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Quality Of Primary Care From Patients' Perspective

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Abstract

Background: *Accessible and high-quality primary health care (PHC) is fundamental to countries moving towards universal health coverage. In order to improve the quality of patient-centered care provided in PHC, a comprehensive understanding of patients' values is crucial to address any gaps in the health care system. Assessing patients' experience with primary care complements measures of clinical health outcomes in evaluating service performance. This study aims to investigate patients' experience with primary care and to identify associated patients' socio-demographic, healthcare and health characteristics.* ***Methods:*** *A cross sectional study design using questionnaires administered in public primary care facilities in Makkah, KSA. Data on patients' primary care experience and their socio-demographic, healthcare and health characteristics were collected through face to face interviews using a validated version of the primary care assessment tool (PCAT). Mean scores were derived for the following dimensions: first contact access, continuity of care, comprehensiveness, community orientation and total primary care. Linear regression models were used to assess association between primary care dimension scores and patients' characteristics.* ***Resu[1]lts:*** *From 631 completed questionnaires, first contact access, relational continuity and comprehensiveness of services available scored below the defined minimum. Sex, self-rated health status, duration of contact with facility and facility affiliation were associated with patients' experience with primary care. These factors explained 10.9% of the variance in total primary care scores; 25.2% in comprehensiveness of services available and 29.4% in first contact access.* ***Conclusion:*** *This results from the first use of the validated PCAT. The study provides a baseline indicating areas that need improvement. The results can also be used alongside clinical outcome studies to provide comprehensive evaluation of primary care performance.*

Keywords: *Primary care performance, Primary care assessment tool, Patient experience measurement, Health services.*

Introduction

The role of primary health care (PHC) has become indispensable because it serves as the initial and continuous contact for patients, acts as the gatekeeper to higher levels of care, and provides a coordinated and comprehensive care to the community [(1)]. The PHC

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principles are universal access, equitable care provision, accentuating prevention, health promotion, and community participation [2]. In the practice of PHC service provision, it is imperative to find the balance in social and medical aspects to meet the need of its users. However, from the patients' point of view, PHC may not fully satisfy their needs. Evidence suggest that even in the absence of major barriers such as costs and geography, some people would prefer other healthcare services, such as emergency departments, hospitals, or traditional healers [3-6].

A perception exists about low quality in primary care due to low confidence in the doctors' knowledge and skills, or difficulties related to communication [7]. Other barriers include cost and time, low perceived need, and fears related to a patient's medical condition or procedures [8]. The current advancement of medical technologies has placed patients' views, values, and preferences as central considerations [9]. However, doctors' or service providers' values possibly differ from the patients' values [9]. Hence, patient values should not be defined by other stakeholders in the PHC system, but by the patients' voices themselves. Patients' values can be identified in their satisfaction with care, their preferences and priorities, expectations, experiences, and aspects of care important to them [10, 11].

These values can vary widely and are affected by various social, demography, cultural, and health system factors [10-12]. Taking into account patient values can positively impact healthcare access and delivery, better care continuity and treatment adherence, while minimizing the need for a higher level of care [13]. Measuring patients' experience with care should be part of the process of establishing services and delivering PC that user's need [14]. This facilitates understanding of gaps [15], informs health authorities on trends of quality of care [16], and ensures transparency and accountability [17]. Patient experience is also an important measure of healthcare quality [18, 19] and positive experiences are associated with better health outcomes [20].

Saudi Arabia Health Sector Transformation program under the Vision 2030 was launched in 2021 with sight for next 5 years aimed at restructuring the health sector to be a comprehensive, effective and integrated health system based on the health of the individual and society that includes citizens, residents and visitors [21, 22]. The program depends on the principle of value-based care, ensuring transparency and financial sustainability by promoting public health and preventing diseases. The specific aim of the program is to improve access and quality of health services through optimal coverage and comprehensive and equitable geographical distribution by expanding provision of e-health services and digital solutions [21-23].

Understanding what patients' value from primary care has also become fundamental for a patient-oriented service provision. This information can help to identify which aspects of PHC are important to patients for further quality improvement. Therefore, assessing patients' experience with primary care complements measures of clinical health outcomes in evaluating service performance. So, this study aims to investigate patients' experience with primary care and to identify associated patients' socio-demographic, healthcare and health characteristics.

Methods

A cross sectional study design using questionnaires administered in public primary care facilities in Makkah, KSA. Specifically, the study measured the performance of primary care through total primary care and dimension mean scores and assessed association between the scores and patients' socio-demographic, health- care and health characteristics. Within PHC research, the US Primary Care Assessment Tool (PCAT) has been widely

adapted and used in patient surveys in many countries [24-29]. Based on the 1994 American Institute of Medicine's definition of primary care [30] the PCAT aims at a global assessment of primary care organization and its performance in the core dimensions of accessibility, comprehensiveness, coordination and continuity, and accountability. In addition, it also assesses derivative dimensions of family orientation, community orientation, and cultural competence.

The development and validation of the version of the primary care assessment tool (PCAT) has been documented in another paper [31]. The tool has 29 items measuring primary care performance in seven dimensions: first contact access (3 items), communication continuity of care (4 items), relational continuity of care (4 items), coordination (3 items), comprehensiveness of services available (6 items), comprehensiveness of services provided (6 items) and community orientation (3 items). First contact access is here defined as the manner in which services are organized to accommodate access whenever needed and ensure patient satisfaction. Continuity of care entails the existence of a regular source of care and the longitudinal relationship between primary care providers and patients, in terms of accommodation of patient's needs and preferences, such as communication and respect for patients.

Coordination of care reflects the ability of primary care providers to facilitate and support patients to navigate use of other levels of health care when needed. Comprehensiveness of primary care services represents the range of services available in primary care to meet patients' health care needs. A distinction is made between services that are available and those that are actually provided. Community orientation defines the extent to which the primary care providers understand and address priority health problems in a particular community with evidence of community participation.

Items are scored on a 4-point Likert scale, with 1 indicating "definitely not," 2 indicating "probably not," 3 representing "probably," and 4 representing "definitely." For consistency with methods used in PCAT studies in other countries, a mid-scale value of 2.5 is assigned to "not sure" answers while the mean item score is used for missing data [25-27]. Additionally, there are questions to identify the usual primary care facility the patient uses and the patient's socio-demographic data. This paper excludes the 3 coordination items because insufficient number of patients had been referred for secondary level care.

A face to face administered cross sectional study was carried out from February to April 2023 in outpatient clinics of ten facilities (the two hospitals and eight health centers in Makkah, KSA). Patients were at least 18 years of age, must have used the facility for at least six months and must have visited the facility for at least 3 times. Acutely ill, frail looking or severe mental health patients were excluded in order to allow them to receive urgent medical attention. As this study's data collection was part of the validation of the PCAT through metric analyses, sample size was calculated based on similar studies using at least 5:1 subject to item ratio [25-29]. Sample size of 600 was targeted, 60 from each facility.

A pilot study showed that the questionnaire would take about 35 min to administer. The sampling frame was 50–60 patients waiting to be seen on each working day. Sampling interval (n) was calculated by dividing the number of waiting patients by seven. A random starting point was obtained using a smart phone random number generator. Each 'n^{th}' patient was then asked for consent to participate in the study. Socio-demographic, health care and health measures Independent variables were sex, age, education, duration of contact with facility, reason for attending: chronic or acute condition, distance to facility measured through time taken to walk to the facility, waiting time, individual health facility affiliation and self- rated health status. Data were entered into and analyzed using the IBM SPSS Statistics version 28. Dimension mean scores were derived by dividing the sum of

the item means by the number of items in the dimension. A score ≥ 3 was considered 'acceptable to good performance' and < 3 as 'poor performance' [31, 32].

Total primary care was calculated as the sum of all dimension means. Socio-demographic, health care and health characteristics of the patients were compared between sexes by performing cross table analyses with chi squared significance testing to highlight differences between male and female patients. Next, independent sample T tests were done to compare dimension means and total primary care scores between the sexes. Multiple linear regression models were used to assess association between socio-demographic, health care and health characteristics and total primary care scores after adjusting for sex and age. Further, step-wise exclusion regression models were used to identify independent variables that accounted for significant variances in patients' experiences with regard to total primary care and individual dimension mean scores. For all tests, confidence intervals of 95% and a p-value less than 0.05 were used as thresholds of statistical significance.

Results

Patients' characteristics

A total of 649 patients were approached and 18 (2.8%) declined to participate in the study. This paper presents results from 631 completed questionnaires. Missing data accounted for approximately 1.9% of all data.

Table (1) compares socio-demographic, health care and health characteristics of study participants between sexes. Over- all, 65.0% of primary care visits were from female patients.

Primary care dimension scores

Table (2) shows poor performance in relational continuity (2.3), comprehensiveness of services available (2.4) and first contact access (2.8). The highest score was in communication continuity of care (3.6). Community orientation and comprehensiveness of services provided also achieved acceptable performance at 3.1 and 3.2 respectively. Female patients scored lower than male patients in all dimensions but the difference was significant only in total primary care (p = 0.01), first contact access (p = 0.021), relational continuity (p = 0.044) and comprehensiveness of services available (p = 0.017).

Multivariate analyses

Table (3) shows linear regression models assessing association between socio-demographic and health care factors and total primary care scores with unstandardized beta values among 631 patients attending outpatient clinics. Table 3 presents the linear regression models assessing association between patient characteristics and total primary care scores. Male patients scored 0.7 points higher than females (95% CI = 0.2, 1.2; p = 0.01); after adjusting for sex and age. Increasing self-rated health status (rated on a 5 point Likert scale from very poor to excellent) was associated 0.8 points higher scores at good (95% CI = 0.1, 1.5; p = 0.034) and 0.9 points for very good to excellent (95% CI = 0.3, 1.4; p = 0.002), duration of contact with facility of more than 4 years was associated with scores 1.1 points higher (95%CI = 0.4, 1.2; p = 0.003) while acute presentation was associated with 0.6 points lower (95% CI = − 1.0, − 0.1; p = 0.03). At the individual facility level, patients from the health centers scored significantly below the reference outpatient clinic at the district hospital by points ranging from 0.6 to 2.0 (Table 4).

Table (5) shows level of education, distance to the facility, and waiting time were not associated with total primary care scores. Association between predictors and total primary care scores, access and comprehensiveness of services available mean scores with

unstandardized beta values among 631 patients attending outpatient clinics. The investigated factors explained 10.9% of the noted variance in total primary care scores. Looking at each dimension, these socio-demographic and health care characteristics explained 29.4% of variance in first contact access and 25.2% in comprehensiveness of services available. These factors also explained 3% of variance in comprehensiveness of services provided, 3.7% in community orientation, 4.4% in relational continuity of care and 5.2% in communication continuity of care (data not shown in the table).

Table (1): Socio-demographic, health care and health characteristics among 631 patients attending outpatient clinics

Characteristic	Female (n = 410) (%)	Male (n = 221) (%)
Age		
18–30 years	197 (48.0)	73 (33.0)
31–45 years	152 (37.1)	94 (42.6)
Above 45	61 (14.9)	54 (24.4)**
Education		
None	48 (11.7)	12 (5.5)
Up to 5 years primary	153 (37.3)	58 (26.2)
5–8 years primary	145 (35.4)	95 (43.0)
Duration of contact with facility		
Up to 2 years	66 (16.1)	27 (12.2)
2–4 years	88 (21.5)	41 (18.6)
> 4 years	256 (62.4)	153 (69.2)
Time to walk to facility		
< 1 h	198 (48.3)	136 (61.5)
≥ 1 h	212 (51.7)	85 (38.5)*
Waiting time at facility		
Up to 30 min	167 (40.7)	69 (31.2)
30–90 min	136 (33.2)	81 (36.7)
> 90mins	107 (26.1)	71 (32.1)
Reason for attending facility		
Chronic condition	161 (39.3)	89 (40.3)
Acute condition	249 (60.7)	132(59.7)
Self-rated health status		
Poor to fair	129 (31.5)	83 (37.6)
Good	60 (14.6)	36 (16.3)
Very good to excellent	221 (54.0)	102(46.1)

Chi squared p value * < 0.01

**< 0.001

500MK is close to US$0.75

Table (2): Primary care dimension mean scores among patients attending outpatient clinics in (N = 631), male (n = 221) and female patients (n = 440)

Primary care dimension	**Number of items**	**Mean scores (SEM)**		
		Total	F	M
Sample size		631	410	221
First contact access	3	2.8 (0.03)	2.8 (0.04)	2.9 (0.05)*
Communication continuity	4	3.6 (0.02)	3.6 (0.03)	3.6 (0.04)
Relational continuity	4	2.3 (0.04)	2.2 (0.05)	2.4 (0.07)*
Comprehensiveness Services available	6	2.4 (0.03)	2.4 (0.04)	2.5(0.06)*
Services provided	6	3.2 (0.04)	3.1 (0.04)	3.2(0.06)
Community orientation	3	3.1 (0.04)	3.1 (0.05)	3.1(0.07)
Total primary care score	26	17.4 (0.12)	17.2 (0.15)	17.7 (0.21)*
Independent sample T-test p values: * < 0.05				

Table (3): Linear regression models assessing association between socio-demographic and health care factors and total primary care scores with unstandardized beta values among 631 patients attending outpatient clinics

Factor	B	95%CI	P value
Sex [a]			
Female [c]	17.1	16.8, 17.4	
Male	0.7	0.2, 1.2	0.01
Age [a]			
18–30 years [c]	17.2	16.8, 17.6	
30–45 years	0.2	– 0.3, 0.8	0.43
> 45 years	0.4	– 0.3, 1.1	0.24
Education [b]			
0–5 years primary [c]	17.0	16.5, 17.4	
6–8 years primary	0.3	– 0.2, 0.9	0.23
At least secondary	−0.4	—1.1, 0.3	0.28
Distance to facility [b]			
< 1 h walk [c]	16.9	16.5, 17.4	
> 1 h walk	0.2	—0.3, 0.7	0.38
Waiting times at facility			
Up to 30 min [c]	17.0	16.5, 17.5	
30–90 min	– 0.3	—0.9, 0.3	0.31
> 90 min	0.4	—0.2, 1.0	0.20
Duration of contact [b]			
Up to 2 years [c]	16.3	15.7, 17.0	
2–4 years	0.3	—0.5, 1.2	0.42
> 4 years	1.1	0.4, 1.2	0.003
Reason for attendance [b]			
Chronic condition [c]	17.4	16.9, 17.9	
Acute condition	—.0.6	—1.0, — 0.1	0.03
Self-rated health status [b]			
Poor – fair [c]	16.4	15.8, 16.9	
Good	0.8	0.1, 1.5	0.034
> good	0.9	0.3, 1.4	0.002
By health facility[b]			
A[c] (hospital outpatient clinic)	18.3	17.5, 19.1	
B (health center)	−1.2	—1.2, —0.2	0.018
C (health center)	−0.6	—1.6, 0.5	0.30
E (health center)	−1.6	—2.7, —0.6	0.002
F (hospital outpatient clinic)	0.5	—0.53, 1.51	0.34
G (health center)	−2.0	—3.1, —1.0	< 0.001
H (health center)	−1.7	—2.8, —0.7	0.001
I (health center)	−2.0	—3.0, —1.0	< 0.001
J (health center)	−1.5	—2.7, —0.4	0.01
D (health center)	−1.5	—2.5, —0.4	0.006

Table (4): Linear regression models assessing association between socio-demographic and health care factors and total primary care scores with unstandardized beta values among 631 patients attending outpatient clinics

Factor	B	95%CI	P value
E (health center)	−1.6	—2.7, —0.6	0.002
F (hospital outpatient clinic)	0.5	—0.53, 1.51	0.34
G (health center)	−2.0	—3.1, —1.0	< 0.001
H (health center)	−1.7	—2.8, —0.7	0.001
I (health center)	−2.0	—3.0, —1.0	< 0.001
J (health center)	−1.5	—2.7, —0.4	0.01

[a] unadjusted linear regression models
[b] linear regression models adjusted for sex and age
[c] Reference

Table (5): Association between predictors and total primary care scores, access and comprehensiveness of services available mean scores with unstandardized beta values among 631 patients attending outpatient clinics

	B		95% CI	p value
Model 1: Total primary care scores				
Reference	15.8		15.1, 16.4	
Facility F	2.3		1.6, 3.1	< 0.001
Self-rated health = good	1.1		0.3, 1.3	< 0.001
Duration of contact > 4 years	0.8		0.6, 1.7	0.001
Education >at least secondary	−0.8		—1.3, —0.2	0.011
Self -rated health = very good/excellent	0.9		0.2, 1.6	0.013
Acute presentation	−0.6		—1.1, — 0.1	0.017
Male sex	0.5		0.03, 1.0	0.036
Unadjusted R^2			12.1%	
Adjusted R^2			10.9%	
Model 2 First contact access dimension scores				
Reference	2.9		2.9, 3.1	
Facility F	0.8		0.8, 1.0	< 0.001
Facility G	−0.8		—0.8, —0.6	< 0.001
Facility H	−0.6		—0.6, — 0.4	< 0.001
Facility I	– 0.3		– 0.3, − 0.1	0.001
chronic condition	−0.2		– 0.2, − 0.1	0.003
Cost of travel >MK500	0.1		0.1, 0.3	0.047
Unadjusted R^2		30.1%		
Adjusted R^2		29.4%		
Model 3 Comprehensiveness of services available dimension sum scores				
Reference		2.0	1.9, 2.2	
Upper Neno		0.9	0.7, 1.1	< 0.001
Facility B		1.2	1.0, 1.5	< 0.001
Facility C		−1.2	—1.5, —1.0	< 0.001
Facility D		−1.1	– 1.4, −0.9	< 0.001
Facility F		−0.9	– 1.1, − 0.7	< 0.001
Education >at least secondary		– 0.2	– 0.4, − 0.1	0.002
Travel time > 1 h		0.2	0.03, 0.3	0.012
Self -health rating = very good/excellent		0.1	0.01, 0.2	0.04

Unadjusted R^2	26.1%
Adjusted R^2	25.2%

[a]Multivariate regression with stepwise exclusion method where significant predictors are retained in the models

Discussion

The present study shows poor performance in relational continuity, comprehensiveness of services available and first contact access. Acceptable performance was achieved in community orientation, comprehensiveness of services provided, and communication continuity of care. The study revealed that more primary care visits were from female patients; who also tended to have lower levels of education similar to findings in a South African study [32]. The female patients in this study also rated their primary care experience lower than male patients. Literature review of health-seeking behavior studies shows that women consult more frequently than men [33]. Since the women in this study were younger, reproductive health reasons might at least partially explain the gender difference as was the case in a UK study [34].

Further studies are needed to understand this difference in primary care experience in order to better inform options for interventions to close the gap such as more comprehensive sexual and reproductive services. This provides opportunity for relational continuity of care and population based primary care approaches. Population management, stable patient-team partnership, and continuity of care are known building blocks of effective primary care systems [35]. This study shows that most patients had affiliation with their public primary care facilities for at least 4 years. Duration of contact of four years or longer was associated with higher total primary care scores but the direction of the association cannot be ascertained in this study. Relational continuity was poor and as such was one of the areas that need further exploration and improvement.

Most patients' reason for their primary care visit in this study was care for acute conditions. However, care for chronic conditions was associated with better overall experience. Chronic care patients were given appointments for their visits and were usually attended by the same team. Community health workers also followed up patients when they missed their appointments. Further prospective studies should be carried out to assess if these processes of care would explain the differences and if the primary care experience of patients presenting with acute conditions would improve when offered the same management. Health centers play an important gate-keeping role that is essential to well-functioning health systems. This is not clearly defined in health system although patients are expected to first report to their public primary care facilities by virtue of proximity.

In this study, health centers were scored lower than the outpatient clinics at the hospitals with regard to total primary care, first contact access and comprehensiveness of services available. A study in several African countries showed that staffing levels, experience of providers and facility management were associated with quality of care provided [36]. While there is need to investigate factors that would account for this variation at facility level, the gate-keeping function of health centers could be enhanced both through clear policy formulation as well as interventions such as providing better qualified staff, and paying more attention to facility management to improve access to quality and comprehensive package of services in the public health centers.

Users who rated their health status as 'good' or 'very good' also rated primary care experience better than those who rated their health as 'poor'. Similar findings have been reported in the Korean and South African PCAT studies [27, 32]. Although it is possible that those who reported better health had actually benefited from the care itself, the direction of the association cannot be ascertained through a cross sectional study such as this. Education, age, and distance to facility were not associated with total primary care scores. A lack of association between socioeconomic factors and patients' experience of primary

care has also been reported in other studies. [27, 32, and 37] This might be ascribed to the robustness of the questionnaire to accurately measure users' primary care experience independent of differences among patients such as age, gender, poverty or educational levels.

Low scores noted in first contact access, comprehensiveness of services available and relational continuity of care are similar to findings in other studies [32, 37]. This is likely related to acute shortage of staff especially in primary care, inadequate staff training and lack of equipment and supplies particularly at health centers. The factors that were significantly associated with patients' experience of primary care accounted for much higher variances in first contact access and comprehensiveness of services provided dimensions, 29.4 and 25.2% respectively. This underscores the importance of access and availability of services as the core factors on which the other dimensions of primary care depend. Utilization, continuity, coordination and service provision will take place successfully only when people have effective access to facilities and services that they need which is an important objective of universal health coverage [38]. Improved primary care will therefore require multi-level interventions to address these gaps and countries need to translate political will into action in order to attain primary care for all.

Conclusions

This current paper study assesses patients' experience of primary care and associated socio-demographic, health care and health factors. Patients reported acceptable levels of performance in the primary care dimensions of communication continuity of care, comprehensiveness of services provided and community orientation. Poor performance was reported in first contact access, comprehensiveness of services available and relational continuity of care. Our experience indicates that the PCAT can be used alongside clinical health outcome studies to provide comprehensive evaluation of primary care performance. The areas of poor patient experience need further research to evaluate possible explanations and to inform appropriate interventions.

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