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ORIGINAL ARTICLE

Payment Methods and Patient Satisfaction among Type-2 Diabetes Patient at a Teaching Hospital in Malaysia

ESSAM AA[1,4], ANIZA I[1], MOHD RIZAL AM[1], LENY SUZANA S[2], NORLAILA M[3], NORLELA S[3], AHMED ABDELMAJED A[1,5], SYED MOHAMED A[6]

[1]Departments of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia
[2]Department of Public Health and Population Medicine, Faculty of Medicine, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia
[3]Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia
[4]Ministry of Public Health and Population, Yemen.
[5]The Palestinian Ministry of Health, Palestine.
[6]Department of Health Policy and Management, Faculty of Public Health, Kuwait University, Kuwait.

ABSTRAK

Diabetes melitus ialah penyakit kronik dengan kos tinggi yang dikaitkan dengan ubat-ubatan, perundingan pakar dan ujian makmal. Kaedah utama pembiayaan untuk rawatan penyakit ini ialah biaya sendiri (OOP) dan subsidi kerajaan di beberapa negara, atau skim insurans kesihatan awam/swasta, atau gabungan antaranya. Kepuasan pesakit sangat penting dalam memastikan penggunaan perkhidmatan kesihatan serta kepatuhan penjagaan dan rawatan yang berterusan. Dalam kajian ini, kami mengenal pasti kepuasan pesakit diabetes melitus jenis 2 (T2DM) berkenaan perkhidmatan penjagaan kesihatan dan kaedah pembayaran di hospital pengajar Universiti Kebangsaan Malaysia (UKM). Kajian ini melibatkan 313 pesakit T2DM berusia ≥18 tahun yang terlibat selepas rundingan klinikal dijalankan. Kami menggunakan kaedah persampelan mudah di pusat rawatan pesakit luar dan pesakit di dalam Hospital Canselor Tuanku Muhriz dan Pusat Pakar UKM. Satu tinjauan yang terdiri daripada sosiodemografi, sosioekonomi dan jenis kaedah pembayaran serta skala soal selidik kepuasan pesakit yang sah telah digunakan. Purata umur pesakit ialah 59.6 tahun (SD=13.151), 53.0% pesakit

Address for correspondence and reprint requests: Aniza Ismail. Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia . Tel: +603-91458791 Email: aniza@ppukm.ukm.edu.my

ialah wanita, 78.3% Melayu, 76.4% tidak diinsuranskan, 39.6% dilindungi oleh subsidi kerajaan sementara 36.7% OOP. Secara umumnya, 86% pesakit berpuas hati dengan keseluruhan perkhidmatan. Pesakit paling berpuas hati dengan kualiti teknikal (84%), kemahiran komunikasi (83%) dan kebolehcapaian (80%), namun kepuasan lebih rendah dalam aspek perkhidmatan oleh doktor, terutama kaedah interpersonal (73%), aspek kewangan (73%) dan masa yang dihabiskan bersama doktor (70%). Lebih 86% pesakit berpuas hati dengan perkhidmatan kesihatan dan kaedah pembayaran; namun, pesakit OOP merekodkan kepuasan yang rendah. Insurans penuh dan faedah tambahan untuk separuh perlindungan kepada pesakit dalam dan luar dengan pembayaran bersama yang lebih rendah disyorkan untuk meningkatkan kepuasan mereka.

Kata kunci: insuran, kaedah pembayaran, kepuasan pesakit, Malaysia

ABSTRACT

Diabetes mellitus is a costly chronic disease related to medication, physician consultation and laboratory investigation. The main means of financing healthcare include direct out-of-pocket (OOP) payment and government subsidisation in some countries, or public/private health insurance schemes, or a mix of all. Patient satisfaction is critical in ensuring the use of healthcare services, continuity of care and treatment adherence. In this study, we determined the satisfaction of type 2 diabetes mellitus (T2DM) patients regarding the healthcare services and payment methods at Universiti Kebangsaan Malaysia (UKM) Teaching Hospital, Malaysia. This cross-sectional study involved 313 T2DM patients aged ≥18 years who were included after clinical consultations. We used convenience sampling at the outpatient and inpatient medical centres of Hospital Canselor Tuanku Muhriz and UKM Specialist Centre. A survey consisting of sociodemographic, socioeconomic and payment method types as well as a validated patient satisfaction questionnaire scale were used. The mean age was 59.6 years (SD=13.151), 53.0% of the patients were female, 78.3% were Malay, 76.4% were uninsured, 39.6% were covered by government subsidies, while 36.7% paid OOP. Around 86% were generally satisfied with the overall services. Patients were most satisfied with technical quality (84%), communication skills (83%) and accessibility (80%), but satisfaction was lower in doctors' service orientation, particularly the interpersonal manner (73%), financial aspect (73%) and time spent with the doctor (70%). Over 86% of patients were satisfied with healthcare services and payment methods; however, patients who paid OOP reported low satisfaction. Full insurance and extending benefits to partially cover both inpatients and outpatients with low co-payment is recommended to increase satisfaction.

Keyword: insurance, Malaysia, patient satisfaction, payment method

INTRODUCTION

Diabetes mellitus is a costly chronic disease to manage because of higher rates of complications (Afroz et al. 2018; Salman et al. 2019). More than 16% of global health spending in the middle-income countries is expected to be attributed to diabetes in 2040 (Ogurtsova et al. 2017). The diabetes disease management literature has identified several cost-related issues, including the cost of medication, physician consultations and laboratory investigations (Ibrahim et al. 2010; Ibrahim et al 2014; Yasmin et al. 2020). Additionally, type 2 diabetes mellitus (T2DM) leads to decreased individual productivity and income through early retirement; T2DM increases the financial burden on both the patient and government through the loss of labour productivity and increased expenditure on disease-related healthcare (Ismail et al. 2017; Mahmood et al. 2016; Schofield et al. 2014).

According to Yorulmaz and Mohamed (2019), the main means of financing health services in Asia, including Malaysia, is out-of-pocket (OOP) payments. About 150 million people worldwide are projected to face financial catastrophe, with around 100 million plunged into poverty each year as a result of direct OOP healthcare payments (Etienne et al. 2010). Kanmiki et al. (2019) reported that the national health insurance scheme reduces OOP payments for primary healthcare in public health facilities in Ghana.

Patient satisfaction is described as the subjective assessment of healthcare services received in comparison to the client's expectations (Nabbuye-Sekandi et al. 2011). General satisfaction, technological efficiency, interpersonal aspects, communication, financial aspects, time spent with physicians and the ease of contact or availability are the seven domains that can be primarily used for assessing patient satisfaction (Silva 2010). Patient satisfaction leads to increased demand for medical advice and treatment, service utilisation and enhancement of the relationship between physicians and patients (Ganasegeran & Al-Dubai 2014). Further, patient satisfaction plays a crucial role in ensuring the utilisation of healthcare services, continuity of care for chronic disease, and compliance related to T2DM treatment (Tohid et al. 2012).

Within the context of Malaysia, the public health system is mainly financed by the federal government's general income and taxes, whereas the private sector is funded via private health insurance and OOP consumer payments (Safurah et al. 2013). In Malaysia, the health system is 75% public sector and heavily subsidised; residents are entitled to healthcare services and good financial risk protection against ill health (Yorulmaz & Mohamed 2019). In 2019, the prevalence of diabetes mellitus was 18.5%, as reported by the National Health and Morbidity Survey (NHMS) (Institute for Public Health/ Ministry of Health Malaysia 2019). The public healthcare sector in Malaysia is affected by the influx of patient admissions, the spreading of excess demand in the uneven population health sector and

the perception of low-quality service (Ministry of Health 2012).

Long waiting times, the aggressive pursuit of financial gains, the general low attitude of physicians toward professionalism and the lack of empathy for the patient has caused considerable dissatisfaction in patients against public healthcare service providers (Al-Dubai et al. 2013; Andaleeb et al. 2007). The present study focused on tertiary health care at a teaching hospital in Kuala Lumpur by measuring the satisfaction among T2DM patients in the public and private facilities of Hospital Canselor Tuanku Muhriz (HCTM), Universiti Kebangsaan Malaysia (UKM) and UKM Specialist Centre (UKMSC), respectively. The present study was aimed at evaluating the factors affecting patient satisfaction and at identifying its association with the payment methods among T2DM patients seeking care at a teaching hospital in Malaysia. Many studies have found that interpersonal relationships have a greater impact on general patient satisfaction than other influencing factors such as system-related factors (Tohid et al. 2012).

Here, we evaluated the payment method type and the level of patient satisfaction regarding access to healthcare facilities with healthcare services provided among T2DM patients at HCTM and UKMSC. We assessed patient satisfaction in terms of general satisfaction, technical quality, interpersonal manner, communication skills, financial aspect, time spent and accessibility and convenience.

MATERIALS AND METHODS

Design, Setting and Participants

This cross-sectional study was conducted between October 2019 up to March 2020 at the outpatient medical care and inpatient medical ward, involving T2DM patients treated at a public centre (HCTM) and private centre (UKMSC) at the UKM teaching hospital. The sample size of the current study was calculated by using Pocock's formula (Pocock 2013). The study involved 400 adult T2DM patients, aged ≥18 years, able to communicate in Malay or English language, agreed to sign the consent form to participate in the study, attended the outpatient clinics, or were admitted at the inpatient department during the study period. The study excluded T2DM patients aged <18 years, not able to communicate in Malay or English language, refused to participate in the study. Assisted by nurses, trained data collectors conducted meetings using a convenience sampling with T2DM patients who had completed their clinical consultations and treatment.

Study Instruments

A self-administered questionnaire consisting of three parts was used in this study. The first part included items on sociodemographic factors. The second part involved the patients' socioeconomic and health payment methods (OOP, government-subsidised, partial insurance, full insurance). In the third part, to explore patient satisfaction regarding

healthcare services, we used a validated patient satisfaction questionnaire PSQ III (Marshall & Hays 1994). This questionnaire is a widely used self-reported tool for assessing satisfaction regarding health care services in various clinical settings, including primary healthcare clinics and hospital-based outpatient departments. It comprises seven dimensions that measure general satisfaction, technical quality, interpersonal manner, doctor–patient communication, financial aspects of care, time spent with a doctor and accessibility and convenience. These items are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A higher score indicates higher levels of satisfaction with medical care. Mean score was calculated for each domain by summation of the Likert scale values within this domain then multiplying it by 20 to obtain the mean score value as percentage out of 100%.

Variables and Definitions

The dependent variable of the current study was the T2DM patient's satisfaction. Whereas independent variables were payment methods for healthcare in Malaysia. Insured are divided into two categories that consist of fully insured and partial insured. On the other hand, the uninsured are divided into two categories that consists of government-subsidised and OOP. The full insured patients are those having insurance covering all medical expenses through private health insurance companies, while partial insured are those have partial covering of the medical expenses and pay a shared percent out of the total bill. Uninsured patients are those patients with no medical insurance covering for medical expenses but either get covering of medical expenses through government-subsidised or pay directly from OOP.

Other independent factors that affect patient satisfaction for T2DM patients were divided into three categories, i.e. (i) patient-related factors (e.g. age, gender, race); (ii) factors like the technical quality skills, time spent per visit of doctors, communication skills with staff, and interpersonal relation with doctors; (iii) factors that were related to the health care system (e.g. accessibility and convenience, financial aspects and general satisfaction like facility appointments, and staff, referral procedure and continuity of care) (Aniza & Suhaila 2011; Tohid et al. 2012). These variables are frequently used to evaluate patient satisfaction.

Statistical Analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS, version 25) (IBM Corp., Armonk, NY, USA). All variables underwent descriptive analysis. The internal consistency of the PSQ scale among the patients was tested using Cronbach's alpha. The mean and standard deviations of the patient satisfaction scores were used. The total patient satisfaction score across sociodemographic and health insurance status was compared using the t-test and analysis of variance

Table 1: Characteristics of respondents (n = 313)

Variable	Category	Frequency (%)
Age, mean ± SD		59.59 ± 13.151
Age groups	18-49 years	73 (23.3)
	≥50 years	240 (76.7)
Sex	Male	147(47.0)
	Female	166 (53.0)
Race	Malay	201 (64.2)
	Chinese	53 (16.9)
	Indian	59 (18.8)
Education level	Low	201 (64.2)
	High	112 (35.8)
Marital status	Married	279 (89.1)
	Unmarried	34 (10.9)
Job status	Employed	106 (33.9)
	Unemployed	207 (66.1)
Occupation type	Government	39 (12.5)
	Private	67 (21.4)
	Unemployed	101 (32.2)
	Pensioner	106 (33.9)
Insurance status	Insured	74 (23.6)
	Uninsured	239 (76.4)
Payment method type	Fully insured	39 (12.5)
	Partially insured	35 (11.2)
	Government-subsidised	124 (39.6)
	OOP	115 (36.7)
Study site	HCTM	233 (74.4)
	UKMSC	80 (25.6)
Category of patient	Outpatient	166 (53.0)
	Inpatient	147 (47.0)

(ANOVA). If the ANOVA results were statistically significant, the significant difference among the payment method categories was determined using the post hoc Tukey test.

Declaration of Ethics

The protocol was endorsed by the UKM Research Ethics Committee (Ethics Committee/IRB Ref No.: UKM PPI/11/8/JEP-2019-186). The information sheet containing the objectives and benefits of the study was explained to the patients and attached to the questionnaire. The participants were guaranteed confidentiality and their outcomes for medical treatment were not affected. Written consent was obtained from the patients who agreed to participate in this study.

RESULTS

Sample Characteristics

A total of 313 T2DM patients completed the questionnaire; the response rate was 78.25%. More than half (53.0%) of the respondents were female, while

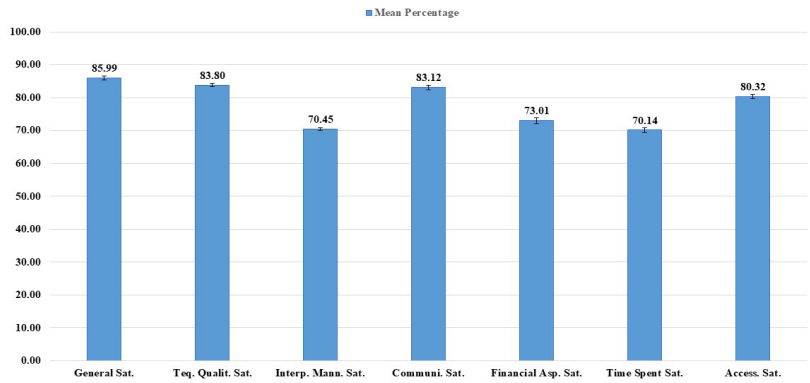

Figure 1: Mean percentage of satisfaction among T2DM patients for all domains at UKM teaching hospital

64.2% of the respondents were Malay. The mean respondent age was 59.6 years (SD=13.151). Up to 76.7% of the respondents were aged ≥50 years. Among the total sample, 64.2% had low levels of education. Up to 89.1% of the respondents were married, and 33.9% of the respondents were pensioners. Most participants (76.4%) were uninsured. More than one-third (39.6%) of the participants were covered by government subsidies, followed by patients who paid OOP (36.7%). More than one-third of the respondents (33.9%) were employed: 12.5% in the government sector and 21.4% in the private sector. Up to 74.4% of the respondents were treated at HCTM (Table 1).

Descriptive Statistics

General Satisfaction in all Domains

Figure 1 shows the satisfaction mean percentages of the different domains. The patients were satisfied with the currently provided services. The

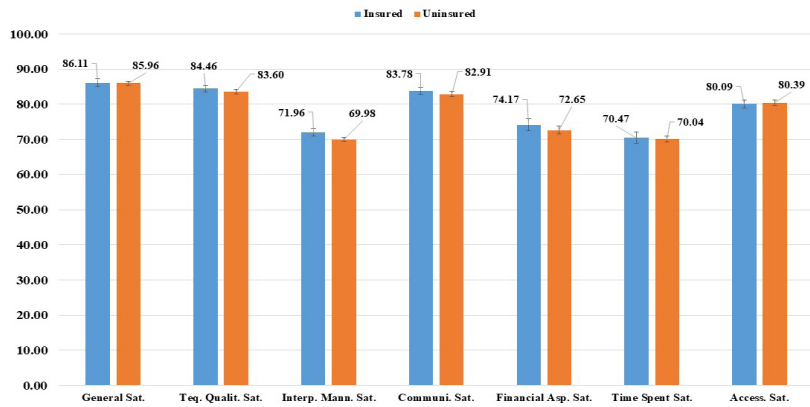

Figure 2: Patient satisfaction among all domains for T2DM patients insured and uninsured treated at UKM teaching hospital

overall mean general satisfaction mean percentage was 85.9%. The mean percentage for technical quality was 83.8%. Patients were satisfied with the interpersonal manner of the health care staff (mean percentage, 70.4%). Most participants were satisfied with the doctors' communication skills (mean percentage, 83.1%). Additionally, the participants were satisfied with the accessibility and convenience of obtaining care (mean percentage, 80.3%). The mean satisfaction percentage for time spent with doctors was positive (mean percentage, 70.1%). The mean satisfaction percentage for financial payment methods was 73.0%.

Association between All Domains with Health Insurance Status

Figure 2 shows the mean patient satisfaction percentage according to insured and uninsured status. General satisfaction was slightly different between the insured (86.1%) and uninsured (85.9%) patients. Most insured patients (84.4%) were satisfied with the technical quality; 71.9% of insured patients were satisfied with the interpersonal manner of the staff. Regarding the doctors' communication skills, 83.7% of insured T2DM patients found them satisfactory. Around two-thirds of insured and uninsured T2DM patients were satisfied from the financial aspect, but the insured patients were more satisfied with the payment methods than the uninsured patients (mean satisfaction, 74.1%). Domain six, which measures the time spent with doctors, showed that around 70.4% of insured T2DM patients were slightly satisfied more than uninsured T2DM patients. Finally, both insured and uninsured patients were satisfied with healthcare facility accessibility, with uninsured patients being slightly more satisfied than insured patients.

Table 2 shows T2DM patient satisfaction mean scores of different domains among insured and uninsured and t-test findings of each domain. The study reveals no statistically significant difference in the general satisfaction between insured and uninsured T2DM patients (Insured mean

Table 2: Association between health insurance status and patient satisfaction among the T2DM patients at UKM teaching hospital

Domains	Mean[¥] (SD)		t-test	P-value
	Insured	Uninsured		
General satisfaction*	4.31 (0.473)	4.30 (0.476)	0.119	0.906
Technical quality*	4.22 (0.405)	4.18 (0.493)	0.683	0.495
Interpersonal*	3.60 (0.445)	3.50 (0.428)	1.723	0.086
Communication skills*	4.19 (0.455)	4.15 (0.631)	0.655	0.513
Financial aspect *	3.71 (0.752)	3.63 (0.822)	0.710	0.478
Time spent*	3.52 (0.724)	3.50 (0.638)	0.230	0.819
Accessibility / convenience*	4.00 (0.492)	4.02 (0.562)	-0.222	0.825

*Student t-test
[¥]Values are expressed in mean ± SD

Table 3: Differences between payment methods and patients' satisfaction domains among the T2DM patients at UKM teaching hospital

Domain	Mean[¥] (SD)				F- value	P-value
	Fully insured	Partial insured	Government-subsidized	OOP		
General satisfaction[§]	4.38 (0.497)	4.22 (0.435)	4.40 (0.459)	4.19 (0.473)	4.78	0.003*
Technical quality[§]	4.25 (0.391)	4.20 (0.425)	4.28 (0.473)	4.01 (0.493)	4.21	0.006*
Interpersonal[§]	3.65 (0.479)	3.54 (0.404)	3.56 (0.411)	3.43 (0.437)	3.13	0.026*
Communication[§]	4.23 (0.446)	4.14 (0.467)	4.24 (0.671)	4.04 (0.569)	2.64	0.049*
Financial aspect[§]	3.89 (0.551)	3.51 (0.894)	3.89 (0.710)	3.35 (0.843)	11.66	<0.001*
Time spent[§]	3.54 (0.747)	3.51 (0.708)	3.54 (0.656)	3.46 (0.618)	0.32	0.810
Accessibility[§]	4.10 (0.398)	3.90 (0.565)	4.18 (0.487)	3.84 (0.586)	9.27	<0.001*

[§]One way ANOVA test
*Significant P-value <0.05
[¥]Values are expressed in mean +SD

score=4.31, SD=0.473; Uninsured mean score=4.30, SD=0.476) with P-value=0.906. Additionally, the study reveals that there was no statistically significant difference in the technical quality domain (Insured mean score=4.22, SD=0.405; uninsured mean score=4.18, SD=0.493) with P-value=0.495. Furthermore, the study revealed that there was no statistically significant difference in the interpersonal manner domain (insured mean score=3.60, SD=0.445; uninsured mean score=3.50, SD=0.428) with P-value=0.086. Moreover, the study reveals that there was no statistically significant difference in the financial aspect domain (insured mean score=3.71, SD=0.752; uninsured mean score=3.63, SD=0.822) with P-value=0.478.

Concerning the T2DM patient satisfaction to communication skills with doctors' domains, there was no statistically significant differences in the satisfaction level for healthcare services among insured and uninsured (insured mean score=4.19, SD=0.455; uninsured mean score=4.15, SD=0.631) with P-value=0.513. Additionally, the study reveals that there was not a statistically significant difference in the time spent with the doctor's domain (insured mean score=3.52, SD=0.724; uninsured mean score=3.50, SD=0.638) with P-value=0.819. Furthermore, the study reveals that there was not a statistically significant difference in the accessibility to the healthcare services domain (insured mean score=4.00, SD=0.492; uninsured mean score=4.02, SD=0.562) with P-value=0.825.

Regarding the level of satisfaction with the communication skills domain, time spent domain and accessibility domain, both insured and uninsured were satisfied. Insured patients were more satisfied than uninsured in the first six domains of satisfaction. Regarding the domain of accessibility to healthcare facilities, the uninsured had slightly higher levels of satisfaction than insured patients at

UKM teaching hospital. Generally, the study showed that there was a good level of satisfaction among insured and uninsured respondents. Finally, it is worth noting that the respondents gave a favorable satisfaction rating for HCTM and UKMSC, indicating that the provided health care services were good.

Association between All Domains with Payment Method

General Satisfaction Domain

Table 3 shows that the fully insured and government-subsidised participants reported the highest satisfaction score (mean, 4.4), while the OOP and partially insured participants reported the lowest satisfaction score (mean, 4.2). One-way ANOVA revealed a statistically significant difference in the mean percentage of participants' general satisfaction among the different categories (F=5, P-value=0.003). The post hoc Tukey test showed a significant difference between the uninsured government-subsidised and OOP categories (P-value=0.003). The findings indicate that the uninsured government-subsidised participants were more satisfied with current healthcare services compared to OOP participants.

Technical Quality Domain

Table 3 shows that the overnment-subsidised category reported the highest satisfaction score (mean, 4.3), while the OOP category reported the lowest satisfaction (mean, 4.1). One-way ANOVA showed that there was a statistically significant difference in the mean percentage of participants' satisfaction with technical quality among the different categories (F=4.21, P-value=0.006). The post hoc Tukey test revealed a significant difference between the uninsured government-subsidised and OOP categories (P-value=0.003). The findings suggest that uninsured government-subsidised participants were more satisfied with the current technical quality compared to OOP participants.

Interpersonal Manner Domain

Table 3 shows that the fully insured and government-subsidised categories reported the highest satisfaction score (mean, 3.65), while the OOP category reported the lowest satisfaction score (mean, 3.4). One-way ANOVA revealed that there was a statistically significant difference in the mean percentage of participants' satisfaction with interpersonal manner among the different categories (F=3.14, P-value=0.026). The post hoc Tukey test revealed a significant difference between the fully insured and OOP categories (P-value=0.036). The findings suggest that fully insured participants were more satisfied with their healthcare providers' current interpersonal manner compared to participants in the OOP category.

Communication Skills Domain

Table 3 shows that both categories of government-subsidised participants reported the highest satisfaction score

(mean, 4.24), while the OOP category reported the lowest satisfaction score (mean, 4.04). One-way ANOVA revealed that there was a statistically significant difference in the mean percentage of participants' satisfaction with their doctors' communication skills among the different categories (F=2.64, P-value=0.049). The post hoc Tukey test revealed a significant difference between the government-subsidised and OOP categories (P-value=0.038). The findings indicate that government-subsidised participants were more satisfied with their doctors' current communication skills compared to OOP participants.

Financial Aspect Domain

Table 3 shows that the fully insured category reported the highest satisfaction score (mean, 3.89), while the OOP category reported the lowest satisfaction score (mean, 3.35). One-way ANOVA showed that there was a statistically significant difference between the mean percentage of participants' satisfaction with their financial payment methods among the different categories (F=12, P-value=0.000). The post hoc Tukey test revealed a significant difference between the fully insured and government-subsidised categories (P-value=0.001 and 0.046, respectively). The findings indicate that fully insured and government-subsidised participants under the OOP category were more satisfied with their current payments compared to participants under the OOP and partially insured category.

Time Spent Domain

Table 3 shows that the fully insured and government-subsidised uninsured participants reported the highest satisfaction score (mean, 3.54), while the OOP category reported the lowest satisfaction score (mean, 3.46). One-way ANOVA revealed that there was no statistically significant difference in the mean percentage of participants' satisfaction with time spent with doctors among the different categories (F=0.3, P-value=0.8).

Accessibility and Convenience Domain

Table 3 shows that the government-subsidised category of participants reported the highest satisfaction score (mean, 4.18), while the OOP category reported the lowest satisfaction score (mean, 3.84). One-way ANOVA showed that there was a statistically significant difference in the mean satisfaction with access among the different categories (F=9.3, P-value <0.001). The post hoc Tukey test revealed a significant difference between the fully insured, partial insured and government-subsidised categories in satisfaction due to access to healthcare services (P-value=0.041; P-value=0.023; P-value<0.001). The findings indicate that participants under the fully insured and government-subsidised categories were more satisfied with the current access to their healthcare provider compared to participants in the OOP and partially insured categories.

DISCUSSION

The study was aimed at exploring payment methods and their effect on patient satisfaction with healthcare at in public and private medical centres at the UKM teaching hospital. The Cronbach alpha values of the PSQ subscales were >0.883, suggesting acceptable internal consistency.

In general, the participants were generally satisfied with the services, and both insured and uninsured patients were generally satisfied. This is consistent with prior local studies that reported a high degree of satisfaction (Aniza & Suhaila 2011; Tohid et al. 2012).

In the present study, we found that there were no significant differences among insured T2DM patients compared to uninsured concerning the healthcare services satisfaction. On the other hand, when we compared the four payment method categories (fully insured, partially insured, government-subsidised, OOP), we found that fully insured or government-subsidised patients may have the same level of satisfaction regarding their healthcare services. This can be explained by the fact that the Malaysian government has always been committed to equity and accessibility to healthcare services, with the public healthcare sector subsidising nearly 95% of patients' treatment costs, allowing healthcare access to more than 90% of the total population (MOH 2012). In addition, Malaysians have free access to clinical consultations, treatment and medications as both outpatients and inpatients at all public healthcare facilities in the country for the small registration fee of USD 0.33 or MYR 1 (Ministry of Health 2016).

Moreover, when we compared both categories of insured patients (i.e. full and partial) and the patients who paid OOP, we found that the patients who spent OOP were less satisfied than the insured patients, which was consistent with a previous study (Fenny et al. 2014). When we compared satisfaction among fully and partially insured patients, we discovered that the fully insured patients reported greater satisfaction than the partially insured patients, implying that fully insured patients have more healthcare coverage and benefits than partially insured patients, and they do not have to pay additional fees when they receive services.

Regarding domain seven, which evaluates healthcare services accessibility, we found that the uninsured patients reported greater satisfaction than the insured patients, revealing that public health provider procedures and admission process are complicated. Further, in some cases, the healthcare provider preferred cash payment due to the insurer's delayed reimbursement fee for services. This finding was consistent with a previous study; the low perceived satisfaction is due to the challenges clients face when accessing health services (Badu et al. 2019).

Patients reported low satisfaction regarding doctors' service orientation, particularly the interpersonal manner, and around 30% of patients were dissatisfied the time spent with the doctor during consultations. This is

consistent with previous studies that found that the relationship between doctors and nurses with patients was the most important factor influencing patient satisfaction; in other words, courtesy and respect for patients from nurses and doctors must be the highest priority (Dabaghian et al. 2016; Zahednezhad et al. 2011; Ziaei et al. 2011).

The findings for the financial aspect revealed low satisfaction, especially among patients who paid OOP, and a partially insured patient could report a similar effect on satisfaction due to the high cost of healthcare. Malaysia imposed insurance cover on inpatient services because the government considers these services to be a greater financial risk for patients. Further, a previous report has referred to the effect of socioeconomic factors and the effect on diabetes outcomes (Assari et al. 2017; Zarei et al. 2018). Additional findings for the financial aspect show that low participatory insurance in Malaysia was accompanied by low satisfaction among both Malaysians and foreigners in Malaysia. The government considers this service a greater financial risk for patients; therefore, patients with chronic disease are exempted from the expenditure cost, which is paid for by the health providers at the outpatient clinic, or some patients share the entire bill by percentage when services are received. This leads to patient dissatisfaction with some payment methods such as OOP payment for outpatients, and this was consistent with a previous study that reported on the effect of socioeconomic factors on satisfaction (The Health Insurance Experiment 2006; Chernew et al. 2008; Pan et al. 2015; Zarei et al. 2018)

CONCLUSION

Patient satisfaction was highest, particularly for general satisfaction, technical quality, communication skills and accessibility and convenience, but was lowest in terms of doctor service orientation, specifically time spent with the doctor, interpersonal manner and financial aspect during consultations. Insured patients reported more satisfaction than uninsured patients, except for inaccessibility. On the other hand, both fully insured and government-subsidised patients reported more satisfaction in all domains, while patients who paid OOP reported less satisfaction than other payment methods. We believe that extending the benefits for partial insurance to cover both inpatient and outpatient treatment would increase satisfaction among T2DM patients. Enhance service orientation among doctors and staff will improve patient satisfaction with healthcare services. The study's cross-sectional design limits our ability to draw causal conclusions. The data used in this study came from a single hospital in Malaysia, which may have affected the generalisability of the findings to all medical outpatients in Malaysia. Efforts to increase the strength of the findings through a larger sample size were unsuccessful due to the movement control order response to the coronavirus disease 2019 (COVID-19) outbreak in Malaysia.

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