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## Are we ready for a person-centered care model for patient-physician consultation? A survey from family physicians and their patients of East Mediterranean Region

Waris Qidwai MBBS MCPS FCPS MRCGP (Int) FCGP (Sri Lanka)<sup>a</sup>, Kashmira Nanji BSc MSc<sup>b</sup>, Tawfik A M Khoja MBBS DPHC FRCGP FFPH FRCP<sup>c</sup>, Salman Rawaf MD PhD FRCP FFPH<sup>d</sup>, Nabil Yasin Al Kurashi MBBS FFCM<sup>e</sup>, Faisal Alnasir PhD MICGP FRCGP FFPH<sup>f</sup>, Mohammed Ali Al Shafae MD PhD MRCGP<sup>g</sup>, Mariam Al Shetti MBBS MSc ABFM<sup>h</sup>, Muntazar Bashir MD FRACGP CPHIM MBA (Dist.)<sup>i</sup>, Nagwa Eid Sobhy Saad MD MRCGP<sup>j</sup>, Sanaa Alkaisi MBCHB FIBMS<sup>k</sup> and Wafa Halasa MBBS<sup>l</sup>

a Professor and Chairman, Department of Family Medicine, Aga Khan University, Karachi, Pakistan

b Senior Instructor (Research), Department of Family Medicine, Aga Khan University, Karachi, Pakistan

c Family Physician Consultant & Director General, Executive Board, Health Ministers' Council for Cooperation Council States, Riyadh, Kingdom of Saudi Arabia

d Professor of Public Health, Director, WHO Collaborating Centre, Department of Primary Care and Public Health, School of Public Health, Faculty of Medicine, Imperial College London, UK

e Professor of Family Medicine, College of Medicine, University of Dammam, Riyadh, Kingdom of Saudi Arabia

f Professor and Chairman, Department of Family & Community Medicine, Arabian Gulf University, Bahrain

g Associate Professor & Head, Family Medicine & Public Health Department, College of Medicine, Sultan Qaboo University, Sultanate of Oman

h Consultant Family Physician, Primary Healthcare, Bahrain

i Chairman & Consultant Family Physician, Department of Family Medicine, King Faisal Specialist Hospital and Research Centre, Jeddah, Kingdom of Saudi Arabia

j Head, Department of Family Medicine, Cairo University, Cairo, Egypt

k Senior Specialist Family Physician & Supervisor in the Residency Program of the Arab Board for Health Specializations, Manager of Continuing Professional Development (CPD), Continuing medical education (CME) & Member of the Executive Board of Iraqi Family Physicians Society (IFPS), Baghdad, Iraq

l Consultant Family Physician, Al-Bashir Hospital, The Ministry of Health, Amman, Jordan,

### Abstract

**Background:** Person-centered care has long been identified as a key component of health systems and one of the six domains of quality. This study aimed to identify the perceptions of patients and physicians regarding person-centered care in the Eastern Mediterranean Region (EMR).

**Methods:** A multicountry, cross-sectional study was conducted in 6 countries of EMR during July 2012 to September 2012. From each country, an expert Family Physician (FP) was identified and invited for the study. During the first phase, 190 FPs practising for at least 6 months were recruited. In the second phase, the recruited FPs approached 300 patients aged > 18 years with 1 or more recurring problems. Data analysis was conducted using SPSS version 19.

**Results:** Of a total of 360 patients, 53% were between 25-40 years of age and the majority 55.7% were females. Among physicians, 66.8% were females and 72.1% had undergone specialization in Family Medicine from EMR. About 36% of the patients, while 62.6% of the physicians, preferred a person-centered care model of care. Among physicians, field of specialization (AOR= 0.7; 95% C.I: 0.3-0.9) and regularity in continuing medical education sessions (AOR= 0.3; 95% C.I: 0.1-0.5) were significant factors for preferring a person-centered care model. Educational status (AOR= 3.0; 95% C.I: 1.1-7.9) was associated with a preference for person-centered care among patients.

**Conclusion:** The results of the study highlight that a majority of physicians prefer person-centered care, while patients prefer a mix of both patient- and physician-centered care. Strategies should be developed that will help physicians and patients to embrace person-centered care practices.

### Keywords

Eastern Mediterranean Region, family physician, patient-centered care, person-centered care, physician-centered care, primary healthcare

### Correspondence address

Dr. Waris Qidwai, Department of Family Medicine, Aga Khan University, Stadium Road, P.O. Box: 3500, Karachi 74800, Pakistan. E-mail: waris.qidwai@aku.edu

## Introduction

Person-centered care has long been identified as a key component of a health system that ensures that all patients have access to the kind of care that works best for them. It is considered as 1 of the 6 domains of quality by the Institute of Medicine (IOM) with the others being safety, timeliness, effectiveness, efficiency and equity [1].

The shift of the paradigm of care from 'patient-centered care' to 'person-centered care' signifies the concept of health promotion and disease prevention [2]. The "Health for All" goals as stated in the 1978 Alma Ata declaration described the need to acknowledge the patient as a person [3]. It is essential that patient-centered care be recognized as vital by health professionals who work in any domain of medicine.

Person-centered Medicine was first discussed in the Geneva Conference on May 2008 organized by the World Psychiatric Association (WPA) in collaboration with the World Organization of Family Doctors (Wonca) and several other global medical and health organizations [4].

Person-centered care incorporates the patient's goals of care in addressing all needs. These include medical, functional, psychosocial and spiritual care. It requires that the highest level of evidence is used to guide the patient and family for health promotion and disease prevention. It also seeks to balance patient preferences with sound clinical practices. This care is compassionate, convenient, timely, safe, cost-effective, efficient, interdisciplinary and collaborative [5].

A slogan adopted by The Salzburg group, "Nothing about me without me", reflects the need to involve patients in all decisions about their care [6]. Quality is often defined as providing the right care in the right way at the right time, but a person-centered vision would define quality as providing the care that the patient needs in the manner the patient desires at the time the patient desires. Because both patients and physicians desire good health outcomes, sometimes these two definitions become identical [7].

There is abundant evidence to conclude that person-centered care results in better health outcomes, even survival [8]. Two systematic reviews conducted recently have also shown similar results of improved health status and better patient satisfaction [9,10]. A study conducted by Stewart *et al.* found that person-centered practice leads to improved health status and better patient satisfaction [11].

The Eastern Mediterranean region (EMR) stretches from Morocco in the West to Pakistan in the East. Although there are variations in the socioeconomic conditions of these countries, poor healthcare resources and indicators are common factors amongst them. The double burden of diseases including both communicable and non-communicable diseases with an alarming increase in psychiatric disease, are exerting an extra burden on the already exhausted healthcare systems of these countries [12].

Family physicians are the backbone of any healthcare system as they play a central role in providing primary healthcare and are usually the first contact of the patient [13]. In primary care, the focus is not on disease but on the person who is ill, which requires shared decision-making by physicians and patients [13].

Even with the growing importance of primary healthcare, services are deficient in the EMR region due to a lack of trained family physicians who are incapable of providing person-centered care to patients. Several other factors also contribute to this deficiency, such as a lack of support from Government, under-recognition of the field and weak healthcare infrastructure [14]. Overall, in the past decades, there has been a reduction in the number of primary healthcare facilities in the EMR region [5].

In many industrialized countries, the concept of person-centered primary care is being integrated into health systems. But this is not yet the case in most developing countries. However, to make person-centered care an integral part of the healthcare delivery system in EMR and other developing countries like Pakistan and India, requires that patient and physician perceptions should be well recognized and studied in this regard. Therefore, this study was conducted to identify the perceptions of patients and physicians regarding person-centered care in the EMR region.

## Methods

### Design

A multicountry cross-sectional study was carried out in 6 countries (Iraq, Saudi Arabia, Jordan, Egypt, Bahrain and Pakistan) of the Eastern Mediterranean Region between July to September 2012. These countries were selected to obtain perceptions of patient and family physicians belonging to diverse culture and socio-economic strata on patient-centered care, so that the results and recommendations can be extrapolated to other populations. This study was conducted in 2 phases. From each country an expert family physician (FP) was identified and was familiarized with the study protocol/objectives and was invited to be part of the study group. The expert family physicians (FPs) were also asked to provide feedback on the study protocols and questionnaire.

### Selection of family physicians and patients

During the 1<sup>st</sup> phase, the expert FPs in different countries recruited family physicians of either gender, practicing for at least 6 months. The recruited FPs from the 1<sup>st</sup> phase were then asked to recruit patients who were older than 18 years and had 1 or more recurring problems and had presented to their clinic. Patients were excluded if they were too ill or disabled to answer questions, had no presenting problem, were in the office for counseling, had

hearing problems, were agitated or in severe pain. To ensure the quality of data, experts closely monitored the data collection process.

### Study tools

A questionnaire was formulated after compiling important domains of patient-centered and physician-centered care through extensive Medline search and opinion generated through a consensus development technique by investigators of the study. The questionnaire was then piloted on 5% of the sample size (family physicians, patients) and any ambiguities found were removed. The questionnaire was composed of 2 sections; The first section dealt with socio-demographic aspects of an individual while the second section had questions on patient-centered care and physician-centered care on a 5-point likert scale (strongly agree, agree, disagree, strongly disagree, don't know). The second section on perceptions had similar stems for both family physicians and patients (only sentence structure was changed).

### Informed consent

Written informed consent was obtained from all participants (physicians and patients) after explaining the nature and purpose of the study protocol. No personal identifiers were used. The study was conducted in accordance with the 'Ethical principles for medical research involving human subjects' of the Helsinki Declaration. The research committee of the department of Family Medicine at the Aga Khan University reviewed and approved the study protocol.

### Data analysis

Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 19. Although this study did not have an *a priori* hypothesis and power analysis was not performed, a *post hoc* power analysis yielded a power of 80% and 90% when 190 physicians and 300 patients were selected respectively.

The Likert scale was divided into 3 categories, that is, agree, disagree and not sure. Proportions were reported for all the items on the perception scale (Section B). Internal consistency reliability was checked for the perception scale, to assess if items adequately contribute to the construct through Cronbach's alpha and total item correlation. We defined an alpha of 0.70 as the lowest acceptable value. Item-total correlation was also used to assess the overall correlation between items within the questionnaire. Later, multinomial logistic regression was conducted. This analysis allows for a reference category (both person- and physician-centered care) to be compared with other categories. This was used to assess the influence of several independent factors, as well as to study the effects of specific variables controlled by confounders. P value of < 0.05 was considered significant and multinomial odds ratios (mOR) were calculated.

## Results

### Patient characteristics

A total of 360 patients were approached out of which 60 (60/360=17%) either declined to participate or had incomplete information; hence, the response rate for this study was 83%. Data from 300 patients was included in the final analysis and the missing information was handled through mean imputation. More than half of the patients (53%) were between 25-40 years of age and majority were females (55.7%). About 67.7% of the patients had more than 5 years of education, while 9.7% had no formal education (Table 1). Slightly over three quarters (76.3%) of the patients were employed. About 29% of patients were from Pakistan and 20.7% from Jordan.

**Table 1 Demographic characteristic of patients (n=300)**

Variables	n	%
<b>Age</b>		
< 25 years	67	22.3
25-40 years	159	53
> 40 years	74	24.7
<b>Gender</b>		
Male	133	44.3
Female	167	55.7
<b>Education</b>		
No formal education	29	9.7
Primary	68	22.7
Secondary	203	67.7
<b>Marital Status</b>		
Never married	104	34.7
Married	187	62.3
Divorced	9	3
<b>Employment Status</b>		
Employed	229	76.3
Unemployed/housewife	71	23.7
<b>Country</b>		
Iraq	30	10
Egypt	48	16
Jordan	62	20.7
Saudi Arabia	30	10
Bahrain	42	14
Pakistan	88	29.3

### Physician characteristics

The demographic characteristics of the physicians are presented in Table 2. A total of 190 physicians were included in the study; the response rate was 86%. Mean imputation was performed for missing information. There was a preponderance of female physicians in the sample (66.8% v/s 33.2%). About 88% of the physicians had postgraduate training; amongst them 72.1% had done specialization in Family Medicine from EMR (83.7%). On

average, about 25% of the physicians provides/see less than 25 consultations per week while 17.9% of the physicians provide consultations to over 100 patients. Over two-thirds of the physicians attended CME sessions regularly. The majority of the physicians were from Egypt (53%).

**Table 2 Demographic characteristics of physicians (n=190)**

Variables	n	%
<b>Age</b>		
25-35	120	63.2
36-45	40	21.1
46-55	30	15.8
<b>Gender</b>		
Male	63	33.2
Female	127	66.8
<b>Years of Practice</b>		
< 3 years	131	68.9
3-10 years	29	15.3
> 10 years	30	15.8
<b>Postgraduate Training</b>		
Yes	167	87.9
No	23	12.1
<b>Specialization</b>		
Family Medicine	137	72.1
Others	53	27.9
<b>Where</b>		
In EMR	159	83.7
Outside EMR	31	16.3
<b>Avg. Patients per week</b>		
< 25	95	50
25-50	34	17.9
100-200	61	32.1
<b>Avg. time spent on patient</b>		
5min	66	34.7
10	83	43.7
15 min	41	21.6
<b>Attend CME Sessions regularly</b>		
Yes	133	70
No	57	30
<b>No. of CME hours</b>		
10	91	47.9
20-40	52	27.4
20-50	47	24.7
<b>Current Position</b>		
FP independent	116	61.1
FP private	28	14.7
FP government	46	24.2
<b>Country</b>		
Iraq	29	15.3
Egypt	53	27.9
Jordan	26	13.7
Bahrain	35	18.4
Saudi Arabia	17	17.4
Pakistan	30	25.8

The responses of the study participants on individual items of the questionnaire are shown in Table 3. Almost all the physicians (97%) and 76% of the patients believe that person-centered care is defined in terms of an engagement between the patient and physician a partnership aimed at the promotion of health. One quarter of the patients perceived that the person-centered care model leads to better patient satisfaction. An essentially similar proportion of patients and physicians (68% and 66%) perceived that culture plays a significant role in determining the model of care used. In this study, 36.8% of the physicians and 22.1% of patients were comfortable with the person-centered care model. The Cronbach’s alpha value of the perception questionnaire for both patients and physicians met the criterion of 0.7, being 0.71 and 0.74, respectively.

The preference of care model among both groups (patients and physicians) is shown in Table 4. Table 5 presents the unadjusted and adjusted odds ratio for predictors of preference in the care model. Education was associated with person-centered care on multinomial regression analysis. Being unemployed and with no formal education was a predictor for patient preferred physician-centered care. The univariate analysis showed that years of practice, postgraduate training, specialization and attending CME sessions regularly are significantly associated with person-centered care as preferred by the physicians (Table 6). When adjusted for other confounders in multinomial logistic regression analysis, the field of specialization and regularity in CME sessions were significant factors for preferring the person-centered care model. Years of practice and postgraduate training was associated with the physician-centered care model when both groups (patients and physician) were taken as reference.

Figure 1 depicts patient and physician preference with regard to the given care model. Approximately 36% of the patients and 62.6% of the physicians preferred the person-centered care model. More than half of the patients (53%) preferred a mix of both of the (physician- and patient-centered) care models.

## Discussion

This is the first study from the EMR region to assess the preference of care approach and specifically the perception of both patients and physicians towards person-centered care. The results of the study show that the majority (62%) of the physicians prefer the person-centered care approach, while the majority of the patients (53%) prefer a mix of both the person-centered and patient-centered care approaches. The results of this study also highlight that the field of specialization and the regularity in attendance of CME sessions are predictors of a preference for the person-centered care approach by physicians. These factors play a significant role in improving the consultation skills of doctors and drive changes in clinical practice. Level of education was associated with a preference for the person-centered care approach among patients, while being unemployed and having no formal education was a

**Table 3 Responses of study participants on individual items of questionnaire**

Items	Patients Perception		Physician Perception	
	n	%	n	%
<b>Definition/concept of person-centered care:</b>				
Considering a person whose health needs to be maintained, promoted & illness prevented	246	82.0	181	95.3
Patient is considered to be consultation focus and physician as facilitator	214	71.3	173	91.1
Physician assists in making informed decisions	244	81.3	173	91.1
Person and physician engaged in partnership to promote health	237	79.0	185	97.4
Patient takes ownership and responsibility of his/her health	134	44.7	156	82.1
<b>Difference in patient-centered and physician-centered care</b>				
Person-centered care is a better term than patient-centered care	214	71.3	147	77.4
Person-centered care is better than physician-centered care	206	68.7	107	56.3
The person-centered approach is better than physician-centered care	204	68.0	127	66.8
Person-centered care leads to better satisfaction of patients than physician-centered care	74	24.7	89	46.8
The physician-centered approach assumes physicians know what is best for the patient	185	61.7	99	52.1
Person-centered care can lead to reduced confidence from physicians	178	59.3	117	61.6
<b>Cultural aspects</b>				
They determine the use of person-centered or physician-centered care	191	63.7	122	64.2
In East Mediterranean Region, person-centered care is more applicable	209	69.7	75	39.5
It is a mistake to advocate person-centered or physician-centered care without considering cultural context	40	13.3	56	29.5
In East Mediterranean Region most suited approach is physician-centered or patient-centered care	116	38.7	37	19.5
Uses person-centered approach	110	36.7	76	40.0
Uses physician-centered approach	107	35.7	67	35.3
Comfortable with person-centered approach	67	22.3	70	36.8
Comfortable with physician-centered approach	169	56.3	52	27.4
Received physician approach during consultations	120	40.0	36	18.9
Physician facilitates informed decisions	128	42.7	94	49.5
<b>Desires/Recommendations</b>				
Desire information during consultation	68	22.7	119	62.6
Desires to make informed decisions during consultations	232	77.3	44	23.2
Patients should decide which approach to use	174	58.0	80	42.1
Physicians should decide which approach to use	125	41.7	142	74.7
Both patient & physician should agree on the terms during the consultation	155	51.7	127	66.8
In future, in East Mediterranean Region patients are more likely to desire the person-centered approach	231	77.0	103	54.2
Medical students should be trained to use the person-centered model during consultations	178	59.3	138	72.6

predictor of a preference for the physician-centered care model.

There is general consensus on the significance of CME in improving the technical skills and scientific knowledge of FPs [15-18]. This is congruent with the results of the current study, since the majority of the FPs (62.2%) who were attending CME regularly preferred the person-centered care approach. In our study, 70% of FPs were attending CME regularly. Our results also found that approximately 23% of the physicians preferred the physician-centered care approach. This may be due to the fact that FPs are well aware that the educational status of some countries such as Pakistan, Afghanistan and Somalia

is below average and patients might not be able to make the best choices about their health [4,19,20]. However, with proper training and guidance this challenge can be resolved and FPs can help and guide their patients to take correct decisions pertaining to their health [21,22].

Due to continuous advancements in medicine, it is important for physicians to keep themselves up to date with new information. However, studies have reported that physicians' knowledge declines after graduation [19] and one of the major barriers for physicians not adopting the person-centered care model may be because they are reluctant to change practices based on inadequate education [8,18].

**Table 4 Perception and preference of care model among patients and physicians**

Items	Patient-centered	Physician-centered	Both	P-value	Patient-centered	Physician-centered	Both	P-value
<b>Definition/concept of person-centered care:</b>								
Considering a person whose health needs to be maintained, promoted & illness prevented	86 (79.6)	20 (60.6)	140 (88.1)	<0.001	113 (95)	44 (97.8)	24 (92.3)	0.56
Considered to be consultation focus and physician is as facilitator	74 (68.5)	18 (54.5)	122 (76.7)	0.02	111 (93.3)	36 (80.0)	26 (100)	0.007
Physician assists in making informed decisions	90 (83.3)	23 (69.7)	131 (82.4)	0.01	91 (76.5)	35 (77.8)	12 (46.2)	0.005
Person and patient engage in partnership to promote health	86 (79.6)	19 (57.6)	132 (83.0)	0.005	116 (97.5)	43 (95.6)	26 (100)	0.52
Takes ownership and responsibility of his/her health	49 (45.4)	13 (39.4)	72 (45.3)	0.81	99 (83.2)	34 (75.6)	23 (88.5)	0.34
<b>Difference in patient-centered and physician-centered care</b>								
Person-centered care is a better term than patient-centered care	77 (71.3)	16 (48.5)	121 (76.1)	<0.001	110 (92.4)	24 (53.3)	13 (50)	<0.001
Person-centered care is better than physician-centered care	62 (57.4)	16 (48.5)	128 (80.5)	<0.001	64 (53.8)	27 (60.0)	16 (61.5)	0.65
The person-centered approach is better than physician-centered care	64 (59.3)	11 (33.3)	103 (64.8)	<0.001	90 (75.6)	27 (60.0)	10 (38.5)	0.007
Person-centered care leads to better satisfaction of patients than physician-centered care	59 (54.6)	22 (66.7)	123 (77.4)	0.37	49 (41.2)	22 (48.9)	18 (69.2)	0.03
The physician-centered approach assumes physicians know what is best for the patient	65 (60.2)	20 (60.6)	83 (52.2)	0.009	58 (48.7)	24 (53.3)	17 (65.4)	0.30
Person-centered care can lead to reduced confidence from physicians	27 (25.0)	15 (45.5)	32 (20.1)	0.13	87 (73.1)	19 (42.2)	11 (42.3)	<0.001
<b>Cultural aspects</b>								
They determine the use of person-centered or physician-centered care	70 (64.8)	18 (54.5)	103 (64.8)	0.51	82 (68.9)	21 (46.7)	19 (73.1)	0.01
In East Mediterranean Region which is better physician-centered or patient-centered care ?	73 (67.6)	27 (81.8)	109 (68.6)	0.27	41 (34.5)	19 (42.2)	15 (57.7)	0.08
It is a mistake to advocate person-centered or physician-centered care without taking considering cultural context	56 (51.9)	15 (45.5)	103 (64.8)	0.07	32 (26.9)	18 (40.0)	6 (23.1)	0.19
In East Mediterranean Region most suited approach is physician-centered or patient-centered care	77 (71.3)	15 (45.5)	131 (82.4)	0.01	43 (36.1)	24 (53.3)	8 (30.8)	0.005
Uses person-centered approach	14 (13.0)	6 (18.2)	20 (12.6)	0.01	69 (58.0)	21 (46.7)	10 (38.5)	<0.001
Uses physician-centered approach	44 (40.7)	13 (39.4)	41 (25.8)	0.01	74 (62.2)	21 (46.7)	8 (30.8)	<0.001
Comfortable with person-centered approach	64 (59.3)	8 (24.2)	97 (61.0)	<0.001	82 (68.9)	9 (20.0)	3 (11.5)	0.01
Comfortable with physician-centered approach	18 (16.7)	11 (33.3)	14 (8.8)	0.001	60 (50.4)	19 (42.2)	20 (76.9)	<0.001

Received physician approach care during consultations	56 (51.9)	17 (51.5)	105 (66.0)	0.01	73 (61.3)	2 (4.4)	5 (19.2)	<0.001
Physician facilitates informed decisions	18 (16.7)	13 (39.4)	49 (30.8)	<0.001	28 (23.5)	21 (46.7)	10 (38.5)	<0.001
<b>Desires/Recommendations</b>								
Desire information during consultation	64 (59.3)	8 (24.2)	97 (61.0)	<0.001	40 (33.6)	3 (6.7)	1 (3.8)	0.02
Desires to make informed decisions during consultations	57 (52.8)	6 (18.2)	65 (40.9)	<0.001	105 (88.2)	27 (60)	10 (38.5)	<0.001
Patients should decide which approach to use	45 (41.7)	5 (15.2)	34 (21.4)	0.03	99 (83.2)	28 (62.2)	7 (26.9)	0.85
Physicians should decide which approach to use	84 (77.8)	15 (45.5)	133 (83.6)	0.08	85 (71.4)	44 (97.8)	17 (65.4)	0.30
Both patient & physician should agree on the terms during the consultation	56 (51.9)	15 (45.5)	103 (64.8)	0.07	113 (95)	43 (95.6)	6 (23.1)	<0.001
In future, in East Mediterranean Region patients are more likely to desire the physician-centered or person-centered approach	54 (50.0)	12 (36.4)	59 (37.1)	0.15	78 (65.5)	27 (60)	5 (19.2)	<0.001
Medical students should be trained to use the person-centered model during consultations	48 (44.4)	15 (45.5)	92 (57.9)	0.04	85 (71.4)	44 (97.8)	17 (65.4)	<0.001

**Table 5 Multinomial Logistic Regression Analysis for predictors of care models by patients (n=300)**

Variable	n (percentages)			Unadjusted OR (95% CI)		Adjusted OR (95% CI)	
	Person-centered	Physician-centered	A mix of both	Person-centered	Physician-centered	Person-centered	Physician-centered
<b>Age</b>							
<25 years	30 (27.8)	10 (30.3)	27 (17.0)	2.3 (1.1-4.8)	2.8 (0.9-8.6)	2.6 (1.2-5.8)	5.4 (1.5-6.2)
25-40 years	56 (51.9)	17 (51.5)	86 (54.1)	1.3 (0.7-2.5)	1.5 (0.5-4.1)	1.4 (0.7-2.8)	1.7 (0.6-5.1)
40+	22 (22.4)	6 (18.2)	46 (28.9)	1		1	
<b>Gender</b>							
Male	51 (47.2)	15 (45.5)	72 (45.3)	1.0 (0.6-1.7)	1.0 (0.4-2.1)	2.0 (0.9-3.9)	3.0 (0.8-5.4)
Female	57 (52.8)	18 (54.5)	87 (54.7)	1		1	
<b>Educational Status</b>							
No formal education	12 (11.1)	9 (27.3)	8 (5.0)	2.7 (1.0-7.0)	7.9 (2.6-8.3)	3.0 (1.1-7.9)	9.2 (2.5-11.7)
Primary	30 (29.8)	7 (21.2)	31 (19.5)	1.0 (0.9-3.1)	1.5 (0.6-4.1)	1.6 (0.9-3.0)	1.5 (0.5-4.1)
Secondary	66 (61.1)	17 (51.5)	120 (75.5)	1		1	
<b>Employment Status</b>							
Unemployed/housewife	27 (25.0)	8 (24.2)	41 (25.8)	1.0 (0.5-1.8)	3.4 (1.0-9.3)	1.3 (0.6-2.4)	5.1 (1.3-8.6)
Employed	81 (75.0)	30 (90.9)	118 (74.2)	1		1	

\* Reference Category: Mix of both models  
 Educational Status: Primary: < 05 years of education, higher education: > 06 years of education

**Table 6 Multinomial Logistic Regression Analysis for predictors of care models by physicians (n=190)**

Variable	n (percentages)			Unadjusted OR (95% CI)		Adjusted OR (95% CI)	
	Person-centered	Physician-centered	A mix of both	Person-centered	Physician-centered	Person-centered	Physician-centered
<b>Years of Practice</b>							
< 3 years	20 (16.8)	5 (11.1)	5 (19.2)	1		1	
3- 10 years	75 (63.0)	37 (82.2)	19 (73.1)	0.5 (0.3-0.8)	0.5(0.3-1.1)	1.2 (0.3-4.0)	1.9 (0.4-8.3)
> 10 years	24 (20.2)	3 (6.7)	2 (7.7)	0.4 (0.3-0.6)	0.3(0.1-0.5)	3.7 (0.6-6.3)	1.2 (0.1-9.2)
<b>Postgraduate Training</b>							
No	14 (11.8)	4 (8.9)	5 (19.2)	1		1	
Yes	105 (88.2)	41 (91.1)	21 (80.8)	0.3 (0.1-0.5)	0.5 (0.2-0.9)	0.4 (0.1-1.0)	0.3 (0.1-1.1)
Specialization							
Others	34 (28.6)	14 (31.1)	5 (19.2)	1		1	
Family Medicine	85 (71.4)	31 (68.9)	21 (80.8)	0.4 (0.2-0.6)	1.0 (0.4-1.6)	0.7 (0.3-0.9)	2.0 (1.4-3.0)
<b>Attend CME regularly</b>							
No	45 (37.8)	2 (4.4)	10 (38.5)	1		1	
Yes	74 (62.2)	43 (95.6)	16 (61.5)	0.2 (0.1- 0.6)	1.0(0.3-2.8)	0.3 (0.1-0.5)	2.8 (2.0-5.2)

\* Reference Category: Mix of both models

Proper explanation regarding disease process and treatment procedures makes it easier for the patient to enter into discussions on treatment [2,25]. According to a study on the attributes of a good FP, the most highly rated attribute was providing culturally sensitive care followed by involvement in decisions and time spent with the patient [26]. In the study, almost equal proportions of physicians and patients perceived that culture was an important aspect of determining the approach to care used. Thus, in providing person-centered care, FPs are expected to have more understanding of sociocultural and behavioral patterns of patients which have a major impact on healthcare and patient satisfaction with medical practice [13,27,28].

## Conclusion and Recommendations

Although the person-centered care movement is gaining momentum [2,25] there is, overall, little patient and family participation in healthcare [29,30]. Factors such as low levels of education and health literacy, limited availability and sharing of understandable and culturally appropriate information and education materials, short and hurried consultations and a lack of population health and public health focus of the health system may interact to impede progress [9,30].

We believe that there is an urgent need for intensive research on the development of integrated primary care models that can assist in changing the current healthcare delivery system and improve the access to person-centered care. Studies should explore issues such as the ease of making an appointment, timely appointments, reduction in waiting time, *etc.* Furthermore, studies needs to be carried out on health service utilization, such as frequency of consultation, length of hospital stay and admission rates *etc.* [8,31].

Much greater attention needs to be given to person-centered care at undergraduate level. Medical education has increasingly concentrated on body systems and disease conditions and the broader and important aspects of cultural context, psychosocial factors, medical ethics and communication and relational skills, have been neglected [10,32]. There is a need to put emphasis not only on technical quality, but also on the experiential elements of care [6].

Training programs should also be arranged for family physicians to maintain their knowledge updated on different primary care models. FPs should also be motivated to participate in CME, which can improve their practice [33]. Furthermore, evaluation of FPs clinical practice can be carried out based on patients' feedback and satisfaction.

The literacy rates in some countries of EMR are below average, so efforts should be made to increase awareness of patients on their rights. In addition, patients should also be informed about strategies for disease prevention and health promotion and this could lessen the burden on the

health delivery system and would also be beneficial for patients.

Government support is necessary to improve the current healthcare delivery system. There is also a need for strong international and regional leadership which can provide assistance in training and technical disciplines in terms of developing new models of practice. These can also provide educational platforms enabling countries to share their experiences and exchange ideas to improve in the healthcare systems [4].

We believe that our study provides a deeper understanding about patients' and physicians' perception of person-centered care. The results indicate that patients are still not fully aware of the concept and implications of person-centered care. However, the transition has already started and most care providers endorse person-centered approaches to care. They need, however, to apply this approach consistently, keeping the cultural aspects in mind.

We advance the results of this study as useful in developing valid and reliable instruments to measure person-centered care from the perspectives of patients and physicians to be used in intervention studies. In addition, the lessons learnt from this study can be used to develop and test specific interventions such as CME sessions for physicians and general awareness sessions for patients that will help them to embrace person-centered care practices as part of their routine care.

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## References

- [1] Institute of Medicine. Committee on Quality of Health Care in America. (2001). Crossing the quality chasm: A new health system for the 21st century. Washington: National Academies Press.
- [2] Miles, A. & Mezzich, J.E. (2011). The care of the patient and the soul of the clinic: person-centered medicine as an emergent model of modern clinical practice. *International Journal of Person Centered Medicine* 1 (2) 207-222.
- [3] World Health Organization. (1978). Alma Ata Declaration. Geneva: World Health Organization.
- [4] Mezzich, J.E. (2011). The Geneva Conferences and the emergence of the International Network for Person-centered Medicine. *Journal of Evaluation in Clinical Practice* 17 (2) 333-336.

- [5] Mezzich, J.E., Snaedal, J., van Weel, C. & Heath, I. (2010). Conceptual Explorations on Person-centered Medicine 2010: Introduction to conceptual explorations on person-centered medicine. *International Journal of Integrated Care* 10 e002.
- [6] Berwick, D.M. (2003). *Escape fire: designs for the future of health care*. San Francisco: Jossey-Bass.
- [7] Davis, K., Schoenbaum, S.C. & Audet, A.M. (2005). A 2020 Vision of Patient Centered Primary Care. *Journal of General Internal Medicine* 20 (10) 953-957.
- [8] Meterko, M., Wright, S. Lin, H., Lowy, E. & Cleary, P.D. (2010). Mortality among patients with acute myocardial infarction: the influences of patient-centered care and evidence-based medicine. *Health Services Research* 45 (5 part 1) 1188-1204.
- [9] Rao, J.K., Anderson, L.A., Inui, T.S. & Frankel, R.M. (2007). Communication interventions make a difference in conversations between physicians and patients: a systematic review of the evidence. *Medical Care* 45 (4) 340-349.
- [10] Griffin, S.J., Kinmonth, A.L., Veltman, M.W., Gillard, S., Grant, J. & Stewart, M. (2004). Effect on health-related outcomes of interventions to alter the interaction between patients and practitioners: a systematic review of trials. *Annals of Family Medicine* 2 (6) 595-608.
- [11] Stewart, M., Brown, J.B., Donner, A., McWhinney, I.R., Oates, J., Weston, W.W., & Jordan, J. (2000). The impact of patient-centered care on outcomes. *Journal of Family Practice* 49 (9) 796-804.
- [12] Al-Daghri, N.M., Al-Attas, O.S., Alokail, M.S., Alkharfy, K.M., Yousef, M., Sabico, S.L. & Chrousos, G.P. (2011). Diabetes mellitus type 2 and other chronic non-communicable diseases in the central region, Saudi Arabia (Riyadh cohort 2): a decade of an epidemic. *BMC Medicine* 9 (1) 76.
- [13] Qidwai, W., Beasley, J.W. & Gomez-Clavelina, F.J. (2008). The present status and future role of family doctors: a perspective from the International Federation of Primary Care Research Networks. *Primary Health Care Research & Development* 9 (3) 172-182.
- [14] Mezzich, J.E., Snaedal, J., et al. (2009). The International Network for Person-centered Medicine: Background and First Steps. *World Medical Journal* 55, 104-107.
- [15] Siriwardena, A.N., Edwards, A.G.K., Campion, P., Freeman, A. & Elwyn, G. (2006). Involve the patient and pass the MRCGP: investigating shared decision making in a consulting skills examination using a validated instrument. *British Journal of General Practice* 56 (532) 857-862.
- [16] Campion, P., Foulkes, J., Neighbour, R. & Tate, P. (2002). Patient centredness in the MRCGP video examination: analysis of large cohort. *British Medical Journal* 325 (7366) 691-692.
- [17] Hutchinson, L., Aitken, P. & Hayes, T. (2002). Are medical postgraduate certification processes valid? A systematic review of the published evidence. *Medical Education* 36 (1) 73-91.
- [18] Qidwai, W., Ashfaq, T., Khoja, T.A.M. & Rawaf, S. (2012). Access to Person-Centered Care: A Perspective on Status, Barriers, Opportunities and Challenges from the Eastern Mediterranean Region. *South Asia Journal of Family Medicine* 4 (6) 4-13.
- [19] Starfield, B. (2011). Is patient-centered care the same as person-focused care? *The Permanente Journal* 15 (2): 63-69.
- [20] O'Connor, L.A., Morgenstern, J., Gibson, F. & Nakashian, M. (2005). Nothing about me without me: Leading the way to collaborative relationships with families. *Child Welfare* 84 (2) 153-170.
- [21] Cloninger, C.R. & Cloninger, K.M. (2011). Person-centered therapeutics. *International Journal of Person Centered Medicine* 1 (1) 43-52.
- [22] Little, P., Everitt, H., Williamson, I., Warner, G., Moore, M., Gould, C., Ferrier, K. & Payne, S. (2001). Preferences of patients for patient centred approach to consultation in primary care: observational study. *British Medical Journal* 322 (7284) 468-472.
- [23] Mezzich, J.E. (2011). Building person-centered medicine through dialogue and partnerships: perspective from the international network for person-centered medicine. *International Journal of Person Centered Medicine* 1 (1) 10-13.
- [24] Ekman, I., Swedberg, K., Taft, C., Lindseth, A., Norberg, A., Brink, E., Carlsson, J., Dahlin-Ivanoff, S., Johansson, I.L., Kjellgren, K., Lidén, E., Öhlén, J., Olsson, L.E., Rosén, H., Rydmark, M. & Sunnerhagen, K.S. (2011). Person-centered care - ready for prime time. *European Journal of Cardiovascular Nursing* 10 (4) 248-251.
- [25] Miles, A. (2012). Person-centered medicine-at the intersection of science, ethics and humanism. *International Journal of Person Centered Medicine* 2 (3) 329-333.
- [26] Ali, N.S., Khuwaja, A.K., Kausar, S. & Nanji, K. (2012). Patients' evaluations of family practice care and attributes of a good family physician. *Quality in Primary Care* 20 (5) 375-383.
- [27] Greene, S.M., Tuzzio, L. & Cherkin, D. (2012). A framework for making patient-centered care front and center. *The Permanente Journal* 16 (3) 49-53.
- [28] Koren, M.J. (2010). Person-centered care for nursing home residents: The culture-change movement. *Health Affairs* 29 (2) 312-317.
- [29] Boise, L. & White, D. (2004). The family's role in person-centered care: practice considerations. *Journal of Psychosocial Nursing and Mental Health Services* 42 (5) 12-20.
- [30] Frankl, V.E. (2005). Person-Centered Care. In: *Treatment Planning for Person-centered Care: The Road to Mental Health and Addiction Recovery: Mapping the Journey for Individuals, Families and Providers* p. 17, Adams, N. & Grieder, D.M., (eds.). London: Elsevier.
- [31] Edvardsson, D., Fetherstonhaugh, D., Nay, R. & Gibson, S. (2010). Development and initial testing of the Person-centered Care Assessment Tool (P-CAT). *International Psychogeriatrics* 22 (1) 101-108.
- [32] Mezzich, J.E., Snaedal, J., et al. (2009). The Second Geneva Conference on Person-centered Medicine. *World Medical Journal* 55, 100-101.
- [33] Schall, M., Sevin, C. & Wasson, J.H. (2009). Making high-quality, patient-centered care a reality. *Journal of Ambulatory Care Management* 32 (1) 3-7.