ORIGINAL ARTICLE

Patient's satisfaction towards healthcare services and its associated factors at the highest patient loads government primary care clinic in Pahang

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ABSTRACT

Introduction: Patient satisfaction is widely used to monitor the quality of health care services. A significant patient load may influence health care services and patient satisfaction. Klinik Kesihatan Bandar Kuantan, Pahang (KKBK) has the highest patient loads in Pahang state, followed by Klinik Kesihatan Beserah and Klinik Kesihatan Kurnia. There are up to 700 attendees at KKBK per day, representing a population of 209679. KKBK had receives several complaints and patient unhappiness with its health care services, despite the administration's efforts to improve the clinics healthcare delivery. Thus, this study aimed to measure patients' satisfaction towards health care services at Pahang's highest patient loads primary care clinic.

Materials and Methods: A cross-sectional study was conducted at Klinik Kesihatan Bandar Kuantan, Kuantan, Pahang. Patients were selected using stratified random sampling, and 201 participants were selected. The selected participants were asked to fill up the self-administered validated questionnaires consisting of background characteristics and Patient Satisfaction Questionnaire 18 (PSQ-18). Data collection period was from March 2022 to August 2022. Descriptive analysis was used to describe the background characteristics of respondents and the score of patient satisfaction. Multiple linear regression was used to determine the factors associated with patient satisfaction while adjusting for cofounders.

Results: A total of 201 eligible data points were analysed in the study. The respondent mean age was 47.1 ± 16.9. Most respondents were Malay (68.7%), having secondary education (54.2%) and predominantly from the B40 income class (88.1%). The overall mean patient satisfaction score was 3.83 ± 0.31. There were significant associations between overall satisfaction with patient education level (B = −0.144; 95% CI −0.246, −0.042; p = 0.006), waiting time (B = −0.371; 95% CI −0.534, −0.209; p = 0.001) and consultation duration (B = −0.154; 95% CI −0.253, −0.055; p = 0.0020). It was found that patients with secondary education were less satisfied compared to patients with primary education level on health care services they received. Meanwhile, those who were not happy with the waiting time and consultation duration showed less satisfaction with overall healthcare services.

Conclusion: Despite serving the most significant number of patients in Pahang state, most of the patient were satisfied by the health care services at Klinik Kesihatan Bandar Kuantan. However, it is recommended to improve the waiting time and the consultation time in this clinic.

KEYWORDS:
Patient satisfaction; primary care; healthcare services

INTRODUCTION

There has been a growing emphasis on patient engagement in treatment decisions in recent decades. The clinician's job is no longer that of an authoritative figure who 'knows what is best for you.' The clinician and patient interaction has evolved into a collaboration and mutual agreement. Putting the patient at the core of care is a good idea of a healthcare metric.[1] The literature has shown that patient satisfaction has been studied as a dependent, independent and outcome variable to evaluate healthcare services. It also predicts patient health-related behaviours, including adherence to treatment and recommendations of healthcare plans.[2] Patients' perceptions of dissatisfaction contribute to underutilisation or over utilisation at a different levels of healthcare facilities and consequently cause congestion and imbalance of health deliveries.[3]

This study defines patient satisfaction as a subjective assessment of healthcare services provided to patients compared to their expectations.[4] Healthcare authorities have switched to a market-driven strategy, using patient satisfaction surveys to improve organizational performance.[5] For example, a patient satisfaction survey conducted in 50 Massachusetts hospitals led to the adoption of several effective improvement programs.[6] National Health Security (NHS) trusts in England must conduct annual patient satisfaction surveys and report the results of their patient satisfaction to their regulators for further improvement and action on healthcare services given.[7] As a result, measuring patient satisfaction is a legitimate indicator for all healthcare companies or authorities to improve their services and strategic goals.[6] The number of general malpractice litigation verdicts has steadily increased in recent years. In 70% of cases, physicians are acquitted in the malpractice litigation process.[8]

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A patient satisfaction survey could be used to identify doctors who are at a higher risk of patient complaints and malpractice claims;[9] as in Patient Satisfaction Questionnaire 18 (PSQ-18), four out of the seven domains studied concern medical personnel-related factors.[10] The lowest satisfaction score was significantly linked to malpractice activity[8], and interestingly, good patient satisfaction scores bring the healthcare worker a better financial outcome.[11]

The number of patient visits at Klinik Kesihatan Bandar Kuantan (KKBK) was seven times that of the average number of patient visits at other public clinics in Pahang state, which was 111.5 attendees per day,[12,13]. Higher patient loads may result in dissatisfaction with the healthcare services provided. This may be caused by lengthy waiting time and lack of clinician dedication owing to burnout and poor service quality. Patient dissatisfaction will disrupt healthcare delivery systems and reduce treatment adherence.[2] Therefore, this study aims to determine the level of patient satisfaction towards healthcare services provided at Pahang's busiest primary care clinic, with the results could be utilised to identify areas of healthcare that require improvement.

MATERIALS AND METHODS

Study Design and Population

A cross-sectional study was conducted among patients attending Klinik Kesihatan Bandar Kuantan (KKBK), Pahang. The study was conducted over six months, from March 2022 to August 2022. KKBK is a type 3 clinic at Jalan Bukit Sekilau, established in 2013. It covers 209,679 patients; the area of operation is 241 square kilometers. The operational area includes the entire Kuantan City centre, park areas and suburbs, making it the busiest clinic with the highest patient load.

The inclusion criteria were patients 18 years old and above attending KKBK, including first-time (after finished consultation) and follow-up visits. The exclusion criteria were patients with mental health disorder that affect their cognitive function (e.g., schizophrenia and dementia patient), patients attending a maternal and child health clinic as well as those receiving other specialised care (the methadone clinic, the tuberculosis clinic, the emergency ambulance call, domicilliary services). Iliterate patients those who are unable to read or write are not included in the studies.

Stratified random sampling was used in this study. The study population was divided into two strata: the outpatient department and the non-communicable disease department, given only two departments are available in Klinik Kesihatan Bandar Kuantan (KKBK). Each stratum is mutually exclusive, but together they contain the entire population. Stratified random sampling was used to sample from within each stratum.

The single mean formula was used to compute the sample size using the mean from a previous study conducted in primary healthcare which was 68.52 (8.54).[14] The 95% confidence interval with a precision of 1.4 was used. To ensure optimum sample size, a few adjustments were considered as follows:

$$N = \frac{(z\frac{\alpha}{2})2\ \sigma 2}{d2}$$

$N = (1.96)^2 * (8.54)^2 / 1.4^2$
N= 143
Non-response rate = 30% [15]
Non respond calculated by N adjusted = 143 / (1-0.3) = 205; thus, the total estimated sample is 205 respondents.

Study Tools

This study used a questionnaire comprised of two sections. Section A is the sociodemographic data of the respondents. The patient's sociodemographic information, including the respondent's age, gender, race, religion, place of residence, education, income, employment status and marital status, were all gathered through section A. Section B consists of a set of questionnaire to assess patient satisfaction using validated Patient Satisfaction Questionnaire 18 (PSQ-18). This section examines patient satisfaction towards healthcare services utilizing the Marshall and Hays Short-Form Patient Satisfaction Questionnaire (PSQ-18).[10] The questionnaire had been validated among the Malaysian population.[16–18] It is available in English and Malay and consists of 18 questions over seven domains (General satisfaction, technical quality, interpersonal, communication, financial, time spent with the doctor and accessibility and convenience); each rated on a five-point likert scale from one to five (strongly disagree to strongly agree).

The Cronbach's alpha for the questionniare was 0.63–0.79 for the translated questionnaire.[16] Participants were asked to indicate their feelings about the medical care they receive on the Likert scale. According to the PSQ-18 scoring method (Table I), PSQ-18 yields for each of the seven different subscales; general satisfaction (2 items), interpersonal manner (2 items), technical quality (4 items), communication (2 items), financial aspects (2 items), time spent with the doctor (2 items), accessibility and convenience (4 items).

The level of patient satisfaction with each of the seven subscales of healthcare was presented as a score. The sum of all subscales scores may vary from 18 to 90 points, with 18 points being the lowest possible evaluation and 90 points representing the highest possible score[19] and five as the maximum possible mean[20] (Table I). As can be seen in Table I, the score could be presented in three different ways. In the Results section, we presented the score in all three formats for the purpose of comparison with the findings from other studies.

Patients were given a subject information sheet, and those who consented and met the inclusion criteria were recruited into the study. Respondents were identified via stratified random sampling by their queue number system (QMS) at the registration counter. After they understood the patient information sheet and consented, the selected patient was given a unique research ID (subjects will be allowed sufficient time to consider their participation in the study). After consultation with the treating doctor, the patient was directed to a dedicated consultation room with the researcher where a self -administered questionnaire was provided

Table I: Seven domains of patient satisfaction with their calculations and PSQ-18 scoring system

PSQ-18 domain	No. of items	Maximum possible score	Maximum possible mean (Maximum possible score/No. of items)	Level of satisfaction in percentage (Possible score/Maximum Possible score) X 100
General Satisfaction (Items 3+17) (A)	2	10	10/2 items = 5	(A/10) X 100
Technical Quality (Items 2+4+6+14) (B)	4	20	20/4 items = 5	(B/20) X 100
Communication (Items 10+11) (C)	2	10	10/2 items = 5	(C/10) X 100
Interpersonal Manner (Items 1+13) (D)	2	10	10/2 items = 5	(D/10) X 100
Financial Aspects (Items 5+7) (E)	2	10	10/2 items = 5	(E/10) X 100
Time Spent with Doctor (Items 12+15) (F)	2	10	10/2 items = 5	(F/10) X 100
Accessibility and Convenience (Items 8+9+16+18) (G)	4	20	20/4 items = 5	(G/20) X100
Overall satisfaction (Cumulative of all items) (H)	18	90	90/18 items = 5	(H/90) X100

Table II: Background characteristics

Variables		N	%
Age (years)			47.1±16.9*
Gender	Male	121	60.2
	Female	80	39.8
Ethnic	Malay	138	68.7
	Chinese	40	19.9
	Indian	21	10.4
	Others	2	1.0
Religion	Muslim	138	68.7
	Buddha	29	14.4
	Hindu	25	12.4
	Christian	9	4.5
Residential	Urban	175	87.1
	Rural	26	12.9
Marital Status	Married	145	72.1
	Single	47	23.4
	Separated	9	4.5
Education	Primary or lower	43	21.4
	Secondary	109	54.2
	Tertiary	49	24.4
Working Status	Working	120	59.7
	Not Working	62	30.8
	Student	7	3.5
	Pensioner	12	6.0
Income Class			
≥10,960	T20	5	2.5
≥4,850-10,959	M40	19	9.5
< 4,850	B40	177	88.0
Health Insurance	Guarantee letter (GL)	29	14.4
	Non-GL	172	85.6
Self-Perception			
Are you happy with the waiting time?	Yes	160	79.6
	No	41	20.4
Are you happy with the consultation time?	Yes	188	93.5
	No	13	6.5
Department	Outpatient department (OPD)	133	66.2
	Non-communicable disease department (NCD)	68	33.8

*mean ± standard deviation

Data Analysis

The data were analysed using IBM SPSS Statistic version 28.0. Categorical variables were recorded as frequencies and percentages, and numerical variables were recorded as means and standard deviation (SD). The overall patient satisfaction was reported in three components (mean, mean score and percentage) thus the overall patient satisfaction result comparable with others studies. Descriptive analysis was used to describe the background characteristic of respondents and the score of patient satisfaction. The relation between sociodemographic and patient satisfaction was analysed using an independent sample t-test and ANOVA test; both tests were needed as preliminary analysis before we proceeded with multi-linear regression analysis. 95% confidence interval and p-value <0.05 were considered statistically significance. Multiple linear regression was used to determine the factors associated with patient satisfaction while adjusting for cofounders.

Table III: Patient satisfaction level derived from satisfaction items

PSQ-18 Domain	No. of Items	Minimum -Maximum Score	Mean Score ± SD	Minimum -Maximum Mean	Mean ± SD	Satisfaction in Percentage	95% CI
General Satisfaction (Items 3 + 17)	2	4.00-10.00	7.66 ± 1.25	2.72-4.56	3.83 ± 0.31	76.61	74.9,78.4
Technical Quality (Items 2 + 4 + 6 +14)	4	10.00-19.00	15.17 ± 1.72	2.50-4.75	3.79 ± 0.43	75.87	74.7,77.1
Communication (Items 10 + 11)	2	3.00-10.00	7.88 ± 1.13	1.50-5.00	3.94 ± 0.56	78.76	77.2,80.3
Interpersonal Manner (Items 1 + 13)	2	3.00-10.00	7.99 ± 1.17	1.50-5.00	4.00 ± 0.59	79.90	78.3,81.5
Financial Aspects (Items 5 + 7)	2	6.00-10.00	8.05 ± 0.90	3.00-5.00	4.03 ± 0.45	80.55	79.3,81.8
Time Spent with Doctor (Items 12 + 15)	2	3.00-9.00	7.62 ± 1.16	1.50-4.50	3.81 ± 0.58	76.22	74.6,77.5
Accessibility and Convenience (Items 8 + 9 + 16 + 18)	4	8.00-18.00	14.55 ± 1.70	2.00-4.50	3.63 ± 0.42	72.74	71.6,73.9
Overall Satisfaction Score (Cummulative of all items)	18	49.00-82.00	68.93 ± 5.57	2.72-4.56	3.83 ± 0.31	76.59	75.7,77.5

Table IV: Association between background characteristics with mean overall patient satisfaction

Variables		Overall satisfaction (Mean)		
		Mean ± SD	Test	p value
Mean Age (Years)		47.1 ±16.9	0.036****	0.607
Gender	Male	3.85±0.31	1.035*	0.302
	Female	3.80±0.31		
Ethnic	Malay	3.83±0.35	0.659**	0.578
	Chinese	3.81±0.23		
	Indian	3.86±0.25		
	Others	4.11±0.31		
Religion	Muslim	3.82±0.35	0.464**	0.708
	Hindu	3.89±0.15		
	Christian	3.86±0.14		
	Buddha	3.80±0.26		
Residential	Rural	3.70±0.42	1.791*	0.084
	Urban	3.85±0.28		
Marital Status	Single	3.83±0.30	0.802**	0.922
	Married	3.83±0.31		
	Separated	3.79±0.41		
Education Level	Primary or lower	3.93±0.20	3.907**	0.022***
	Secondary	3.78±0.36		
	Tertiary	3.86±0.25		
Working Status	Working	3.84±0.31	1.491**	0.218
	Not working	3.80±0.30		
	Student	3.63±0.40		
	Pensioner	3.91±0.27		
Income Class (RM)				
≥10,960	T20	3.64±0.33	2.592**	0.077
≥4,850-10,959	M40	3.95±0.31		
< 4,850	B40	3.82±0.33		
Health insurance	Guarantee letter (GL)	3.82±0.30	0.138*	0.891
	Non-GL	3.83±0.31		
Are you happy with the waiting time?	Yes	3.86±0.31	2.975*	0.003***
	No	3.70±0.29		
Are you happy with the consultation time?	Yes	3.85±0.28	3.253*	0.006 ***
	No	3.45±0.44		
Department	Outpatient department (OPD)	3.84±0.30	0.398*	0.691
	Non-communicable disease department (NCD)	3.82±0.33		

p<0.05 considered as significant, **F (One-Way Anova), *t (Independent T test) , Pearson correlation*

RESULTS

Background Characteristics

The overall response rate of the study was 98 % (n = 201). Table II shows the background characteristics of the respondents. The respondent's mean age was 47.1 (16.9). Most respondents were male (60.2%), Malay (68.7%) and married (72.1%)—more than half (54.2%) were from secondary education level. The majority came from an income level of B40 (88.1%), with no guaranteed letter (85.6%) and working (59.7%). Most of the patients reported that they were happy with the waiting time (79.6%) and the time spent with the doctor (93.5%) (Table II).

Patient Satisfaction Level Based on PSQ-18 Domain

Based on Table III, the overall satisfaction means found in this study was 3.83 ± 0.31. The highest mean was from the

Table V: Factors associated with mean overall patient satisfaction

Variables	Overall satisfaction (mean) Multiple linear regression[a]			
	Adj.B[b]	95% CI	t-stat	*p* value
Education Level [secondary (reference)]				
Primary or lower	0.144	0.042,0.246	2.787	0.006*
Tertiary	0.051	–0.47, 0.148	1.026	0.306
Are you happy with the consultation time? [yes (reference)/no]	–0.154	–0.253, –0.055	–3.068	0.002*
Are you happy with the waiting time? [yes (reference)/no]	–0.371	–0.534, –0.209	–4.504	0.001*

[a]r2 = 0.172. The model fits reasonably well. Model assumptions are met. There is no multicollinearity problem.
[b] Adjusted regression coefficient, *p < 0.05 considered as significant.

financial aspect (4.03 ± 0.45) with the lowest mean observed in accessibility and convenient (3.63 ± 0.42). Table III shows this study's overall satisfaction mean score was 68.93 ± 5.57. The overall satisfaction percentage found in this study was 76.59%. The highest mean was on the financial aspect (80.55%), with the lowest percentage of satisfaction on healthcare services observed in accessibility and convenient aspect (72.74%).

Association Between Background Characteristic with Mean Overall Patient Satisfaction

A significant association was found between overall satisfaction with education level (p = 0.022), waiting time (p = 0.003) and consultation duration (p = 0.006) (Table IV).

After adjusting for confounder using multiple linear regression analysis, it was found that patients with primary education were more satisfied than those with secondary education levels on the healthcare services they received. Meanwhile, those who were not happy with the waiting and consultation duration showed less satisfaction with overall healthcare services (Table V).

DISCUSSION

Level of Patient Satisfaction

Our study found a positive overall patient satisfaction mean result of 3.83 ± 0.31. The overall satisfaction mean score found in this study was 68.93 ± 5.57, and the overall patient satisfaction with healthcare services in percentage was 76.59 %. We shared almost identical mean scores with the study conducted at University Malaya Medical Centre (UMMC) primary care, which had total patient satisfaction mean score of 67.18 ± 6.67.[18] KKBK and UMMC primary care clinics have high patient loads, are located in busy cities and have much longer appointment intervals.

Meanwhile, another study in International Islamic University Malaysia (IIUM) family health clinic had a lower patient load and thus showed better overall patient satisfaction mean score of 70.75 ± 10.56. The treating physician experience also contributes to patients' satisfaction with healthcare services received.[18] The treating physician at IIUM family health clinic was a registrar and family medicine specialist, which led to better communication and interpersonal skills[17] unlike in KKBK, as most of the treating physicians were medical officers and not in specialist training that may affect patient satisfaction on the healthcare services they received.

Several other local studies reported a proportion of satisfied patients ranging from 78.8% to 93.1%[21–23] and lower satisfied patient rates ranging from 19.4% to 30.7%.[24,25] The difference might be due to different instruments in measuring patient satisfaction. A local study with very high level of patient satisfaction (93.1%) hypothesised that high patient satisfaction was related to the 'generosity factor' of patients who provided high scores on questionnaires. This phenomena contributes to the worry of compromising future treatment if a person's honest personal opinion, which could be interpreted negatively by healthcare service provider.[21]

Our study finding was comparable with our neighbouring countries' primary care, such as Indonesia, with overall satisfaction mean score of 68.52 ± 8.54[14] and better than other parts of the world, such as Lithuania Europe, with their overall satisfaction mean score in primary care clinics of 59.9 ± 14.6.[19] Our study had higher overall patient satisfaction on healthcare services (76.59%) compared to Egypt, 55.9%[26] and a higher overall satisfaction mean of 3.83±0.31 compared to India, 2.97 ± 0.37. Dissatisfaction in the primary care clinic was due to long waiting, healthcare facilities, doctors' behaviour and nonavailability of medicines.[14,27] Different countries had different health policies, the standard of care and advancements in facility and service availability, perhaps making patient satisfaction more complex and variable.

Looking at different settings, the busiest medical outpatient department in a tertiary centre in Hospital Tengku Ampuan Rahimah (HTAR), Klang, it was found that the total mean satisfaction score was much lower, 59.2±6.5 compared to our result of 68.93 ± 5.57. Even in different settings, the findings showed that busy clinics affect patient satisfaction.[16] The finding of our study is in concordance with other studies, which showed that primary care showed better patient satisfaction than tertiary settings.[28] This may be contributed by patient-centredness practice at the primary care level compared to a more disease-focused tertiary centre setting.[17]

Even though the majority (88.1%) of our respondents were from the B40 group and did not have insurance coverage (85.6%), the financial aspect had the highest mean score of overall patient satisfaction level at KKBK, 8.05 ± 0.90. This is most likely due to the Malaysian healthcare system in which the government highly subsidised healthcare systems.[29] Sinuraya et al. reported lower score in the financial aspect, 7.56 ±1.63. The financial aspect became a problem for patients in Indonesia as their national health coverage did

not cover medical examinations, and patients needed to spend money to get medical services.[14] Lower satisfaction on the financial aspect was found in both local studies at UMMC primary care with a mean score of 7.53 ± 1.34, and IIUM family health clinic mean score of 7.86 ± 1.69 as both clinics are paying clinic and only partially subsidised by the Malaysian government and thus, the patient was expecting more on the treatment and outcome.[17,18]

In terms of accessibility and convenience, we had the lowest percentage, 72.74%, among all other domains in PSQ-18. During the time of data collection, most patients felt uneasy as they needed to set an appointment prior to seeing the doctor due to the COVID-19 pandemic, not as before in which they can just walk in to get the health services. High patient loads make the patient wait longer for an appointment. Regardless of the pandemic and high patient load, KKBK still has a better score on accessibility and convenient compare to UMMC primary care, which scores only 66.40%. The possible reason for this finding is that KKBK is located within the community and, therefore, close to the patient's residence and making it easy to reach compared to UMMC primary care locality, which is located at a robust business centre, despite the patient having difficulty of setting for an appointment at KKBK, the patient felt KKBK is easy to reach.

Association Between Background Characteristics with Level of Patient Satisfactions

A significant association was found between overall satisfaction mean with education level (p = 0.022). It was found that patients with primary education were more satisfied compared to patients with secondary education level on healthcare services they received. Our study finding was in concordance with Ganesegaran et al. as it was discovered that overall contentment is highly related to a patient's education level, with patients with higher education reporting lower satisfaction mean scores than those with less education.[16] The patients with a higher level of education were less satisfied since they have higher education, higher income and social status.[30] There was a trend for less educated patients to receive fewer preventive services but had higher time for a physical examination with limited time to attend to patient questions, counselling and negotiation. Less educated patients were less likely to report their expectations during medical visits.[31]

Patient considers patient centeredness (shared decision-making, receiving intelligible explanations and the ability to ask questions) to be essential to their care; nevertheless, less educated patients believed they received too much patient centeredness in comparison to more educated patients. Less educated patients rated these characteristics of patient-centred care as less important than more educated patients (ORs ranged from 0.53 to 0.84 for low vs. high education; ORs ranged from 0.83 to 0.95 for medium vs. high education) as they feel less confident on their health literacy and more likely to be passive recepient of care. However, it is recommended that clinicians should place a greater emphasis on patient-centered regardless of their patient's education level.[32]

Those who were not happy with the consultation duration scored lower mean of overall patient satisfaction (p = 0.006). Patient satisfaction depends on how long the patient perceives the consultation to have lasted. Their expectation of the consultation length and positively experienced consultation often overestimate the time spent with the physician. Thus, the perceived consultation time is vital in determining patient satisfaction.[33] Anderson et al. found that time spent with the physician was the strongest predictor of patient satisfaction. The decrement in satisfaction is substantially reduced with the increase in time spent with the physician[34] however, the actual length of consultation was not responsible for improving patient satisfaction, but rather psychosocial needs and expectation exploration was much more critical.[35]

Due to restricted consultation time, clinicians in a busy clinic may struggle to identify their patients' agenda; therefore, it is vital to ensure that quality consultation time is spent by managing patient expectations and psychological needs. Web-based, electronic medical records with an integrated patient agenda tool that defines the patient's agenda prior to clinic visits may improve the patient's consultation experience at KKBK. Being able to view a patient's agenda prior to an appointment on the electronic medical record and in such a convenient manner will allow doctors to assimilate more patient needs prior to a physical consultation, facilitate communication and assist in identifying the patient's problems more effectively.[36]

Our study also found a significant association between overall satisfaction mean and waiting time (p = 0.003). Those who were not happy with waiting time scored lower on the mean overall satisfaction than those who were happy with the waiting time. Lee et al. found that waiting time has consistently been a significant predictor of patient dissatisfaction,[36] and positive communication could alleviate the harmful effects of long waiting times. Long waiting times remain one of the strongest predictors of patient dissatisfaction[37] and Xie et al.[38] found that patients who experienced longer waiting times considered their healthcare service less accessible and less convenient.

Waiting time can be improved by proper triaging and improving on patient flow process. This can be achieved by implementing efficient data management and integrating technology in patient care. Study showed patient satisfaction was higher with Electronic Medical Record (EMR) than paper-based clinic.[39] Since KKBK is paper-based primary care clinic, it is recommended for KKBK to shift toward EMR clinic. EMR systems allow faster patient information access and proper patient care coordination and thus, longer patient consultation time. Utilizing technology in appointment systems may reduce appointment overbooking and identifying the loops in arranging patient care. COVID-19 pandemic had given a massive paradigm on healthcare systems delivery as virtual telehealth can be used to manage chronic stable non communicable disease patient. Stable patient can be seen virtually, thus avoid congestion and reducing waiting time in KKBK. KKBK should thereby focus more on uncontrolled non communicable disease patients as such can be priorities and seen physically in clinic. Studies

showed patients and healthcare providers reported high level of satisfaction with telemedicine. Both patient and healthcare provider reported a desire to continue telemedicine post COVID-19 pandemic; however, preferred virtual consultation rather than telephone consultation.[40]

Strength and Limitations

This study's strength was that it included the highest clinics patient loads in the Kuantan district. This could indicate that the outcome was sufficiently reliable to represent most of the patient satisfaction at the government primary care clinic in Kuantan. However, because the study sample was limited to Kuantan, the results may not be applicable to other states and countries. Other confounding variables such as patient factors (treatment duration, number of visits and treatment history) and other services (physical facilities, supporting staff services, registration and information system) were not included in this study and may have influenced the results.

CONCLUSION

In conclusion, most respondents who attended KKBK were satisfied with the quality of healthcare services they received despite that KKBK had the highest patient loads in Pahang state. Patient education, waiting time, consultation duration contribute to overal patient satisfaction. In the future, a cohort study should be conducted so that the temporal relationship and association between patient satisfaction and healthcare services can be determined with precision. Future research must be conducted by measuring the waiting time and consultation time objectively as soon as KKBK adopts electronic medical records in order to validate our findings on waiting time and consultation time, which are based solely on self perception. Integrating electronic medical record will make KKBK healthcare system more efficient and reduce on waiting time. Waiting time and consultation duration can be further improved by implementing extended office hours, thus improving accessibility and, as a result, reducing waiting time and lengthen consultations duration. Implementing staggered appointments and the need of online booking for walk in cases may avoid congestion during clinic hours. After-hours access via alternative means, such as telephone, email, telemedicine consultation to cater patients needs during odds hours may enhance patient satisfaction. It is hoped that the outcome of this study will aid the KKBK authorities in improving their quality of services in the future.

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