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PATIENTS' PERCEPTION OF PATIENT-CENTERED CARE IN EASTERN PROVINCE, SAUDI ARABIA

Medicine

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ABSTRACT

Background: The patient-centered care (PCC) model is a main determinant of healthcare quality. In this study, we evaluated patients' perceptions of PCC.

Methods: A community-based cross-sectional study was conducted in Eastern province, Saudi Arabia from December 2017 to May 2018. Adults aged ≥18 years participated. Data were collected through a self-administered electronic questionnaire using the Consultation Care Measure, which measured the chief domains of PCC and practical medicine. The questionnaire underwent cross-cultural adaptation and testing before distribution.

Results: Overall, 1272 individuals participated (96.7% Saudi; 74.6% women). One third reported having a chronic disease.

Conclusion: Saudi participants reported perceived value in all five PCC domains. A practical medicine approach was most preferred by older patients and those with a chronic disease, and obtaining a prescription was the least preferred item. Strategies should be developed to improve the application of PCC at the primary care level.

KEYWORDS

Patient-centered Care, Saudi Arabia, Primary Health Care, Healthcare Quality

Introduction

The quality of healthcare is a key indicator of the development of a country. The National Academy of Medicine (formerly the Institute of Medicine) is a nonprofit, public-health organization, which provides six aims for healthcare quality: safety, efficacy, timely, efficient, equitable, and patient-centered care (PCC). Most healthcare systems have adopted the PCC model as a delivery mode for quality healthcare (Agency for Healthcare Research & Quality, 2015). PCC has been described as when a doctor tries to enter his/her patients' world, thus attempting to feel their pain and see the illness through patients' own eyes. The National Academy of Medicine defined PCC as care that is respectful of and responsive to patients' preferences, needs, and values and ensures that patients' values guide all clinical decisions.

In the 1980s, PCC was viewed as an effective path towards optimal healthcare that represented Picker's eight principles: 1) respect for patients' values, preferences, and expressed needs; 2) information and education; 3) access to care; 4) emotional support to relieve fear and anxiety; 5) involvement of family and friends; 6) continuity and secure transition between healthcare settings; 7) physical comfort; and 8)coordination(Picker Institute, 2017).

Therefore, health institutions around the world are paying close attention to PCC, which is considered a chief objective for improving healthcare in the 21st century due to its close relationship with improving patients' health outcomes (Baker, 2001). A cohort study conducted in Canada in 2000, which studied doctor–patient interactions in family medicine clinics from the perspective of patients and their doctors, revealed that patients valued PCC since it was associated with better recovery, better emotional health, fewer diagnostic tests and referrals than the physician-centered care approach (Stewart et al., 2000).

In the U.S., in 2014, an experimental study analyzing medical staff members' understanding of patients' thoughts and emotions recorded patient–doctor interactions during actual medical visits. Then, the doctors reviewed the video to identify their thoughts and emotions as they occurred. The results revealed significant correlations that supported PCC as the best model to explore patients' emotions and cognitions (Hall et al., 2014).

Globally, several studies have been concerned only with three principles-communication, partnership, and health promotion-compared to a physician-centered care approach. This includes a 2001 survey in the UK, which was conducted at the primary care level to review patients' preference for any of these three dimensions (Little et al., 2001). Researchers revealed that most patients preferred PCC, communication, health promotion, and partnership more than the physician-centered care approach (physical examinations and prescriptions).

Health organizations have begun to see the patient as an active participant in the development of the health system; however, few studies have examined patients' perceptions and understanding of this care model .In 2012, Rathert et al. explored patients' perceptions about the relationship between Picker's principles of PCC and the overall rating of care across 142 U.S. hospitals. They revealed a strong relationship between emotional support and overall healthcare ratings followed by coordination of care and physical comfort. They concluded that, to explore patients' ideas of PCC, we must understand their perspective toward care (Rathert, Williams, McCaughey, & Ishqaidef, 2012).

A 2014 qualitative study in Sweden by Alharbi, Carlström, Ekman, Jarneborn, and Olsson (2014) identified potential effects of this model through patients' perspectives. Patients preferred that their physician treated them more as a person instead of just focusing on the disease; although, some patients were not eager to play an active role in their care. Alharbi et al. suggested this might reflect a lack of understanding of the importance and effectiveness of their role as a partner.

On the other hand, two cross-sectional studies were conducted in the Middle East in 2012 and 2015, respectively. Those studies involved six countries from the Mediterranean Region: Iraq, Saudi Arabia, Jordan, Egypt, Bahrain, and Pakistan, to investigate the preferences of physicians and patients about the concept of PCC. The 2012 study showed that most patients preferred a mixed approach (patient-centered and physician-centered), while around one third preferred the PCC model. In contrast, the 2015 study showed that more than half of the sample supported the PCC model in patient–physician consultations (Rawaf, Alnasir, & Saad, 2015; Qidwai et al., 2013).

Furthermore, most studies in the Arabian Gulf highlighted patients' satisfaction as an essential indicator of quality healthcare. For example, studies conducted in Kuwait (in 2011) and Qatar (in 2013) showed low satisfaction rates among healthcare recipients (Alhashem, Alquraini, & Chowdhury, 2011; Verjee & Robertson-Malt, 2013). This

is surprising considering that the healthcare system in Qatar contributed to the importance of the role of PCC and family-centered care as it helped to reduce the risk of non-compliance among patients and improved cost-effectiveness and quality standards (Verjee & Robertson-Malt, 2013). A survey conducted in Oman in 2012 explored patients' satisfaction and revealed high satisfaction regarding the humanness of staff, the effectiveness of services, access to services, provision of health educational materials, comprehensiveness of care, and continuity of care (Albalushi, Sohrabi, & Kolahi, 2012).

In the Kingdom of Saudi Arabia, two systematic reviews focused on healthcare centers and university hospitals in 2013 and 2015, respectively. Both addressed the inadequacy of the quality of healthcare in the Kingdom of Saudi Arabia, highlighting that the mediocre quality caused patients' suffering, institutional waste, and misuse of community resources (Aljuaid, Mannan, Chaudhry, Rawaf, & Majeed, 2016; Almutairi & Moussa, 2014).

Although several Saudi studies have aimed to improve the quality of healthcare, there are limited studies about the quality of care at the primary healthcare level that address the PCC model. In 2014, one cross-sectional study in Riyadh—the most populous city in Saudi Arabia—measured the quality of care from patients' perspectives in primary care centers. Results revealed that quality of care might improve with improved patient–physician relationships and employment of a biopsychosocial model of health. In addition, centers with higher proportions of family physicians were associated with better patients' experiences (Alahmary, 2014).

Patients' perceptions toward greater involvement in shared care were also revealed in a cross-sectional study conducted in primary healthcare centers affiliated with the National Guard Hospital in Riyadh in 2010. That study found that Saudi patients preferred to be involved in clinical decision-making about their health, which was essential for better compliance and outcomes (AlHaqwi, AlDrees, AlRumayyan, AlFarhan, & Badri, 2016).

Through the current Saudi National Transformation Program 2020, and Saudi Vision 2030, the Ministry of Health (MOH) has aimed to improve the continuity of service provision by developing the primary care system. The MOH has adopted a patient-centered healthcare system as one of its main objectives to meet patients' health needs in the right place at the right time (Kingdom of Saudi Arabia, Ministry of Health, 2017).

Study Aim

While the point of view of professionals and organizations about PCC is clear, patients' perspectives remain unelucidated. Although prior studies highlighted patients' satisfaction (Albalushi et al., 2012; Rawaf et al., 2015), we focused on five chief domains of the PCC model (communication, partnership, health promotion, emotional needs, and effect on one's life), inspired by Picker's eight principles, as indicators of quality healthcare in Eastern Province, Saudi Arabia.

Method

Design

A community-based, cross-sectional survey was conducted in Eastern Province, Saudi Arabia.

Participants

The sample size estimation was 410 participants, which was calculated according to the adult population size in Eastern Province using a Roasoft calculator with a 5% margin of error and 95% confidence interval. Convenience sampling was used.

The Eastern Province borders the Arabian Gulf, which is the largest province of Saudi Arabia by area, and the third most populous province in Saudi Arabia. The province's capital city is Dammam. Participants were adults (aged ≥ 18 years) of both sexes (Saudi and non-Saudi were included) who used health services.

Measurement

Data were collected through self-administered electronic surveys distributed through social media and targeted to people living in eastern Province Saudi Arabia.

The questionnaire was developed from the Consultation Care Measure, which was adjusted and validated by Little et al. (2001). It included 31 questions across 2 sections. The first comprised 10 questions addressing sociodemographic and clinical characteristics. The second comprised 21 questions assessing patients' perception toward PCC (18 items regarding the chief PCC domains and 3 items regarding practical medicine). Responses were made using a 7-point Likert scale ranging from 1 (very strongly agree) to 7 (very strongly disagree).

Dependent Variable

Patients' perceptions toward the PCC model.

Independent Variables

Participants' sociodemographic characteristics (i.e., age, sex, marital status, nationality, education level, monthly income, occupation, and most frequently visited healthcare facility), clinical characteristics (i.e., chronic disease and mental illness), the five PCC domains, and other domains of practical medicine (e.g., physical examinations, prescriptions, and general advice).

Validity and Reliability of the Study Tool

The questionnaire was translated into Arabic and back-translated into its original language by two linguistic experts. The thematic, referential, and general meaning of the original items were considered following cross-cultural adaptation guidelines (Herdman, & Fox-Rushby, 1998; Herdman, Fox-Rushby, & Badia, 1997). Then, three bilingual experts compared the original with the back-translation considering the general and referential meaning in addition to cultural considerations. They were unblinded to the semantic version. Feedback was obtained from the experts and inter-rater reliability was calculated: Krippendorff's alphas were 0.63 for general meaning and 0.88 for referential meaning, indicating that the translation and back translation were comparable.

Next, the tool was piloted with 30 participants from the community to assure its suitability and clarity. The results revealed that the questionnaire was clear, easy to read, and required approximately 7 minutes to complete. Reliability testing was performed after data collection to compare it with the original questionnaire. The Cronbach's α-values for communication, partnership, and health promotion were 0.82, 0.88, and 0.89, respectively, all considered good values and comparable to the original reported values: 0.92, 0.87, and 0.90, respectively. All other domains did not load on a specific factor and had no specific value (Little et al., 2001).

Data Analyses

Data were analyzed using SPSS version 23. To analyze Likert-type responses, we used *means* and *standard deviations (SD)*. We conducted independent-samples *t-tests* for continuous variables. We conducted one-way analyses of variance (*ANOVA*) between independent groups and a post-hoc analysis to examine significant values (least significant difference was used) to determine variables that caused significance. The significance level was set at $P<.05$.

Ethical Considerations

The questionnaire was approved by an appropriate institutional review board. Online, formal consent was obtained from all participants prior to completing the questionnaire.

Results

Participants' demographic characteristics are shown in Table 1. Figure 1 illustrates *mean* scores of participants' preference toward PCC domains .

Table 1. *Participants' demographic characteristics (N=1272)*

Variable	*n (%)*
Sex	
Male	323 (25.4)
Female	949 (74.6)
Age (years)	
18–38	535 (42.1)
39–56	630 (49.5)
≥57	89 (7.0)
Marital status	
Married	981 (77.1)
Unmarried	291 (22.9)
Nationality	
Saudi	1230 (96.7)

Non-Saudi	42 (3.3)
Education level	
Elementary	7 (0.6)
Intermediate	37 (2.9)
High school	293 (23.0)
University	812 (63.8)
Higher degree	123 (9.7)
Average monthly income	
Less than 5000 SAR	311 (24.4)
From 500 to 10,000 SAR	312 (24.5)
More than 10,000 SAR	649 (51.0)
Occupation	
Military sector	48 (3.8)
Private sector	215 (16.9)
Government sector	551 (43.3)
No current job	458 (36.0)
Most frequently visited healthcare facility	
Ministry of health	330 (25.9)
Private hospital	643 (50.6)
Military hospital	223 (17.5)
University hospital	76 (6.0)
Chronic disease	
Yes	432 (34.0)
No	840 (66.0)
Mental illness	
Yes	112 (8.8)
No	1160 (91.2)

Note. SAR=Saudi Arabian Riyal

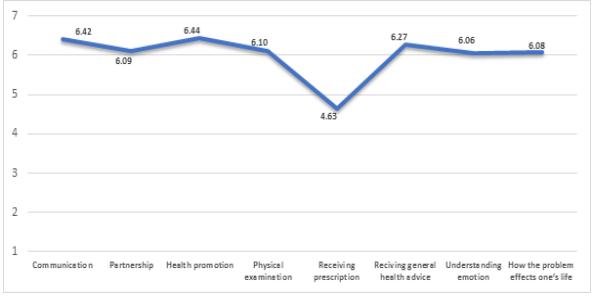

***Figure** 1.(Mean scores of participants' preference toward PCC domain (N=1272).*

Table 2 shows patients' preferences toward PCC, while Table 3 shows the association between demographic characteristics and the communication domain, which revealed a significant association with three characteristics: marital status, education level, and presence of a chronic disease. In contrast, there was no significant association with sex, age, nationality, monthly income, occupation, the most frequently visited healthcare facility, or presence of a mental illness. Table 4 shows the association between demographic characteristics and the partnership domain, which indicated a near significant association between being a woman and preferring to be involved in the diagnosis and treatment plan. Further, there was a significant association between having a chronic disease and being engaged in care. In contrast, there was no significant association between the partnership domain and other variables such as age, marital status, nationality, education level, monthly income, occupation, the most frequently visited healthcare facility, or the presence of mental illness.

***Table 2.** Patients' preferences toward PCC (N=1272)*

PCC domain	*Mean±SD*
Communication	
I want the doctor to deal with my worries about the problem	6.08±0.986
I want the doctor to listen to everything I have to say about my problem	6.42±0.792
I want the doctor to be interested in what I want to know	6.45±0.763
I want the doctor to understand my main reason for coming to see him/her	6.44±0.748
I want the doctor to be friendly and approachable	6.45±0.797
I want to feel really understood	6.45±0.781
I want the doctor to find out how serious my problem is	6.40±0.819
I want the doctor to clearly explain what the problem is	6.54±0.739
I want the doctor to clearly explain what should be done	6.56±0.720
Partnership	
To be interested in what I think the problem is	6.16±0.98
To discuss and agree with me what the problem is	6.27±0.93
To be interested in what I want done	6.04±1.12
To be interested in what treatment I want	5.81±1.29
To discuss and agree with me on treatment	6.19±0.99
Health promotion	
To give advice on how to reduce the risk of future illness	6.43±0.82
To give advice on how to stay healthy in future	6.45±0.82
Other	
To examine me fully	6.10±1.11
I want a prescription	4.63±1.47
To give advice on what I can do	6.28±0.88
To understand my emotional needs	6.06±1.09
To be interested on how the problem effects my life	6.08±1.08

***Table 3.** Association between demographic characteristics and the communication domain (N=1272)*

Characteristic	*Mean±SD*	*P*-value
Sex		**.934**
Male	6.41±0.60	
Female	6.42±0.62	
Age (years)		
18–38	6.42±0.60	**.338**
39–56	6.41±0.63	
≥ 57	6.51±0.57	
Marital status		**.011**
Married	6.39 ±0.63	
Unmarried	6.49±0.54	
Nationality		**.250**
Saudi	6.42±0.60	
Non-Saudi	6.26±0.89	
Education level		**.002***
Elementary	6.33±0.83	
Intermediate	6.09±0.89	
High school	6.35±0.61	
University	6.44±0.60	
Higher degree	6.49±0.61	
Average monthly income		**.296**
Less than 5000 SAR	6.39±0.66	
From 5000 to 10,000 SAR	6.39±0.62	
More than 10,000 SAR	6.44±0.59	
Occupation		**.437**
Military sector	6.54±0.47	
Private sector	6.45±0.57	
Government sector	6.40±0.63	
No current job	6.41±0.63	
Most frequently visited healthcare facility		
Ministry of health	6.37±0.66	**.319**
Private hospital	6.43±0.60	
Military hospital	6.45±0.61	
University hospital	6.45±0.56	
Chronic disease		**.050**
Yes	6.46±0.59	
No	6.39±0.63	
Mental illness		**.328**
Yes	6.36±0.74	
No	6.42±0.60	

Note. SAR=Saudi Arabian Riyal. **Post hoc test*

Table4. *Association between* demographic *characteristic and the partnership domain (N=1272)*

Characteristic	*Mean±SD*	*P-value*
Sex		**.005**
Male	5.96±0.98	
Female	6.13±0.84	
Age (years)		
18–38	6.07±0.83	**.432**
39–56	6.09±0.93	
≥ 57	6.20±0.81	
Marital status		**.421**
Married	6.08±0.90	
Unmarried	6.13±0.83	
Nationality		**.422**
Saudi	6.09±0.88	
Non-Saudi	5.98±0.97	
Education level		**.337**
Elementary	5.74±1.50	
Intermediate	5.85±1.02	
High school	6.06±0.87	
University	6.11±0.87	
Higher degree	6.09±0.91	
Average monthly income		**.953**
Less than 5000 SAR	6.08±0.90	
From 5000 to 10,000 SAR	6.09±0.85	
More than 10,000 SAR	6.09±0.89	
Occupation		**.894**
Military sector	6.15±0.95	
Private sector	6.10±0.84	
Government sector	6.07±0.90	
No current job	6.10±0.87	
Most frequently visited healthcare facility		
Ministry of health	6.05±0.88	**.054**
Private hospital	6.07±0.88	
Military hospital	6.24±0.86	
University hospital	6.02±0.93	
Chronic disease		**.016**
Yes	6.17±0.86	
No	6.05±0.89	
Mental illness		**.232**
Yes	5.99±0.91	
No	6.10±0.88	

Note. SAR=Saudi Arabian Riyal

Table 5 shows the association between demographic characteristics and the health promotion domain. There was a significant association between health promotion and marital status as unmarried participants and patients with a chronic disease preferred to receive more health promotion than their counterparts. In contrast, there was no significant association between health promotion and other variables such as sex, age, nationality, education level, monthly income, occupation, the most frequently visited healthcare facility, or the presence of a mental illness.

Table 5. *Association between demographic characteristics and the health promotion domain (N=1272)*

Characteristic	*Mean±SD*	*P-value*
Sex		**.946**
Male	6.44±0.80	
Female	6.43 ±0.74	
Age (years)		
18–38	6.41±0.78	**.265**
39–56	6.44±0.75	
≥ 57	6.56±0.67	
Marital status		**.037**
Married	6.41±0.77	
Unmarried	6.52±0.71	
Nationality		**.412**
Saudi	6.44±0.75	
Non-Saudi	6.34±0.91	
Education level		**.071**
Elementary	6.50±0.76	
Intermediate	6.17±0.96	
High school	6.37±0.78	
University	6.47±0.73	
Higher degrees	6.48±0.77	
Average monthly income		**.685**
Less than 5000 SAR	6.43±0.80	
From 5000 to 10,000 SAR	6.47±0.74	
More than 10,000 SAR	6.42±0.74	
Occupation		**.226**
Military sector	6.51±0.78	
Private sector	6.50±0.67	
Government sector	6.39±0.80	
No current job	6.45±0.75	
Most frequently visited healthcare facility		
Ministry of health	6.38±0.77	**.379**
Private hospital	6.44±0.75	
Military hospital	6.50±0.77	
University hospital	6.43±0.77	
Chronic disease		**.010**
Yes	6.51±0.72	
No	6.40±0.78	
Mental illness		**.269**
Yes	6.34±0.98	
No	6.44±0.73	

Note. SAR=Saudi Arabian Riyal

Lastly, Table 6 shows the association between demographic characteristics and other domains. The results indicated that older patients or those with a chronic disease preferred physical examinations, as did those who were more educated. There were significant associations between participants that preferred obtaining a prescription and the presence of a chronic illness, low monthly income, and working in the military sector. There was a significant association between understanding patients' emotional needs and the presence of a mental illness. The effect on one's life was significantly associated with three factors: being unmarried, most frequently visiting military or private hospitals, and history of a mental illness.

Table 6. *Association between demographic characteristic and other domains (N=1272)*

		Physical examination	**Receiving prescription**	**Receiving general health advice**	**Understanding emotional needs**	**Understanding effect on one's life**
Characteristic	***n (%)***					
Sex		.060	.766	.668	.743	**.652**
Male	323 (25)					
Female	949 (74.6)					
Age (years; p-value)		**< .01***	.882	**.046***	.941	**.824**
18–38	535 (42.1)					
39–56	630 (49.05)					
≥ 57	89 (7)					
Marital status (p-value)		.253	.559	**.024**	.083	**.034**
Married	981 (77.1)					
Unmarried	291 (22.9)					
Nationality (p-value)		.298	.706	.483	.121	**.820**
Saudi	1230 (96.7)					

Non-Saudi	42 (3.3)					
Education level (p-value)		**.046***	.089	.302	.531	**.349**
Elementary	7 (0.6)					
Intermediate	37 (2.9)					
High school	293 (23)					
University	812 (63.8)					
Higher degrees	123 (9.7)					
Average monthly income (p-value)		.183	**< .01***	.861	.756	**.946**
Less than 5000 SAR	311 (24.4)					
From 5000 to 10,000 SAR	312 (24.5)					
More than 10,000 SAR	649 (51)					
Occupation (p-value)		.062	**.017***	.102	.775	**.464**
Military sector	48 (3.8)					
Private sector	215 (16.9)					
Government sector	551 (43.3)					
No current job	458 (36)					
Most frequently visited healthcare facility (p-value)		.250	.085	**.004***	.116	**.035***
Ministry of health	330 (25.9)					
Private hospital	643 (50.6)					
Military hospital	223 (17.5)					
University hospital	76 (6)					
Chronic disease (p-value)		**.020**	**< .01**	.299	.632	**.466**
Yes	432 (34)					
No	840 (66)					
Mental illness (p-value)		.518	.356	.298	**.028**	**.025**
Yes	112 (8.8)					
No	1160 (91.2)					

Note. SAR=Saudi Arabian Riyal *Post hoc test

Discussion

Movement from physician-centered care to PCC is one of the leading objectives of the MOH's National Transition Program and is a global aim to improve healthcare quality. This study evaluated patients' perceptions of the PCC model, highlighting key domains: health promotion, communication, receiving general health advice, physical examinations, partnership, understanding the effect on one's life, and understanding emotional needs (in that order). Participants were not as interested in prescriptions.

We revealed these findings considering the influence of Saudi cultural demographics and clinical characteristics. The sample size of this study was larger than that of prior studies conducted in 2012 and 2014 in Eastern Mediterranean countries (Alharbi et al., 2014; Qidwai et al., 2013; Rawaf et al., 2015). Our results contrast those from Western countries, where participants valued all PCC domains over the physical examination included in the practical medicine model. This could be because the Saudi culture is based on social ties, where they may consider a physical examination by their doctor to be reassuring. Another explanation may be that the PCC model was already known and applied in Western countries.

Results yield interesting findings across five areas, which will be discussed in turn.

Doctor–patient Communication (DPC)

First, DPC is the cornerstone of building a therapeutic relationship. This includes listening and discussing the patient's concerns and requirements for information. Effective DPC is essential to improve patients' health outcomes.

Unmarried patients required effective communication from their doctor. In contrast, Little et al. (2001) found no association between preference for DPC and marital status. This difference could be based on Saudi culture, where single people often live with their family and share life responsibilities and stressors; therefore, they value listening from their doctor (Little et al., 2001). We also showed that patients with a chronic disease sought effective communication, which was similar to the findings of Little et al. (2001). Again, Saudi individuals seek to build healthy relationships with those who take care of them; moreover, these patients may have frequent visits to different doctors due to lacking continuity of care.

In addition, highly educated patients preferred effective DPC. This result is similar to a 2017 study in Tokyo, which showed highly educated patients required excellent DPC skills when being given bad news (Fujimori, Akechi, & Uchitomi, 2016). This may be because they are knowledgeable and want more attention and explanation from their doctors.

Moreover, we revealed no association between preference for DPC and sex, which contrasts pasts studies that revealed women sought effective DPC (Fujimori, Akechi, & Uchitomi, 2016; Lunn, Willjams, James, Weinman, & Newma, 1998; Weissman, 1987). However, this could be due to sample characteristic differences, as those studies were conducted with palliative care participants.

Partnership

Second, the partnership domain comprised interest in beliefs, expectations and negotiating a common ground. We revealed that women wanted to play an active role in their care more so than did men. This contrasts an earlier 2010 study in Riyadh, which showed 95% of male patients (vs. 88% of women) preferred to know the treatment plan for their diseases (AlHaqwi et al., 2016). Perhaps the 2010 study is outdated since women's awareness of their health rights and ability to make independent care decisions without the permission of men is increasing.

In addition, patients with a chronic disease wanted to be more involved in their healthcare; this finding is consistent with those of Henselmans (et al. who revealed that many chronically ill patients adopted a participatory role in their care (Henselmans, Heijmans, Rademakers, & van Dulmen, 2014). This similarity might be due to the nature of chronic illnesses (e.g., incurable conditions with remission and relapses) in addition to frequent use of healthcare facilities that got them involved in their healthcare.

There were no associations between education level or age with preference of patients' involvement in decision-making. Alternatively, several studies showed higher educated and younger patients preferred to be more engaged in their care (AlHaqwi et al., 2016; Davis, Hoffman, & Hsu, 1999; Levinson, Kao, Kuby, & Thisted, 2005; Michaelis et al., 2017; Say, Murtagh, & Thomson, 2006; Street, Gordon, Ward, Krupat, & Kravit, 2005; Tsimtsiou, Kirana, & Hatzichristou, 2014; Qidwai et al., 2013). Perhaps Saudi individuals' knowledge has increased about the importance of participation in decision-making; therefore, there was no clear association between their preference for participation and their education.

The item, "I want the doctor to be interested in what treatment I want"

was the least preferable compared to other items concerning partnership, which was similar to Little et al.'s (2001) findings. Saudi patients may think that when the doctor shows interest in what treatment they want, it may affect their best choice of treatment.

Health Promotion

Third, we studied the preference for receiving health promotion regarding how to stay healthy and how to reduce the risks of future illnesses .The current results demonstrated a significant association between health promotion and unmarried participants who preferred to receive more health promotion. This contrasts Little et al.'s (2001) findings. This could be due to the nature of dependency in married life and independency in single life, such that a married couple may seek healthcare from each other, unlike single persons.

Further, patients with a chronic disease was significantly associated with health promotion, which contrasts Little et al. (2001). Perhaps Saudis require more health education to achieve adequate control and prevent adverse health outcomes. We were unable to demonstrate an association between preference of health promotion and the presence of mental illness, also contrasting Little et al. (2001). This may be because there is still stigma preventing Saudi citizens from seeking help and receiving psychological treatment from their doctor.

Understanding Emotional Needs and the Effects on One's Life

Fourth, we found that patients with a history of mental illness strongly wanted their doctor to understand their emotional needs and to be interested in how the problem affected their life. Similarly, Little et al. (2001) found that anxious or depressed patients preferred the PCC model. This similarity could be because patients with mental illness require psychological support as part of their management plan.

Practical Medicine Model

Last, regarding the practical medicine model, we found that higher educated participants preferred physical examinations, similar to Little et al. (2001). Such a finding might be due to participants' increased awareness about the importance of their health and about their rights during consultations. Further, older adults and those with a chronic disease also wanted physical examinations, which could be due to their need for reassurance, as physical examinations relieve patients' concern.

We also found an association between the presence of a chronic disease and preference for obtaining a prescription, which contrasted Little et al. (2001). This may be because of their requirements for regular refilling and the need to control other comorbidities. In addition, patients with less income wanted to receive a prescription each visit, similar to Little et al. (2001). This highlights the link between socioeconomic status and health—the prevalence of illness is higher among individuals with a lower socioeconomic status, which may lead them to request prescriptions.

Further, those working in the military sector wanted to obtain a prescription more so than other workers, which may be due to experiencing excessive job stressors. Emotionally distressed workers are more prone to making mistakes that can cost lives; therefore, they may seek care for even minor issues.

We did not find an association between age or education level and the desire to obtain a prescription. However, Little et al. (2001) showed that older and better educated people preferred to obtain a prescription compared to their counterparts. This might be due to the new regulations for over-the-counter medications, which may influence Saudi peoples' preference toward obtaining prescriptions. Another potential reason is the impact of social media over the community in raising awareness about the risks of obtaining drugs without medical prescriptions.

Limitations

This study had some limitations. We used convenience sampling to increase the sample size. In addition, all participants came from the Eastern Province.

Conclusion

Overall, participants valued the PCC approach. People who sought effective DPC were more likely to be highly educated, unmarried, and having a chronic disease. Those who wanted partnership were more likely to be women and to have a chronic disease. Health promotion was valued by unmarried and patients with a chronic disease; on the other hand, a practical medicine approach was more likely to be preferred by older and patients with a chronic disease compared to their counterparts. Obtaining a prescription was the least preferable item. Overall, strategies should be developed to improve the application of the PCC approach at the primary care level.

Recommendations for practice

- A PCC approach should be implemented in the undergraduate curriculum around the kingdom or in pre-job preparatory courses.
- The number of family medicine physicians should be increased, which would afford more time for consultation visits and the application of PCC.
- Training general practitioners about the PCC approach should be performed by family medicine physicians in each public health center.
- Courses should be provided for physicians regarding PCC domains and ways of applying it during visits.
- Health practitioners should be aware of the outcomes of the PCC model.
- The PCC model should be implemented in other healthcare avenues such as nursing and dentistry, as well as with non-medical staff such as social workers.
- Physicians should discourage patients from demanding unnecessary prescriptions and focus on improving their communication skills.
- Women should be encouraged to participate in health-related decision making, especially given their primary role of caregiver in most Saudi families.
- Physicians should develop a partnership with patients with a chronic disease.
- Patients with a chronic disease need to be attached to one physician, which will allow for a more effective PCC approach.
- Physicians must be aware of periodic health assessments, which are promoted by the MOH.
- Greater attention should be given to those with a mental illness or a chronic disease as well as to unmarried and elderly participants. These individuals may require a PCC approach more than others.
- People with mental health problems should be referred to psychologists or social workers. Physicians should also promote compassion and empathy for these patients.
- The MOH should ensure that hospitals and other healthcare institutions are patient-centered.
- The MOH should encourage online posting and publication of patients' experiences.
- Physicians should adopt the PCC approach during consultation visits.
- The MOH should implement the use of social media to promote the importance of PCC.
- Saudi citizens should be educated about the importance of partnership, especially decision making surrounding treatment.
- Organizing campaigns that enhance the public's attitude toward requesting prescriptions without medical reasons, especially among chronic disease patients who are at an elevated risk of drug interactions, may prove valuable.

Recommendations for future researchers

- Future work should focus on patients' perception of PCC applications (e.g., post-consultation visits).
- Preference toward PCC should be assessed nationally.
- Physicians' knowledge and attitude toward PCC model application should be evaluated.
- Piker's eight principles of PCC should be explored in future studies.
- The PCC model should be applied (e.g., case studies) with patients experiencing specific chronic diseases such as diabetes or hypertension.
- Qualitative studies should be conducted to enrich data relevant to the Saudi culture.
- Barriers to the PCC approach in public health centers should be elucidated.
- Patients' perception toward PCC application at the secondary and tertiary healthcare levels should be assessed.

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