ORIGINAL ARTICLE

Patients' Expectations and Perceptions of Services Provided by Primary Health Clinics in Kota Bharu, Kelantan, Malaysia

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ABSTRACT

Introduction: Primary health care plays an important role in healthcare systems. In Malaysia, One (1) Malaysia Clinic (now known as Community Clinic since 2018) was established in 2010 aims to increase healthcare services accessibility within the poor urban population. The aim was to look at the effectiveness of One (1) Malaysia Clinic as a new form of public primary health clinic by looking at expectations and perceptions of the quality of the provided services by the patients. **Method:** It applied a cross sectional study involving nine clinics in of the busiest district in Kelantan namely, Kota Bharu district. 386 respondents which were Malaysian citizen, 18 years old and above were involved in this study. The survey used Malay validated SERVQUAL questionnaire. The Service Quality (SQ) gap was calculated. **Result:** The empathy dimension obtained the highest expectation and perception score, while the tangible dimension has the lowest expectation and perception score. In all SERVQUAL dimension, the expectations and perceptions of the service provided was significantly different with $P < 0.001$. The most critical dimension identified was tangible dimension as it has the largest negative SQ gap score. **Conclusion:** Negative gaps for all SERVQUAL dimensions and individual items indicated that provided services at One (1) Malaysia Clinic still could not fulfilled the patient's expectation. A continuous improvement program is needed especially on tangible dimension in delivering a quality healthcare services.

Keywords: SERVQUAL dimensions, Primary Health Clinic, Expectation, Perception

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INTRODUCTION

Globally, primary health care plays an important role in health care systems. It is the first contact of care for an individual and community within the health care system, providing preventive care, curative treatment along with rehabilitative care. Patient feedback such as satisfaction survey is crucial for evaluation and monitoring of healthcare provide an opportunity for the improvement strategies (1-3). Besides that, it also can help patients to choose better health care services and finally influence their compliance with treatment, as well as their continuity of care (4). Satisfied patients tend to involve in their own clinical management. Satisfaction level can be assessed through the identification of quality gaps between expectation and perception level (5). As people nowadays are more educated and aware of alternatives being offered, assessing patient satisfaction becomes importance (5). The expectation levels of patients are also depending on the individual's experiences on the services (6).

Service Quality (SERVQUAL) Model was proposed by Parasuraman, Zeithaml (7) with the concept of satisfaction will achieve when patients' expectations towards services are met. Understanding the perceptions of clients and narrowing the gap between their expectations and what the organization can actually provide should be a major operational goal of an organization. For service quality, this realignment can be regarding either the technical or functional aspects of organizations (8). It focuses on the functional aspect of a service which can be assessed based on a number of dimensions namely reliability of provider, the responsiveness of provider, the assurance and empathy by the provider, the physical facilities available, and the equipment. The model allows one to assess the holistic satisfaction of the customer regarding the services by comparing customer expectations against customer perceptions (7). Satisfaction is understood as being achieved when patients' perceptions meet their expectations; this is seen numerically as an equal or positive SQ gap (9). The SERVQUAL model was found to be most appropriate in assessing satisfaction levels in most of the health care environment with some modifications (5, 10).

The primary care services in Malaysia were both provided by public and private institutions. The public clinics are

managed directly by the Ministry of Health (MOH) of Malaysia, and approximately 60 percent of these clinics are concentrated in rural areas. In 2010, the One (1) Malaysia Clinic (now known as Community Clinic since July 2018) was established in 2010 by Malaysia's MOH as an innovation in delivering public primary care services that is focusing more on poor urban populations (11). This One (1) Malaysia Clinic is categorize as type 6 and 7 where the average daily attendance range between 50 to 100 patients per day, with the service provided is only cover for minor illnesses and simple procedures for the outpatient services meanwhile for Non Communicable Disease services and Maternal and Child Health services, only uncomplicated and simple case is manage here (11).

In Kota Bharu District, as of 31 December 2016, there were nine One (1) Malaysia Clinic besides 17 public health clinics and 25 community clinics that provide public primary health care services under the Kota Bharu District Health Office administration. There were about 107 private primary care clinics in Kota Bharu District in a similar period. Kota Bharu District is one of the 10 districts in Kelantan. It has 15 sub-districts. This region contains approximately 564,400 people, 33 percent of its total population. The majority is Malay, followed by the Chinese population and small Indian and Siamese populations.

This study's objective was to assess the quality services provided by primary health clinics, specifically the One (1) Malaysia Clinic in Kota Bharu District, by measuring the SQ gap as a product of differences between patients' expectation and perception. Since One (1) Malaysia Clinic is new, the feedback from clients is necessary for evaluating the quality of the provided services.

MATERIALS AND METHODS

A cross-sectional study was conducted between January until February 2017 in nine One (1) Malaysia Clinic in Kota Bharu District, Kelantan. These clinics are located in six sub-district including Kota Bharu, Kota, Panji, Pengkalan Chepa, Kubang Kerian, and Pendek. The sample size was calculated by using single proportion formula with the proportion of patient satisfaction was 0.37 by John, Yatim (12) and additional 20% for drop rate make it estimated sample size was 430. 57% of average daily patient attendances needed for the number of samples was determined proportionately based on average daily patient attendances that ranged from 50 to 150 patients per day.

Once the number of respondents identified from each of the nine One (1) Malaysia Clinic was determined, a simple random sampling was then applied according to the study criteria. Those who were 18 years of age or older and were willing to give their time to fill the forms were included in the study, while those who needed emergency care were excluded. We also excluded relatives or companions of patients and patients known to have psychiatric problems.

SERVQUAL assessment

This study applied a validated Malay version of the SERVQUAL questionnaire with the Cronbach's alpha reliability for expectations between 0.63 and 0.89 and for perceptions between 0.69 and 0.92 (12). The questionnaire contained 20 matching items to assess patients' expectations (taken before treatment given) and their perceptions (taken after received treatment) on the five SERQVUAL dimensions. The five dimensions are as follows: 1) Tangibles: Related to equipment, physical facilities, and the appearances of personnel; 2) Reliability: the ability to conduct the service accurately; 3) Responsiveness: the willingness to provide prompt service and helping the consumers; 4) Assurance: related to the competence, courtesy, and security; and 5) Empathy: related to individualized attention and caring. The 20 questions were analyzed according to the five SERVQUAL dimension as below:

a) Tangible dimension: Q1, Q2, Q3, and Q17
b) Reliable dimension: Q4, Q5, and Q6
c) Responsiveness dimension: Q7, Q8, and Q9
d) Assurance dimension: Q10, Q11, and Q12
e) Empathy dimension: Q13, Q14, and Q15

The questionnaire applied a Likert scale starting from 1:"strongly disagree" to 5: "strongly agree." The Service Quality (SQ) gap score was obtained through a formula SQ gap = P – E. SQ = overall service quality, P = perception of service, and E = expectation of service. The expectations were exceeded or met if the SQ gap score is 0 and more and it will be considered opposite (less satisfy) if the gap score is negative. As for each dimension, the overall SQ gap was obtained through a calculation from each individual paired item.

Data collection

The respondents were asked to complete the survey while at the clinic after getting their verbal informed consent. The clinic staff was informed and explained the study's objective. All particular related to the subject were kept confidential and anonymized. The respondents were asked to complete a self-administered questionnaire and then collected directly by the researcher.

Ethical approval

The study was ethically approved by by the Human Research Ethical Committee Universiti Sains Malaysia (USM/ JEPeM/17010019) and the Medical Research and Ethics Committee of National Medical Research Registry (NMRR), Ministry of Health, Malaysia (NMRR No 19-2431-33661).

Statistical analysis

All data analysis was carried out using SPSS Statistics

(IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBMCorp). The descriptive statistic comprised of sociodemographic characteristics and tabulation of the score of the patients' expectations and perceptions. A paired t-test was used to determine the significant difference in the mean score between paired expectations and perceptions of SERVQUAL dimensions.

RESULTS

Sociodemographic Characteristics

The response rate for this study was 86% (386/430), an appropriate number to infer the result to the study to the population at risk (13). The Table I showed the sociodemographic characteristics of respondents. There was almost equal distribution of both male and female, their mean age was 37.3years old, and married. Majority of them had formal education. Most of them were from lower- and middle-income families, with an approximate household income of Malaysia Ringgit, MYR 3000 and less (72%).

Table I: Socio-demographic characteristic of the respondents (n= 386)

Variable	n (%)	Mean (SD)
Age		37.3 (13.5)
Less than 60 years old	363 (94.0%)	
60 years old and more	23 (6.0%)	
Gender		
Male	184 (47.7 %)	
Female	202 (52.3 %)	
Race		
Malay	370 (95.9 %)	
Others	16 (4.1%)	
Marital Status		
Married	110 (28.5 %)	
Single	254 (65.8 %)	
Divorce	22 (5.7 %)	
Education Status		
No formal education	5 (1.3 %)	
Primary school	16 (4.1 %)	
Secondary school	241 (62.4 %)	
Diploma / Degree	124 (32.1 %)	
Household income		
RM 3000 and less	280 (72.5%)	
More than RM 3000	106 (27.5%)	
Occupation		
Government	45 (11.7 %)	
Private or Self-employment	189 (49.0 %)	
Unemployed	152 (39.4 %)	

Expectation and Perception Scores and the SQ gap

Table 2 and Table 3 show the expectation and perception scores for the SERVQUAL dimensions. The mean scores of individual expectation items were ranged from the highest of 4.60 + 0.51 for "Staff has patients' best interests at heart" (Q15) to the lowest of 4.39 ± 0.57 for "Staff always appears neat" (Q3). The empathy dimension had the highest expectation score.

The mean scores for individual perception items were ranged from 4.43 ± 0.58 as the highest mean score, for "Staff does its job with high commitment" (Q20), to 4.12 ± 0.69 as the lowest mean score, for "Public toilets are always clean" (Q17). The highest perception score was reported from empathy dimension, while the tangible dimension scored lowest. There was a statistically significant difference between patients' expectations and perceptions in all analyzed items ($p < 0.001$). The SQ gap was observed in specific items, where the largest score belonged to "Public toilets are always clean" (Q17) while the smallest SQ gap was seen in "Waiting time is appropriate" (Q5).

Negative SQ gaps were seen in all five SERVQUAL dimensions. These indicated that patients' expectations generally were not met. The largest SQ gap (-0.25) was obtained from tangible dimension. The smallest SQ gap was observed in the reliability (-0.13) and responsiveness (-0.13) dimensions.

DISCUSSION

In this study, we found that there was a negative SQ gap score for all SERVQUAL dimensions and for all of the individual statements as the expectation scores were higher than the corresponding perception scores indicating the expectation was not met. This suggests that there is more room for improvement in service quality in all SERVQUAL dimensions. The similar finding also found in other studies using a similar instrument (14-17). A negative SQ gap is usually expected because an ideal service is hard to be implemented in the real world (12). In our study, the tangible dimension was the largest negative SQ gap. Although the tangible dimension has the lowest expectation score, it still obtained the lowest perception score, making the SQ gap larger. Thus, it was considered the most critical dimension that needs prioritizing in improvement strategy, which has also been found in similar studies (14, 17-19). However, in Singapore, a study found that the assurance dimension was the most unsatisfied in service quality provision (20). A study conducted in Tanzania revealed that the empathy dimension carried the largest negative SQ gaps (21).

Some of the items under the tangible dimension, such as "Public toilets are always clean" (Q17), "Clinic has up-to-date equipment" (Q1), and "Clinic has visually appealing physical facilities" (Q2), produced a large negative SQ gap in comparison to other items. These indicate that few elements in this dimension need improvement to its physical appearances such as a piece of up-to-date equipment and medication (8). An attractive physical environment is important to sustain the visiting

Table II: The difference of expectation and perception score for individual statement of SERVQUAL

Statement in SERVQUAL	Mean (SD) Expectation	Perception	SQ gap Mean difference	*t-stat	*p value
Q1 Up-to-date equipment	4.52 (0.56)	4.22 (0.64)	-0.30 (-0.37, -0.23)	-8.25	<0.001
Q2 Visually appealing physical facilities	4.40 (0.53)	4.16 (0.65)	-0.24 (-0.31, -0.16)	-6.40	<0.001
Q3 Staff always appear neat	4.39 (0.57)	4.27 (0.58)	-0.12 (-0.19, -0.05)	-3.48	<0.001
Q17 Public toilets are always clean	4.46 (0.57)	4.35 (0.58)	-0.33 (-0.41, -0.26)	-8.83	<0.001
Q4 Staff provides services at the promised time	4.53 (0.55)	4.12 (0.69)	-0.17 (-0.24, -0.10)	-4.99	<0.001
Q5 Waiting time is appropriate	4.43 (0.54)	4.36 (0.58)	-0.07 (-0.14, -0.01)	-2.03	0.043
Q6 Staff render the services right, every time	4.51 (0.54)	4.37 (0.58)	-0.14 (-0.20, -0.08)	-4.49	<0.001
Q7 Staff inform patients exactly when services will be performed	4.41 (0.53)	4.37 (0.58)	-0.05 (-0.11, 0.01)	-1.59	0.112
Q8 Patients can expect prompt service from the staff	4.49 (0.55)	4.36 (0.56)	-0.14 (-0.20, -0.07)	-4.33	<0.001
Q9 Staff always willing to help with sincere interest	4.52 (0.55)	4.33 (0.59)	-0.19 (-0.25, -0.12)	-5.77	<0.001
Q10 Staff give clear information about the illness suffered	4.50 (0.54)	4.39 (0.54)	-0.11 (-0.17, -0.05)	-3.45	<0.001
Q11 Staff are knowledgeable	4.44(0.53)	4.24 (0.59)	-0.21 (-0.27, -0.14)	-6.41	<0.001
Q12 Staff are polite	4.56 (0.52)	4.34 (0.56)	-0.22 (-0.28, -0.16)	-7.17	<0.001
Q13 Staff always understand patients' needs	4.56 (0.52)	4.39 (0.55)	-0.16 (-0.22, -0.10)	-5.38	<0.001
Q14 Staff render patients personal attention	4.52 (0.55)	4.40 (0.56)	-0.12 (-0.19, -0.06)	-3.94	<0.001
Q15 Staff have patients' best interest at heart	4.60 (0.51)	4.43 (0.56)	-0.16 (-0.23, -0.10)	-5.13	<0.001
Q16 Staff provide effective treatment	4.56 (0.54)	4.32 (0.57)	-0.24 (-0.30, -0.17)	-7.40	<0.001
Q18 Staff work as a team in rendering treatment	4.47 (0.54)	4.41 (0.58)	-0.06 (-0.13, 0.08)	-1.84	0.067
Q19 Staff display good work discipline	4.47 (0.54)	4.39 (0.59)	-0.08 (-0.15, -0.01)	-2.21	0.028
Q20 Staff do their job with high commitment	4.52 (0.54)	4.43 (0.58)	-0.01 (-0.15, -0.03)	-2.78	0.006

Note: t-stat for paired t test with statistically significant at p value < 0.05

Table III: The difference between expectation and perception among SERVQUAL dimensions

SERVQUAL Dimensions	Mean (SD) Expectation	Perception	SQ gap Mean difference (95% CI)	*t-stat	*p-value
Tangible	4.44 (0.44)	4.19 (0.53)	-0.25 (-0.30, -0.19)	-9.14	< 0.001
Reliable	4.49 (0.44)	4.36 (0.51)	-0.13 (-0.18, -0.08)	- 4.93	< 0.001
Responsiveness	4.48 (0.46)	4.35 (0.50)	-0.13 (-0.18, -0.07)	- 4.87	< 0.001
Assurance	4.50 (0.46)	4.32 (0.49)	-0.18 (-0.23, -0.13)	-7.11	< 0.001
Empathy	4.56 (0.46)	4.40 (0.51)	-0.15 (-0.20, -0.10)	-5.65	< 0.001

Note: t-stat for paired t test with statistically significant at p value < 0.05

of patients to the clinic. Cleanliness and the appropriate arrangement of the clinic will provide a better quality of care to the patients (17). The tangible dimension under SERVQUAL can be related with the Environment of Care component proposed by the Joint Commission International (JCI); the Environment of Care component can influence the perception and satisfaction levels of a patient (22). Physical environmental elements, such as environmental hygiene, can have a major impact on a patient's satisfaction level, because the physical environment gives visual comfort to the patient (23). The largest gap in the tangible dimension is a wakeup call

for health care providers to improve the tangible aspect of these clinics urgently.

In the current study, the most satisfactory SERVQUAL dimensions were reliability and responsiveness, as both dimensions had the smallest SQ gap. Study done by Mohebifar, Hasani (23) also showed similar finding as the responsiveness dimension had smallest SQ gap. However, these dimensions are not generally the most satisfactory for patients (15, 20). In term of patient expectation, the empathy dimension with two individual items under it (Q15 and Q13) had highest expectation score. This finding contradicting with the finding from John, Yatim (12) where responsiveness got the highest expectation score. From the international study, assurance and responsiveness dimension had the highest expectation score in the study done in Singapore (20). The lowest expectation score in the current study was tangible dimension. Meanwhile, for the perception level, the empathy dimension had the highest score compared to other dimensions. The similar finding also found in the study done by John, Yatim (12) locally and a study by Al Fraihi and Latif (17) internationally. However, study done by Cheng Lim and Tang (20) showed tangible dimension had the highest perception score contradicting with the finding from current study where tangible dimension had the lowest perception level. The difference in findings are because of the different health care setting and sociodemographic of the patients, the latter of which shape expectation levels towards quality of the services.

The empathy dimension rank as third smallest SQ gap score (-0.15) after reliability and responsiveness (-0.13) even though had the highest expectation and perception score in the current study. Empathy dimension is related to respecting the patient's values, beliefs and culture, as well as the perceived level of politeness and pleasantness of the health care staff (24). The patients expected that the health care system would be more patient-centered and focus on their illnesses and problems. In patient-centered primary care, the patient wants the health care provider to understand and respect his or her unique needs, culture, values, and preferences. This desire is explained by Maslow's hierarchy of needs as the patient wanting the health care professional to help them meet their physiological and psychosocial needs (25). Patients want the health care staff to focus on and pay attention to them. This kind of care has been associated with positive outcomes, such as higher patient satisfaction level, improved physician–patient communication and relationships, better recall of information and treatment adherence, and better recovery; it subsequently leads to improved health outcomes (26). Greater compliance and accurate diagnosis will develop when there is a trusting relationship between patient and health provider, this could be explained further when an empathic engagement is formed, the constraints on the relationship will diminish and a happy relationship will be built (27). Besides, the relationship could lead to a higher level of patient satisfaction, greater enablement, and improved health outcomes (28).

There were some limitations to the current study. The results may not be reflected in the entire picture of the primary healthcare services in Malaysia, since Kelantan is one of the states dominated by a Malay population. There is no heterogeneity of the subjects in term of ethnicity. This factor plays significant role, because numerous studies had shown that ethnicity can influence satisfaction levels (14, 24, 29). Furthermore, the SERVQUAL Model also has its own limitations. It only assesses and focuses on the functional aspects of the services provided and does not attend to the technical aspects. Patients who have poor knowledge of the technical aspects of the services might not be able to give appropriate response to the questions asked (15). This might lead to rater bias, which would cause a higher expectation score. The result from this survey just give a partial description of the entire scenario occur in the clinics as the survey was conducted by questioning respondents' expectations and perceptions at one particular point of time. The factors that can influenced the rating given by the respondents such as individuals' moods at the time of the survey, past experiences, mass media, and the presence of the Hawthorne effect or observer effect, leading to measurement biases.

CONCLUSION

All the SERVQUAL dimensions and individual items had negative SQ gaps indicates that the expectations were not met. Thus, the clinics have room for improvement in all quality dimensions. These findings also provide scientific evidence to the health care provider in support of the need to upgrade the tangible aspects of the clinic, particularly by providing up-to-date equipment and facilities. The results can also be used as a baseline assessment of the service quality provided by One (1) Malaysia Clinic. Continuous evaluation are required for the improvement process in order to provide better quality health care services in the future.

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