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Malaysian Perception towards Local Healthcare Facilities During Covid-19: The Case of Perak State

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Abstract

In Malaysia, healthcare is provided by hospitals, clinics, and community health organisations in a manner that is vastly distinct from other operational work environments. Generally, the perception of service quality in the healthcare industry is complex, with numerous determinants, such as personnel quality, facility, administrative process, clinical care process, safety, overall medical care experience, and social responsibility. Healthcare facility ratings are important indicators of quality as they indicate how well healthcare is provided. This study aimed to assess the community's perception about their local healthcare system regarding infrastructure, personnel, funding, and the costs of treatments and medications in the state of Perak. Survey data collected from 238 adults over the age of 21 was analysed statistically with the application of the Rasch measurement model. According to the data gathered, most people living in Perak are satisfied with the state's health facilities. The public perception corresponds to what the government has communicated. The findings of this study should aid authorities in convincing the public that healthcare options are adequate.

Keywords: Healthcare Facility, Public Perception, Malaysian Perception, Covid-19 Healthcare, Rasch Measurement Model.

Introduction

Malaysia has a population of about 29 million people, of which about 60% are below the age of 60. This means that there is a high demand for healthcare services, especially in areas such as childbirth and obstetrics. In addition, Malaysia has a high rate of chronic diseases, such as diabetes and heart disease, which are associated with increased rates of illness and death. The Malaysian government is in the process of developing a national healthcare strategy, which will provide guidance for improving the quality and accessibility of healthcare services across the country.

Healthcare in Malaysia is regulated by the Ministry of Health. The ministry oversees all aspects of healthcare, from licensing and regulation to research and development. The ministry also manages the national healthcare insurance program, which provides coverage for residents of Malaysia and foreigners who are registered in Malaysia. Malaysian healthcare is generally regarded as high quality, although there are several areas in which it could improve. For example, the country has a shortage of specialist doctors and nurses, and the availability of affordable health insurance is limited (Massa, 2022; Osman, 2022). In addition, the country's public healthcare system could be improved by increasing the number of facilities and personnel, and by developing more affordable health care plans that cover a wider range of treatments.

Covid-19 was a highly contagious virus that caused widespread illness and death throughout much of the world. Healthcare facilities were particularly vulnerable to the effects of Covid-19 due to their proximity to large populations and their role in providing essential care to patients. During covid-19, healthcare facilities in Malaysia were not operational due to the pandemic and staff were not able to provide patients with the necessary care. This resulted in increased mortality rates among patients who were admitted to the healthcare facility during covid-19 (Bahaudin, 2021). Overall, the impact of covid-19 on healthcare facilities in Malaysia was significant and has led to an increased need for improved healthcare infrastructure in the country. Healthcare facilities in Malaysia are currently struggling to cope with the increased demand for their services because of Covid-19. The government of Malaysia is likely to face additional costs associated with the impacts of Covid-19 in the future, and it will require significant investments to ensure that healthcare facilities are able to provide quality care for patients in the future.

Based on the problems associated with inadequate health facilities and the occurrence of the covid-19 pandemic, numerous researchers have begun to propose methods for assessing the severity of the shortage from different perspectives. According to research by Ford et al (1997), medical facilities can boost the efficiency of primary care, enhance patient outcomes, and rein in costs by collecting and analysing data on patients' satisfaction and impressions of the care they receive. Furthermore, Carman (2000) investigated how a patient's outlook on the perceived quality is influenced by several factors that the patient considers crucial to quality.

Others have studied the relationship between perceived service quality, customer satisfaction, and hospital-related behavioural intentions. Brady and Cronin (2001) identified interaction quality, physical environment quality, and outcome quality as evaluative factors for service quality in the healthcare industry. The perceptions of quality are measured by these three characteristics. The greatest influence on perceptions of service quality was exerted by interactions between patients and service providers. According to Trumble et al. (2006) patients can evaluate the skills of medical staff while they are treating them. The patient's comprehension and perception of the outcomes of hospital services have a significant impact on their evaluation experiences. These results indicate that the interactional behaviour of service providers has a significant impact on the doctor-patient relationship and increases patients' trust in their medical professionals. They emphasised that the relationship between medical advice and treatment and perceived quality and health outcome is substantial.

The positive finding was explained by Idris et al (2020); Sekarrinia and Puspanathan (2018); Ladhari (2009), who stated that patients were happier after receiving better care. Despite affecting fields as diverse as transportation, entertainment, and communication, customer satisfaction serves as a check on the relationship between service quality and future behaviour. Zakaria and Wahab (2021); Aagja and Garg (2010); Oliver (2014); Anthanassopoulos et al (2001) are just a few of the authors who have pointed out in the literature how important patient satisfaction is in shaping future behaviour change intentions. High levels of behavioural intent are related to high levels of patient satisfaction, especially regarding the tangibles, assurance, and empathy that make up service quality. Furthermore, patient satisfaction affects behavioural intentions. Noor Hazilah and Phang (2009) conducted an analysis of patient satisfaction as an indicator of service quality in Malaysian public hospitals and concluded that there is a relationship between perceived service quality and satisfaction for inpatient and outpatient services.

Even though there are a great number of studies that investigate the quality of the healthcare facilities that have been established, most of these studies only consider the perspective of patients. When evaluating the standard of healthcare facilities, it is important to consider the perspectives of the public and the local community. The perspective of society, which has lived through a variety of life stages and been in contact with a wide range of medical facilities, is more accurately reflected by the more extensive community. Therefore, this study aims to discover the local community perceptions towards the healthcare facilities provided by the public hospitals/clinics focusing on the state of Perak. Infrastructure, staffing numbers, cost of medication and therapy, and financial allocations are all considered. The application of the Rasch measurement model to the analysis of the data is anticipated to facilitate the production of more precise and exhaustive research findings.

Methodology

This section will describe the preparation of research instruments, the sampling method, the procedure for collecting data, and the methods for analysing data. The research instrument will be a questionnaire designed to measure Malaysian perception towards local healthcare facilities regarding infrastructure, personnel, funding, and the costs of treatments and medications. The sampling method will involve selecting a random sample of peoples in Perak communities. A simple random sampling method was used to obtain research data for the "Community" respondent group. "Community" respondents are those aged 21 and over and belong to the following groups:

a. Professional and Management (Government and Private).
b. Regular and Skilled Workers (Government and Private).
c. Educators (Teachers and Lecturers).
d. College students (Public and Private).
e. Housewives, community leaders/non-governmental organisations, and retirees.

The procedure for selecting respondents (sampling) is more stringent to ensure that only qualified individuals participate in the survey. Only respondents who can comprehend the questionnaire's questions are accepted, making it difficult for researchers to collect many responses. Nonetheless, the quality of the collected data is more important than the quantity of respondents. Because it produces less reliable results and undermines the credibility of the

study's conclusions, simple convenience sampling should be avoided as much as possible. Consequently, its use is discouraged.

In the meantime, data collection is carried out by data collectors who have been assigned to each area based on how the distribution was carried out. Identified respondents participate in data collection in person or "online" (email, Google, and Forms). Moreover, the researcher is responsible for ensuring that the data are accurate. The data collector will enter the data extracted from each questionnaire into the "template" that has been provided. Following this, the data cleansing process is confirmed. The following six questions were presented to those who participated in the survey:

Question 1: The public medical facilities provided are sufficient to protect the lives and health of the entire community.
Question 2: The ratio of civilian medical staff to patients is sufficient.
Question 3: Public hospitals/clinics are established according to categories and needs.
Question 4: The financial allocation provided is sufficient for the people's healthcare.
Question 5: The cost of treatment and medicines in public hospitals/clinics can be paid by the people.
Question 6: The cost of treatment and medicines charged by private hospitals/clinics is regulated by the authorities.

Table 1 demonstrates that each question has a Likert scale ranging from 1 to 6 and a "Don't Know" option.

Table 1
Likert Scale Label

Likert	Rank
1	Strongly Disagree
2	Disagree
3	Less Agree
4	Somewhat Agree
5	Agree
6	Strongly Agree
X	Don't Know

The methods used for analysing data will include conducting descriptive statistics and using Rasch measurement analysis to determine the validity and reliability of questionnaire. To ensure that the questionnaire's accuracy is not compromised by any flaws, it is essential that the instrument be valid and reliable. The validity and reliability of the instrument determine how accurate the data will be, and so the overall quality of the study.

Thus, internal consistency is used to assess research instrument reliability by determining how consistent the items in a test are with one another and with the whole (Zulkifli et al., 2019). Instruments are measured using the Cronbach's Alpha coefficient reliability indicator. The value of this coefficient varies depending on the study. According to Mohamad et al (2015), no specific limitation can be used to determine a measuring instrument's appropriate reliability, but reliability greater than 0.60 is commonly used as a basis for determining

questionnaire reliability and is acceptable. The Cronbach's Alpha coefficient value in this study is based on Babbie's (2020) reliability index classification, as shown in Table 2.

Table 2
Reliability Index Classification

Indicator	Cronbach's Alpha Value
Very High	>0.9
High	0.7-0.89
Medium	0.3-0.69
Low	0.3

Prior to its distribution, a pilot study was conducted in this study to determine whether the questionnaire was valid (capable of producing the necessary data). The results of the validity and reliability analysis revealed that the questionnaire's Cronbach's Alpha coefficient exceeded 0.60, demonstrating that the research instrument is valid and reliable.

In addition, the separation index produced by the Rasch model can be used to determine the number of separations to be assigned to a group of respondents or a set of questionnaire items. Further, variable maps can be used to determine the distribution of persons versus items. The Rasch measurement analysis was performed using the WINSTEP software. Simultaneously, Microsoft Excel was used to perform a descriptive analysis of the respondents' demographic data.

Analysis and Discussion

Respondents' Descriptive Demographic Analysis

This section discusses the research findings based on the demographic information provided by respondents. As respondents, 238 individuals from diverse backgrounds were successfully collected.

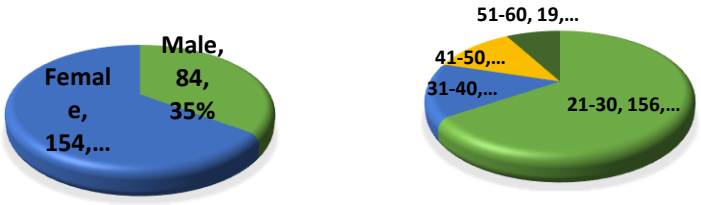

Figure 1. Gender and Age Items

The number of female respondents (154), which is 65% of the total, is greater than the number of male respondents (84), which is 35%. Younger generations constitute a significant majority (66%) of the respondents (21-30 years old), as shown in Figure 1.

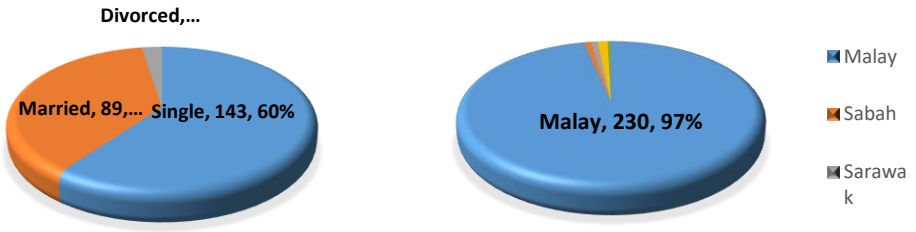

Figure 2. Marital Status and Ethnicity Items

Moreover, according to Figure 2, the percentage of respondents who are single (143) is more than the percentage of respondents who are married (89). The vast majority of respondents (97%) are of Malay ethnicity. The responses also include Bumiputera from Sabah and Sarawak and Chinese, Indians, and other ethnic groups, albeit in considerably lower percentages.

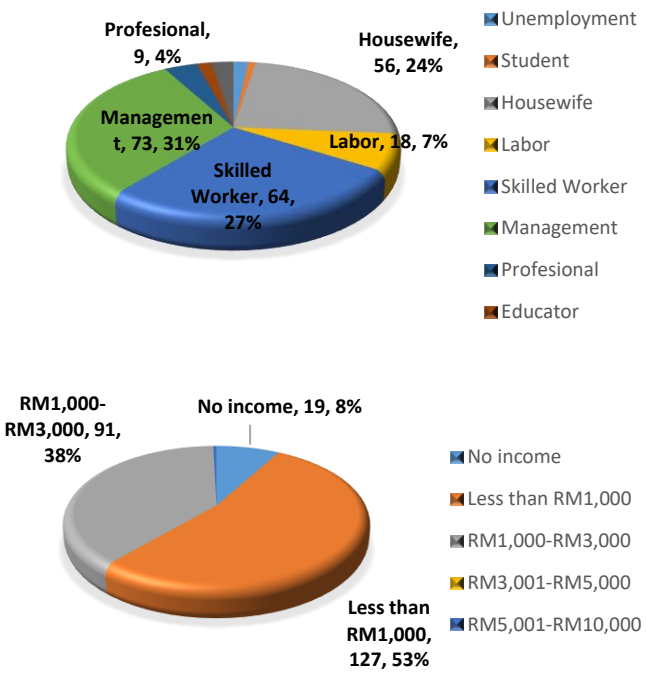

Figure 3. Employment Status and Household Income Items

In addition, the employment status of respondents, including educators and students, demonstrates the diversity of employment as given in Figure 3. The majority of respondents (31%) are employed in management. The distribution of household income reveals that respondents represent all social classes ("no income" is the student response).

Rasch Measurement Analysis

Table 3

Summary Statistics of Persons and Items

SUMMARY OF 236 MEASURED Persons

	RAW SCORE	COUNT	MEASURE	MODEL ERROR	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD
MEAN	26.5	5.8	63.96	6.68				
S.D.	6.2	.5	18.71	4.08				
MAX.	36.0	6.0	107.42	18.89				
MIN.	6.0	3.0	5.54	3.74				
REAL RMSE	8.55	ADJ.SD	16.65	SEPARATION	1.95	Person RELIABILITY	.79	
MODEL RMSE	7.83	ADJ.SD	17.00	SEPARATION	2.17	Person RELIABILITY	.82	
S.E. OF Person MEAN = 1.22								

VALID RESPONSES: 96.9%

CRONBACH ALPHA (KR-20) Person RAW SCORE RELIABILITY = .91

SUMMARY OF 6 MEASURED Items

	RAW SCORE	COUNT	MEASURE	MODEL ERROR	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD
MEAN	1041.3	228.7	50.00	.84	1.01	.0	1.01	.0
S.D.	67.7	4.6	3.71	.04	.18	1.9	.25	2.3
MAX.	1118.0	235.0	56.59	.88	1.25	2.4	1.51	4.5
MIN.	924.0	222.0	46.31	.77	.67	-3.6	.70	-3.2
REAL RMSE	.87	ADJ.SD	3.60	SEPARATION	4.14	Item RELIABILITY	.94	
MODEL RMSE	.84	ADJ.SD	3.61	SEPARATION	4.29	Item RELIABILITY	.95	
S.E. OF Item MEAN = 1.66								

UMEAN=50.000 USCALE=10.000

Item RAW SCORE-TO-MEASURE CORRELATION = -.97

1244 DATA POINTS. LOG-LIKELIHOOD CHI-SQUARE: 2838.97 with 1021 d.f. p=.0000

Table 3 provides a summary statistic of persons and items. The percentage of reliable responses can reach 96.9%. The Cronbach's alpha value, more significant than 0.7, indicates that the test score is reliable. The item's reliability value of 0.94 indicates its ability to measure what it wants to measure—similarly, a person with a reliability value greater than 0.75. High-quality items yield large separation items with up to four classes. At the same time, person separation can divide person classification into two classes.

The maximum (max) and minimum (min) person values are 107.42 and 5.54, respectively, while the maximum (max) and minimum (min) item values are 56.59 and 45.31. These values can be used to calculate the person scale, which has a logit length of 107.42 - 5.54 = 101.88, as opposed to the item scale, which has a logit length of only 56.59 - 45.31 = 11.28. The item scale gap between the person to be measured is as wide as 90.6 logit.

In addition, Figure 4 demonstrates the ability of items to separate persons. The fact that no item is under "all persons" indicates that the questions are tailored to the respondents' level of knowledge regarding health facilities for Malaysian residents. In the meantime, respondents can express greater disagreement or agreement based on the value of the two separations for person. The four distinct items demonstrate that the questions are geared toward convenience in terms of infrastructure, financial allocation, treatment and medication costs, and staff-to-patient ratio.

Moreover, 143 respondents (11.8% of male respondents and 48.2% of female respondents) strongly agreed with the statements pertaining to the facilities provided based on the person's position. However, up to 10% of respondents disagreed strongly with the

statement. Additionally, two items must be restructured because they test the same concept, even though items one and three are parallel on the map.

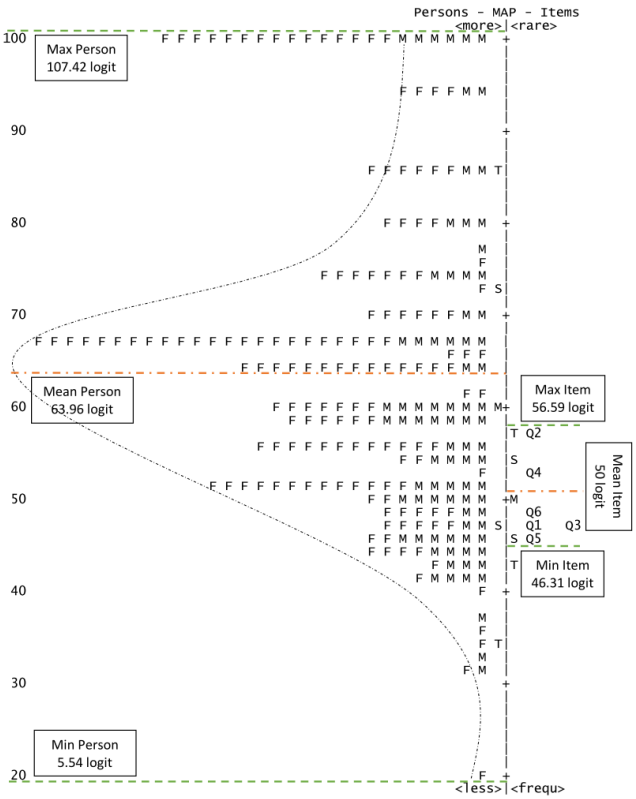

Figure 4. Variable Map

Discussion

The study's research findings revealed that the vast majority of respondents are satisfied with the state of healthcare facilities established in the state of Perak. Following that, this perception study will be tailored to the Malaysian authorities' media briefing on the country's medical facilities. Table 4 summarises newspaper articles obtained from press conferences during the covid-19 pandemic until the endemic changeover phase.

Table 4
Sample of Newspaper Articles

Facilities	Name of Newspaper (Date)	Title
Infrastructure	Harian Metro Online (2021)	Ministry of Health (MOH) employs private healthcare institutions to address the rise in cases.
	Berita Harian (2021)	Government healthcare facilities are not yet in crisis.
The ratio of staff	Malaysia Gazeete (2022)	The number of Assistant Medical Officers cannot accommodate the current needs – MOH.
	Berita Harian (2020)	The ratio of doctors to the population in Malaysia is 1:454.
The costs of treatments and medications	Majoriti Online (2022)	Interactive: The level of healthcare in Malaysia is acceptable but needs to be improved — Expert.
Financial allocation	Astro Awani (2021)	Budget 2022: RM32.4 billion allocation to MOH.

Several press conferences held by local authorities were inspected, and it was discovered that the health facilities provided in Malaysia are adequate, even though the daily cases of infectious diseases are increasing. The sudden increase in cases can also be accommodated by the establishment of Quarantine and Low-Risk Treatment Centers, as well as the use of private health facilities.

In 2020, the ratio of healthcare professionals to the population in Malaysia was 1:186. This ratio is lower than the 1:225 WHO recommendation. Malaysia's health personnel numbers are comparable to those of developed nations. However, there is a need to increase the number of specialist doctors, medical assistants, and nurses.

Furthermore, Malaysia is ranked 46th out of 60 participating nations in the most recent index study comparing healthcare costs and expenditures. According to WHO, the obtained index score is of great value. The country had the lowest coverage of non-communicable disease services, as measured by cardiovascular disease prevention, diabetes management, and tobacco use reduction, among the four service categories considered in the index. Consequently, measures to reduce the burden of non-communicable diseases should be intensified. Population ageing and mental health issues also place additional strain on the public system.

In terms of financial allocations, the Malaysian Ministry of Health has received RM32.4 billion, the second largest allocation in the 2022 budget. The government has also continued the Healthy Malaysia National Agenda to promote a healthy culture and combat non-communicable diseases such as diabetes, high blood pressure, and obesity. To improve people's health, the government has also imposed an excise tax on sugary drink premixes containing chocolate or cocoa, malt, coffee, and tea.

Conclusion

The purpose of this study was to assess the community's perception of health care facilities in the state of Perak. The results of the Rasch measurement model analysis indicate that the provided items are of high quality, even though two items test identically based on the person-items distribution. In contrast, the percentage of respondents who trust is extremely high, exceeding 95%.

This study has expanded knowledge of Malaysia's healthcare system based on information gathered from service providers and service recipients. More, the analysis examined the respondents' capacity to provide responses to the question items. The relative lack of studies employing this methodology justifies this study. The study has identified some areas for improvement in the healthcare system in Perak State, although these findings are not unique to the state. However, given the limited data available on Covid-19, this is a valuable contribution. The use of qualitative research methodology enhances our understanding of local perceptions and provides insight into how people cope with problems within their healthcare system.

Overall, this study has provided a detailed snapshot of public opinion towards local healthcare facilities during Covid-19 in Perak State. The findings suggest that people are generally satisfied with the healthcare options available to them, although there are areas for improvement. This study can help authorities to alleviate public concerns about the adequacy of healthcare services in Perak State and to promote local facilities as viable alternatives to more expensive tertiary care facilities. In addition, this research can be used by service providers as a tool for improving their interactions with clients and improving service delivery. Finally, qualitative research has important methodological advantages over quantitative studies. It allows researchers to obtain rich and nuanced understanding of the phenomena under study, which is not possible with a less detailed approach. Qualitative research also allows for insights that are not possible when using a limited number of survey items. This study has used qualitative research methodology to provide an in-depth understanding of people's perceptions of healthcare facilities during Covid-19 in Perak State. The findings have provided valuable insights into how people cope with problems within their healthcare system and can be used to improve service delivery. This study has provided a valuable contribution to the literature on Covid-19 and healthcare in Malaysia.

This study could be expanded in the future by expanding the scope of the study sample to include other states. The questionnaire can also be distributed by hospital/clinic type. Meanwhile, the race ratio of respondents should be close to Malaysia's overall race ratio. Questions about customer satisfaction with health-care services may also be considered.

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