasurama et al., refined the model and revised it to a five-dimension Service Quality (SERVQUAL) model to evaluate service quality 1988 [16]. SERVQUAL has been one of the most widely used for decades for assessing customer satisfaction with service quality. The SERVQUAL instrument assesses five aspects of service quality which include tangibility, reliability, responsiveness, assurance and empathy presented in Figure 3.

The satisfaction with service quality is then determined by calculating the difference between expectations and perceptions for each item. In the year 1991 Parasuraman et al., refined and reassessed the SERVQUAL instruments. When the pre-test results indicated that the items were worded negatively, it suggested that this might be problematic for respondents' comprehension of the wording. In addition to that, the reliability of the refined SERVQUAL instruments was proved by the value of Cronbach’s alpha and standard deviation. As a result, the final questionnaire's items with negative wording were all changed to positive ones [17]. The SERVQUAL scale is a key tool for assessing quality in the service marketing literature. This tool has been widely used by researchers to gather customer feedback on the competence of the services provided [18]. The SERVQUAL tool is based on the GAP theory, which was first proposed by Parasuraman et al., in 1985 [19]. This model created ten service quality dimensions presented in Table 1, for the underpinning structure of SERVQUAL model. The model was then further refined to a five dimensions’ model, which is Tangibles (TA), Reliability (RL), Responsiveness (RP), Assurance (AS) and Empathy (EM) [16].

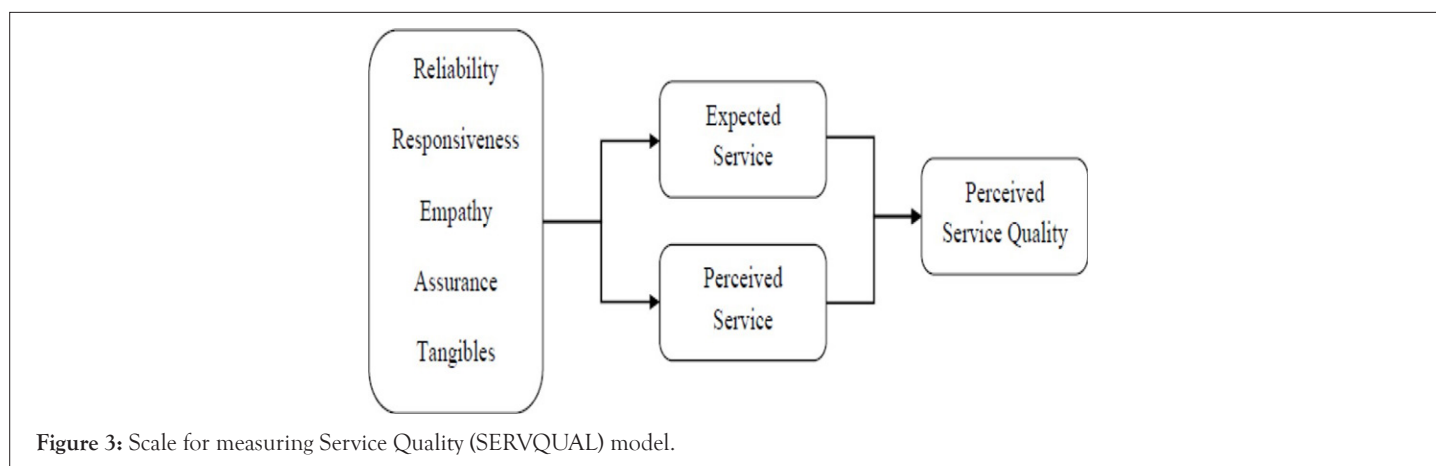


Figure 3: Scale for measuring Service Quality (SERVQUAL) model.

Table 1: Ten dimensions of SERVQUAL model.

S. no	Dimensions	Explanation
1	Reliability	The ability of the service provider to fulfil its commitments and offer excellent top-notch service right away
2	Responsiveness	The employee’s commitment to assisting consumers and providing prompt service.
3	Competence	The employees’ expertise in the required skills and knowledge
4	Access	The extent to which the employees are approachable.
5	Courtesy	Employees’ attitudes towards the consumers (for instance, politeness, friendliness and respect)

6	Communication	Appropriate delivery of the information to the consumers
7	Credibility	Integrity and trustworthiness of the service provider
8	Security	Able to provide quality service without danger and uncertainties
9	Understanding ability/knowledge	The effort to understand the consumer's needs (for instance, to identify customers' specific needs)
10	Tangible	The physical appearance of the facilities

SERVPERF, also known as customer perception of performance, is recognized as a performance which is only indicator of service quality [20]. According to Bitner et al., while goods contain several search quality attributes that are appropriate for SERVQUAL, services include experience quality attributes that can only be recognized during or after the consumption phase [21]. SERVPERF model, on the other hand, collects opinions on service quality based on tourists' perceptions after using the goods or services. Brown et al., in 1993 proposed that calculating difference scores could lead to poor reliability, particularly if the expectations scale was truncated by ceiling effects [22]. This will occur if customer expectations of service are extremely high, as is likely for particular types of retail service providers. Cronin Jr JJ and Taylor SA in 1992 discovered that the performance component outperformed SERVQUAL in terms of reliabilities and presented some evidence to support these concerns [23].

The differences of SERVQUAL versus SERVPERF is purely a performance-based approach to the measurement of satisfaction on perceived service quality. Instead of the "expectation-perception" gap, SERVPERF measured satisfaction on performance or perceived service using the same dimensions as reliability, responsiveness, assurance, tangibles and empathy for service quality measurement [24]. SERVPERF, proponents maintained, is shorter, theoretically superior and more reflective than SERVQUAL and it explained more of the variance in an overall measure of service quality than SERVQUAL [23]. SERVPERF is widely regarded as a reliable scale for assessing service quality across all service sectors and its adapted versions are appropriate for measuring patient satisfaction [25]. Patient satisfaction in healthcare settings is defined by Al-Farajat et al., as a healthcare recipient's reaction to salient aspects of the context, process and outcomes of their service experience [26]. Exploring tourist satisfaction in the context of medical tourism will benefit service providers [27].

Service quality is an assessment made by customers between the expected and actual service quality. Quality healthcare, according to Jonkisz et al., is consistently delighting the patient by providing efficacious, effective and efficient healthcare services using cutting-edge facilities and standards that meet the patient's needs and satisfy providers [28]. According to Park et al., service quality is the customer's perception of the performance or service that they received [20]. Tangibles are defined as the appearance of physical facilities, equipment, personnel and communication materials [16]. It relates to the cleanliness of the rooms, facilities and other public places, as well as the personnel use of disposable gloves and clean, appropriate clothing [29].

Generally, reliability means that the organization meets its obligations which include quality guarantees, issue resolution, service availability and pricing. Customers prefer organizations that keep their promises, particularly those related to service and core service attributes [30]. According to Parasuraman et al., responsiveness is defined as an organization's readiness to address issues as well as its ability to offer prompt service [16]. In dealing with patients' appeals, questions, complaints and other issues, this dimension emphasizes mindfulness and responsiveness [31]. Assurance is defined as the knowledge and courtesy of employees, as well as their ability to inspire trust and confidence [28].

Research hypothesis

The conceptual framework for this research emphasizes the relationship between the five dimensions of SERVPERF and health travellers' satisfaction as presented in Figure 4.

In the study, five Hypothesis (H) were developed AND TESTED based on the research model shown in Figure 4, where the Hypothesis H1-tangible, H2-reliability, H3-responsiveness, H4-assurance, H5-empathy, dimension of perceived service quality is positively related to health travellers' satisfaction [23].

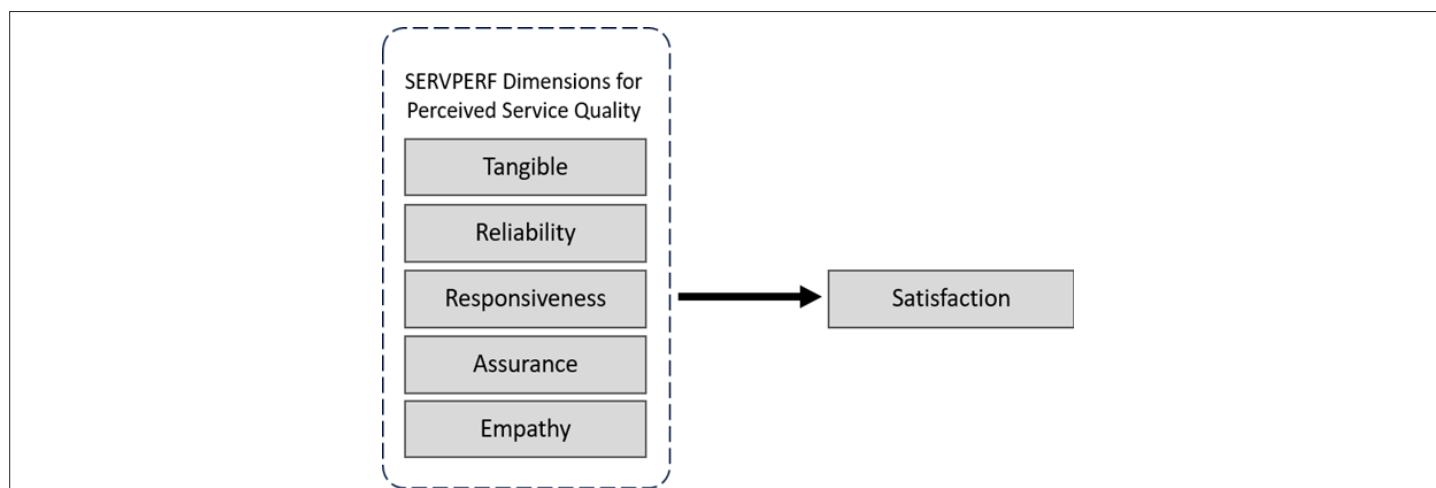


Figure 4: Research framework.

MATERIALS AND METHODS

The research design is the author's plan or framework for using specific techniques and methods to carry out the research process [32]. Mono-method quantitative method was applied because the data for this study is primarily derived from primary data, namely questionnaires collected from respondents. This method is the best for answering research questions because it allows for in-depth research. After all, quantitative data can be statistically analysed and the research will be detailed. Furthermore, because the results obtained are objective in nature, this research method can yield accurate results. The questionnaire was divided into two sections, the first section consisted of demographic questions starting with respondents' age, gender, marital status, country of origin, highest academic qualification, average monthly household income and the outcome of their treatment, the second part of the questionnaire regarded five service quality dimensions which are tangibles, reliability, responsiveness, assurance and empathy as independent variables and health travellers' satisfaction as the dependent variable. The questionnaires for the test were prepared in two forms-paper-based and electronic-based forms. The paper-based questionnaire was given to the health travellers who are still in Malaysia, visiting X-fertility centre, while electronic-based forms in Microsoft form will be given to health travellers' who have ready back to their home country. The reason for selecting Microsoft form as the digital platform to collect responses is not only because it allows for easy data collection and visualization when obtaining results but also because it can be accessed by China health travellers who have already returned to their home country without being blocked by China's firewall.

Data analysis

Statistical Package for the Social Sciences (SPSS) is used in the

data analysis process for this study. It is widely used by researchers to perform complex statistical analyses. Hence, the data collected from the questionnaires will be analysed using SPSS statistics. This method was chosen to analyse the data because SPSS has a wide range of formulas and statistical routines and the data can be easily updated to draw conclusions about the relationships between the variables. The data analysis procedure includes descriptive analysis, normality analysis, correlational analysis and regression analysis. To begin, the descriptive analysis was used to determine and describe the respondents' demographic data. This analysis is also being performed to ensure that the respondents fall within the research scope of female international patients who did OPU or ET from April 1st 2022 to March 31st 2023. Following that, normality analysis was performed to determine whether the sample data fit into a standard normal distribution. Many statistical procedures, particularly parametric tests, require the assumption of normality to be checked because their validity is dependent on it. The analysis will then follow a correlational analysis to determine whether each variable has a relationship with one another. Finally, regression analysis is used to test the hypothesis.

RESULTS

Respondents' profiles

The results showed that 90% of the respondents were between the ages of 30 and 44, which is normal because this is the age range at which women are concerned about starting a family and become anxious if they do not conceive naturally after several attempts. The biological clock and the decline in fertility are important factors. Ovarian reserve and egg quality naturally decline as women age increases. Furthermore, fertility potential or the ability to become pregnant, begins to decline by the age of 30 (Table 2).

Table 2: Demographic information of the respondents (n=240).

Category	Frequency	Percentage (%)
Age		
30-44 years	216	90
45 years and above	12	5
Under 30 years	12	5
Country of origin		
Australia	8	3.3
Canada	1	0.4
China/Hong Kong/Macau	57	23.8
India	3	1.3
Indonesia	134	55.8
Japan	2	0.8
Maldives	2	0.8
Philippines	2	0.8
Singapore	27	11.3
Thailand	2	0.8
UK	1	0.4
USA	1	0.4
Highest academic qualification		
Associate degree or diploma	33	13.8
Bachelor's degree	135	56.3
Doctorate (PhD)	2	0.8
High school or equivalent	27	11.3
Master's degree	43	17.9

	Monthly income United States Dollars (USD)	
2000 and below	21	8.8
2001-4000	68	28.3
4001-6000	46	19.2
6001-8000	30	12.5
6001-8000	20	8.3
Above 10000	55	22.9
Financial source		
Family sponsorship	5	2.1
Medical insurance	7	2.9
Others	1	0.4
Own expenses	227	94.6

According to the results, 55.8% of respondents are from Indonesia; 23.8% are from China, Hong Kong and Macau; 11.3% are from Singapore; and 3.3% are from Australia. The remaining 5.8% comes from India, Japan, Maldives, Philippines, Thailand, Canada, the United States of America and the United Kingdom. It is possibly due to their geographical proximity to Malaysia, where health travellers can travel without making taking long flights, which lessens the logistical difficulties and expenses related to international travel (Figure 5).

In summary, as the deviation from a perfect normal distribution is only slightly present, both the histogram and the Probability-Probability (PP) and Quantile-Quantile (QQ) plots suggest that the data follows a normal distribution to a reasonable degree (Figures 6 and 7).

The Cronbach alpha statistic is used to evaluate the consistency of answers given in response to a list of questions intended to evaluate a particular concept. It consists of an alpha coefficient with a value between 0 and 1. The scale's questions measure the same thing when the value is 0.7 or higher [32]. Table 3, is the compilation reliability outcome using 240 responses for independent factors and dependent factor.

It shows that all the constructs have Cronbach's Reliability (CR) value range between 0.863 and 0.958. which is higher than the threshold value of 0.7 [33]. The overall reliability is excellent for the data collected as most of the Cronbach's alpha values are above 0.9, which is an indicator of excellent reliability. The elements in the component matrix are Pearson correlations of the item with each of the components.

According to Table 4, the factor analysis is good, all of the Pearson's correlations values were above 0.5, which indicates that it has a high factor loading and is considered to be significant. The result of the correlation analysis between each independent factor and dependent factor for this study is shown in Table 5.

There are five correlations having extremely high positive correlations, which indicate an extremely strong relationship between the two constructs. The highest Pearson's correlation of perceived service quality is found in the empathy and satisfaction dimension for health travelers, with a value of 0.926. It is followed by the reliability and satisfaction dimension of perceived service quality, with Pearson's correlation value of 0.911, which also indicates an extremely strong relationship between the two constructs. With Pearson's correlation values equal to 0.905, 0.900 and 0.879, respectively, the dimensions of assurance and reliability, assurance and satisfaction and empathy and assurance all have extremely strong correlations.

The multiple regression model testing in Table 6, showed that higher reliability, assurance, empathy and responsiveness were significant

factors in achieving higher health travellers' satisfaction. In other words, the higher the perception of reliability, assurance, empathy and responsiveness, the better the satisfaction of the healthcare travellers. As a result, H2, H3 H4 and H5 were supported in overall satisfaction. On the other hand, tangibility ($\beta=0.058$, $p>0.05$) was not a significant factor in overall satisfaction. The analysis will be further discussed in the next section of the hypothesis summary.

Based on the results of hypothesis testing that was carried out, the findings indicated that all proposed hypothesis were accepted because all significance levels are below 0.05. Based on the correlation Coefficient (R), each five dimensions in the SERVPERF model has a positive correlation with the total Hypothesis Testing's (HT's) satisfaction with perceived empathy having the strongest strength, followed by perceived assurance, reliability, responsiveness and lastly, tangible has the least strength. Based on the r-square result, the items in perceived empathy are able to explain the HT's satisfaction the most, followed by assurance, reliability, responsiveness and tangibility.

The regression analysis result shows that there is a significant relationship between the perceived reliability of service quality and satisfaction. Therefore, the H2 hypothesis is accepted. This finding is consistent with previous research by Rahim et al., on patient satisfaction towards the service quality dimensions, where a positive and statistically significant relationship between reliability and patient satisfaction was identified [29]. The issue in this factor refers to the patient's concern about fertility centres providing accurate performance and delivery of services without error. The constancy and reliability of service in delivering what was promised are referred to as reliability, for individuals and couples, undergoing fertility treatments and procedures can be stressful. In a fertility centre setting, reliability ensures that health travellers can rely on the facility to consistently deliver the services they were promised, perform procedures correctly and provide accurate information. This reliability may ease stress and anxiety while giving patients emotional support throughout their fertility journey. Infertility treatments frequently involve complicated processes. To achieve positive results, these treatments must be delivered consistently as they often involve several cycles or a lengthy period of time. In a fertility centre setting, reliability encourages patients to build long-term connections with the facility. Health travellers are more likely to continue their treatment at the same facility or country when they receive reliable services and treatments, creating a positive impact on satisfaction.

The last dimensions of the SERVPERF model in this research suggest that there is a significant and positive relationship between medical staff empathy and health travellers' satisfaction. Therefore, the H5 hypothesis is accepted. Healthcare travellers gain satisfaction when they perceive that the staff genuinely cares about their well-being and

understands the emotional impact of fertility struggles. Empathy is the most important determinant the satisfaction among the constructs tested in this research. Among the service quality dimensions, empathy is ranked first in terms of effect size and has the greatest influence on patient satisfaction. This demonstrates that patients are concerned

about the care and attention provided by hospitals and healthcare practitioners. They expect that hospitals and healthcare providers will priorities their needs, understand them and provide services in their best interests. Health travellers are more likely to be satisfied if they have confidence in the centre’s ability to provide personalized and compassionate care.

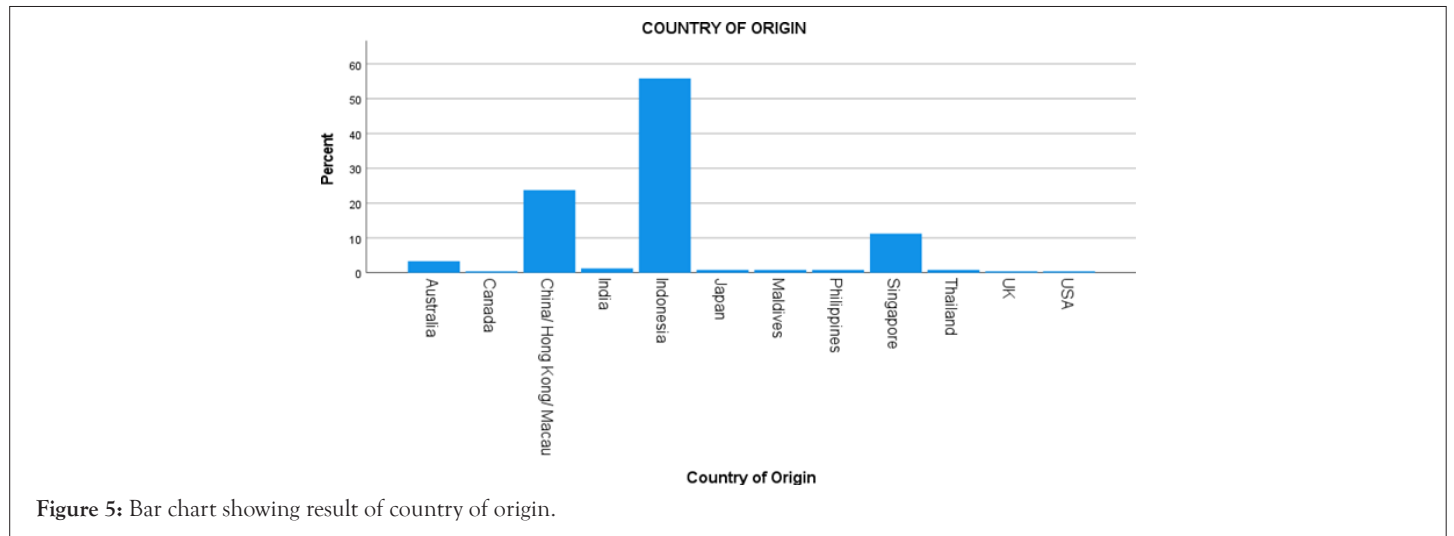


Figure 5: Bar chart showing result of country of origin.

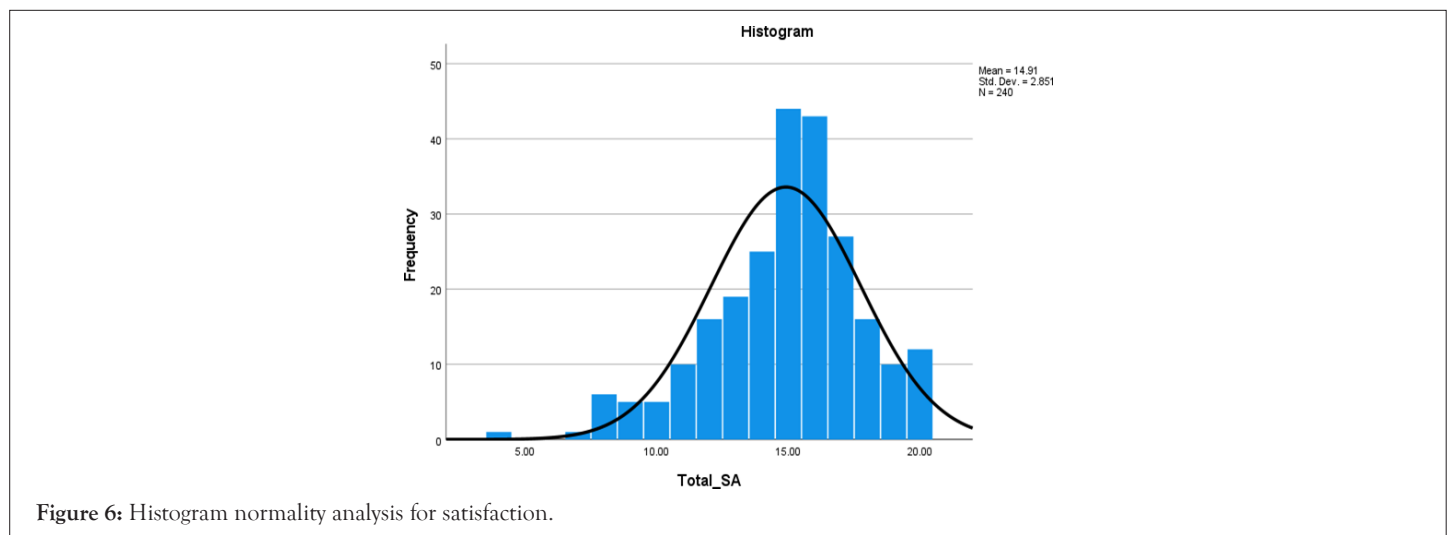


Figure 6: Histogram normality analysis for satisfaction.

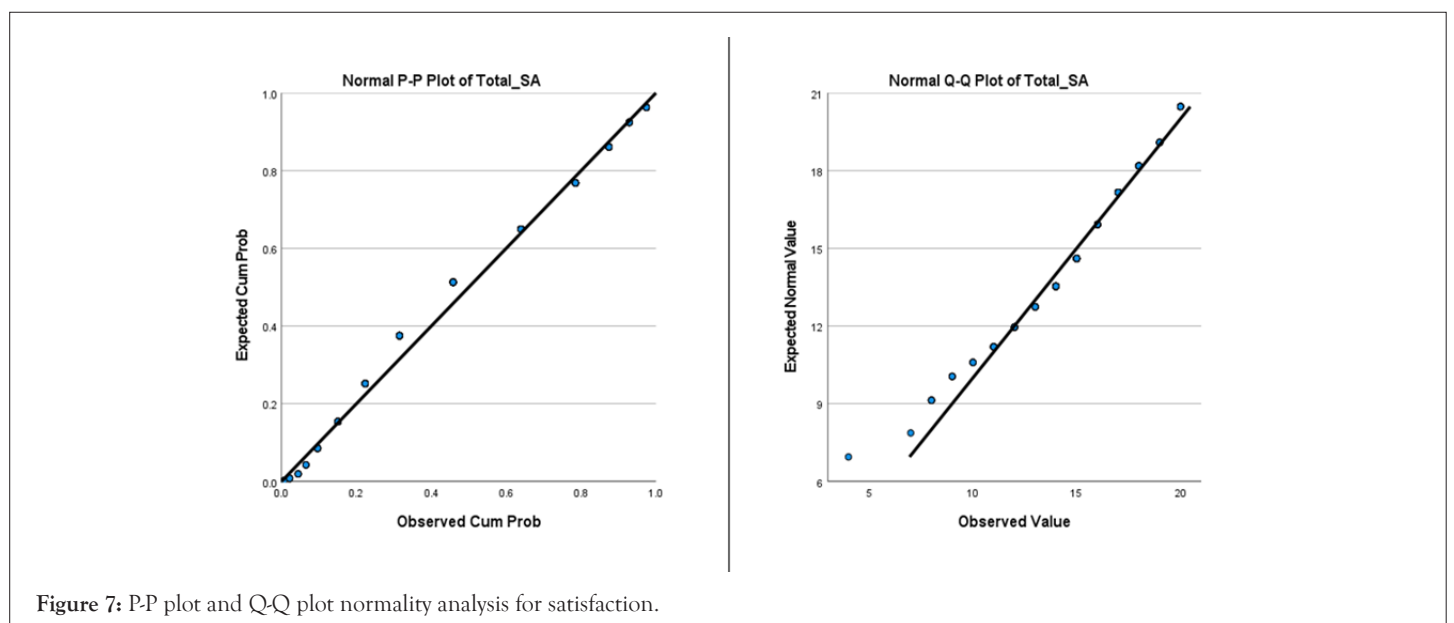


Figure 7: P-P plot and Q-Q plot normality analysis for satisfaction.

Table 3: Cronbach's alpha analysis.

Dimensions	Level of reliability	
	Cronbach's alpha	No. of items
Tangibles (TA)	0.863	4
Reliability (RL)	0.934	5
Responsiveness (RP)	0.927	4
Assurance (AS)	0.941	4
Empathy (EM)	0.933	5
Satisfaction (SA)	0.958	4

Table 4: Rotated component matrix.

	Rotated component matrix					
	Components					
	1	2	3	4	5	6
TA1	0.867					
TA2	0.772					
TA3	0.694					
TA4	0.5					
RL1		0.633				
RL2		0.77				
RL3		0.76				
RL4		0.607				
RL5		0.641				
RP1			0.685			
RP2			0.855			
RP3			0.789			
RP4			0.89			
AS1				0.785		
AS2				0.706		
AS3				0.691		
AS4				0.697		
EM1					0.71	
EM2					0.591	
EM3					0.656	
EM4					0.645	
EM5					0.678	
SA1						0.718
SA2						0.727
SA3						0.668
SA4						0.714

Table 5: Correlation analysis of the dimensions.

	Correlations					
	TA	RL	RP	AS	EM	SA
TA	1	0.788**	0.750**	0.839**	0.784**	0.799**
RL	0.788**	1	0.875**	0.905**	0.894**	0.911**
RP	0.750**	0.875**	1	0.893**	0.832**	0.821**
AS	0.839**	0.905**	0.893**	1	0.897**	0.900**
EM	0.784**	0.894**	0.832**	0.897**	1	0.926**
SA	0.799**	0.911**	0.821**	0.900**	0.926**	1

Note: (**): p=0.01 (2-tailed).

Table 6: Hypothesis testing conclusion.

Hypothesis	Description	Status	Significant value (simple regression)	Significant value (multiple regression)	R	R2
H1	Perceived tangibility→satisfaction	Accepted	0.001	0.058	0.648	0.42
H2	Perceived reliability→satisfaction	Accepted	0.001	0.001	0.751	0.564
H3	Perceived responsiveness→satisfaction	Accepted	0.001	0.042	0.734	0.539
H4	Perceived assurance→satisfaction	Accepted	0.001	0.003	0.794	0.63
H5	Perceived empathy→satisfaction	Accepted	0.001	0.001	0.845	0.714

DISCUSSION

Exploring tourist satisfaction in the context of medical tourism will benefit service providers [27]. The study's findings could help in identifying specific service quality dimensions that have a significant impact on medical tourists' satisfaction. This information can be used by healthcare providers to develop targeted marketing communication strategies that highlight their strengths in those dimensions. For instance, empathy and assurance were identified as critical factors and promotional materials can come in multi-lingual versions that emphasise the medical staff's expertise and qualifications. This study is unique in that it is the first to look at fertility tourism satisfaction from the perspective of health tourists themselves. The findings provide detailed quantitative information about the characteristics of fertility medical tourists as well as their satisfaction with perceived service quality. This study will help government organizations such as MHTC, tourism Malaysia, medical facilitators and fertility medical service providers to improve their service quality and service delivery by developing a customized plan based on the outcome of this research. The research findings can also be used by managers to develop and implement successful health travellers' satisfaction strategies to achieve their revenue-oriented goals. This study provided valuable insights on medical services in terms of health travellers' perceptions of service quality, allowing fertility medical service providers to tailor their services accordingly to remain competitive and on par with other popular fertility tourism destinations

Implications

Exploring tourist satisfaction in the context of medical tourism will benefit service providers [27]. The study's findings could help in identifying specific service quality dimensions that have a significant impact on medical tourists' satisfaction. The information can be used by healthcare providers to develop target marketing communication strategies that highlight their strengths in those dimensions. For instance, empathy and assurance were identified as critical factors and promotional materials can come in multi-lingual versions that emphasize the medical staff's expertise and qualifications. Fertility care services must continue to invest and innovate in all relevant elements that contribute to maintaining and improving fertility care quality and healthcare traveller satisfaction. For instance, provide staff training and professional counselling for patients in order to improve the assurance and empathy aspect of service quality and, as a result, health traveller satisfaction. High service quality can result in cost savings and effective use of resources. Healthcare providers can cut expenses related to rework, corrective actions or patient complaints by concentrating on doing things correctly the first time and minimizing errors. Despite difficult economic times, this enables healthcare providers to allocate their resources more effectively. Based on the outcome of this research, given that perceived empathy is the most important determinant of health traveller satisfaction, policies should

ensure that health travellers receive proper support, knowledge and assistance throughout their medical tourism journey, addressing any social, linguistic or mental hurdles they may face. The second most important determinant of health travellers' satisfaction based on this research is assurance. Policies should focus on enhancing healthcare travellers' trust and confidence by ensuring the perceived assurance of healthcare services provided in the country with regulations and accreditation systems.

CONCLUSION

Indeed, fertility tourism in Malaysia has developed and attracted tourists from neighbouring countries and other distant regions. This study helps by neighbouring the fertility traveller's unique characteristics and differences in terms of age, nationalities and the perceived service quality dimensions in relation to their satisfaction. The findings revealed that all five SERVPERF dimensions, which are tangible, reliability, responsiveness, assurance and empathy, affect health traveller satisfaction significantly, with the highest value assigned to empathy, followed by assurance, reliability and responsiveness. The lowest value was assigned to tangible as a service dimension. For the future development of fertility tourism in Malaysia, service providers need to be mindful of this study's results and consider them in marketing communication and service development. There should be a continuous effort to understand and provide solutions to health travellers' needs in Malaysia.

LIMITATIONS

The components of both the quality of healthcare services and the characteristics of travel destinations were reported inconsistently. To research health travellers' satisfaction, all components of a tourism destination should be considered. These components are the pre-core and post-core service encounters in a service experience journey. The primary focus of this study was the medical services element of medical tourism. However, this only makes up a small portion of medical tourism's overall activities. The focus of this study was on the core component of medical tourism, it did not consider the wide range of consumer touchpoints that occur before during or after this core component which required more time line and cost of doing survey, as well as data protection by the medical centre that might act as a major constraint. Along with this viewpoint, fundamental elements of both the travel destination experience and healthcare service experience are equally important in understanding the satisfaction of the health travellers. This could apply to lodging, visas, travel and other touristic activities. Future studies might take a fair-minded approach to tourism-related activities. Furthermore, this study only included health tourists who went to the fertility centre, which may not fully represent the population of health tourists who went to Malaysia for fertility treatment. The researcher is unable to gather more data because of time constraints. It is advised that more samples and respondents from various Malaysian fertility service providers be included in the

research's future respondents and samples.

RECOMMENDATIONS

As Malaysia positions itself as a fertility hub of Asia for medical tourism, more efforts need to be made to promote and develop the industry and factors affecting industry growth, such as service quality and health traveller satisfaction, need to be addressed collaboratively. While the industry is driven by the private sector, the government must continue to play an active role in facilitating growth. Development in the healthcare travel industry can contribute to the country's growth and elevate Malaysia's international profile as a country that provides high-quality healthcare services, which subsequently contribute to health travellers' satisfaction. To improve medical tourist satisfaction in a fertility centre setting, it is critical to prioritise empathy and assurance, followed by reliability, responsiveness and tangible aspects based on the outcome of this research. To improve the perceived empathy of service quality, the fertility medical service provider should provide cultural awareness and sensitivity training to staff members for them to better understand the needs, expectations and customs of medical tourists from various backgrounds. This fosters a friendly and inclusive environment. Aside from that, instead of relying on translation devices, they can hire staff members who can effectively communicate in the languages commonly spoken by medical tourists. For example, an X-fertility centre should hire staff who can communicate fluently in Bahasa Indonesia and China, as many of their foreign patients are from Indonesia, China, Hong Kong and Macau. The presence of multilingual staff helps to bridge communication gaps and improve the overall satisfaction of health travellers. Worth to mentioned, both the government and local medical tourism service providers have made significant efforts to enhance the perceived empathy experience for medical tourists. For example, Malaysia being largely Muslim-friendly, offers halal menus and prayer facilities readily available.

CONFLICT OF INTERESTS

Authors declare no conflict of interests.

REFERENCES

- Fetscherin M, Stephano RM. The medical tourism index: Scale development and validation. *Tour Manag.* 2016;52:539-556.
- Abd Manaf NH, Hussin H, Kassim JPN, Alavi R, Dahari Z. Country perspective on medical tourism: The Malaysian experience. *Leadersh Health Serv.* 2015;28(1):43-56.
- Kumar J, Hussian K. Factors affecting medical tourism destination selection: A Malaysian perspective. *Int J Glob Bus.* 2016;1(1):1-0.
- Xu T, Wang W, Du J. An integrative review of patients' experience in the medical tourism. *Inquiry.* 2020;57:1-14.
- Narayanan S, Lai YW. Medical tourism in Malaysia: Growth, contributions and challenges. *Thammasat Economic.* 2021;39(1):1-22.
- Malaysia Healthcare Travel Council (MHTC). 2019.
- Shahudin F, Osman Z, Moorthy K. The intention to revisit Malaysian tourism in the post COVID-19 period. In *Proc Int Conference Hosp Tour Manag.* 2021;6(1):36-53.
- Malaysia healthcare travel council expands global reach. *PR Newswire.* 2023.
- Malaysia Healthcare Travel Industry (MHTC). 2023.
- Let's talk about numbers. *Malaysia Healthcare Chronicles (MHTC).* 2019.
- Adiwijaya M, Kaihatu TS, Nugroho A, Kartika EW. The issues of risk, trust and customer intention: A search for the relationship. 2022.
- Malaysia expects more Myanmar patients. *MHTC.* 2019.
- von Schondorf-Gleicher A, Mochizuki L, Orvieto R, Patrizio P, Caplan AS, Gleicher N. Revisiting selected ethical aspects of current clinical In-Vitro Fertilization (IVF) practice. *J Assist Reprod Genet.* 2022;39(3):591-604.
- Malaysia healthcare travel industry blueprint 2021-2025. *Malaysia healthcare travel council.* 2021.
- Rao V, Choudhury R. A study of the factors influencing customer satisfaction in medical tourism in India. *Int J Bus Gen Manag.* 2017;6(5):7-22.
- Parasuraman A, Zeithaml VA, Berry LL. SERVQUAL: A multiple-item scale for measuring consumer perc. *J Retail.* 1988;64(1):12.
- Parasuraman A, Berry LL, Zeithaml VA. Refinement and reassessment of the SERVQUAL scale. *J Retail.* 1991;67(4):420-450.
- Shahril AM, Bachok S, Amiluddin AA. Foreign patients' satisfaction toward service quality in Malaysia private hospitals. *Int J Acad Res Bus Soc Sci.* 2021;1(13):101-115.
- Parasuraman A, Zeithaml VA, Berry LL. A conceptual model of service quality and its implications for future research. *J Mark.* 1985;49(4):41-50.
- Park SJ, Yi Y. Performance-only measures vs. performance-expectation measures of service quality. *Serv Ind J.* 2016;36(15-16):741-756.
- Bitner MJ, Faranda WT, Hubbert AR, Zeithaml VA. Customer contributions and roles in service delivery. *Int J Serv Ind.* 1997;8(3):193-205.
- Brown TJ, Churchill Jr GA, Peter JP. Improving the measurement of service quality. *J Retail.* 1993;69(1):127.
- Cronin Jr JJ, Taylor SA. Measuring service quality: A reexamination and extension. *J Mark.* 1992;56(3):55-68.
- Al-Omari F. Measuring gaps in healthcare quality using SERVQUAL model: Challenges and opportunities in developing countries. *Meas Bus Excell.* 2021;25(4):407-420.
- Unuvar S, Kaya M. Measuring service quality by SERVPERF method: A research on hospitality enterprises. *Aust Acad Acc Financ Rev.* 2016;2(4):354-362.
- Al-Farajat L, Jung SH, Gu GH, Seo YJ. Factors influencing overall satisfaction of Middle Eastern Arab patients in South Korea. *Int J Adv Cult Technol.* 2019;7(1):216-224.
- Zailani S, Ali SM, Iranmanesh M, Moghavemi S, Musa G. Predicting Muslim medical tourists' satisfaction with Malaysian Islamic friendly hospitals. *Tour Manag.* 2016;57:159-167.
- Jonkisz A, Karniej P, Krasowska D. The SERVQUAL method as an assessment tool of the quality of medical services in selected Asian countries. *Int J Environ Res Public Health.* 2022;19(13):7831.
- Rahim AI, Ibrahim MI, Musa KI, Chua SL, Yaacob NM. Patient satisfaction and hospital quality of care evaluation in Malaysia using SERVQUAL and Facebook. *Healthcare.* 2021;9(10):1369.
- Hennayake HM. Impact of service quality on customer satisfaction of public sector commercial banks: A study on rural economic context. *Int J Sci Res.* 2017;7(2):156-161.
- Ali BJ, Anwer RN, Anwar G. Private hospitals' service quality dimensions: The impact of service quality dimensions on patients' satisfaction. *Int J Med Phar Drug Res.* 2021.
- Saunders M, Lewis P, Thornhill A. *Research methods for business students.* Pearson education. 2009.
- Hair JF, Ringle CM, Sarstedt M. Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Plann.* 2013;46(1-2):1-12.