

# Patients' perspective on factors affecting utilization of primary health care centers in Riyadh, Saudi Arabia

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## ABSTRACT

**Objective:** The aim of this study is to assess factors which the patients think can encourage, discourage or have no effect on utilization of Primary Health Care Centers (PHCCs) in Riyadh, Kingdom of Saudi Arabia.

**Methods:** Patients (n=540) attending the selected PHCCs in Riyadh were asked regarding their views on 21 (factors) items and whether they can encourage, discourage or has no effect on utilization of PHCCs services. Eight PHCCs were randomly selected according to the geographical location, 2 from each geographical zone. Seventy-five subjects were selected systematically, every 10th Saudi aged 15 years and above who visited the selected PHCCs during a one-month period (September 1998). The data was collected via a self administered pilot tested, internally consistent questionnaire which included patients' sociodemographic characteristics and their response to the 21 items rated as highly encouraging, encouraging, has no effect or discouraging utilization of offered health services.

**Results:** More than 60% of the patients were males, aged 15-39 years, 47% finished secondary school, 5.2% were illiterate, 58% of all patients were married, more than 60% were employees and approximately 60% have a monthly income of less than 4500 Saudi Riyals. Manpower factors particularly the physician, Arabic speaking health team and free service were the most encouraging factors, while overcrowding and geographical location of the PHCCs, particularly location near public services, were the least encouraging factors. Patients' gender, education and occupation were the most important and age was the least important patients' characteristics associated with utilization factors.

**Conclusion:** An experienced physician, Moslem physicians and an Arabic speaking health team offering free service in PHCCs located near patients' homes can augment utilization of services.

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Patients concerns, suggestions, desires and expectations of health services need to be seriously examined due to their potential influence on utilization and satisfaction. Information obtained through patients' surveys has proven to be a valuable source of quality improvement and strategic planning of health services<sup>1</sup> and their optimum utilization by consumers. Assessment of quality and utilization of Primary Health Care Centers (PHCCs) services can be enhanced by including patients' perceptions and views in addition to professional judgement.<sup>2</sup> Such

involvement of patients in assessing quality and inviting their feedback on how to encourage their utilization and satisfaction with health services have lead to change in the attitudes and behavior of the involved patients. Those patients tend to be more positive in searching health care, complying with treatment and returning to the same care setting.<sup>3</sup> In the Kingdom of Saudi Arabia (KSA) such studies were scarce and rather of general nature concentrating mainly on patients attitudes and

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satisfaction with Primary Health Services in Riyadh.<sup>4,5</sup> The present study attempts to study patients' views and suggestions on how to improve utilization of PHCCs services in Riyadh by asking them on 21 items (statements) and whether patients think they encourage or discourage utilization of the services. To the best of our knowledge this the first study of its nature and scope in trying to determine patients perspectives of factors affecting utilization quantitatively and qualitatively in PHCCs in Riyadh which is the Capital and largest city in KSA. We think that such studies are needed particularly in KSA has reoriented its ambulatory health system according to the Alma Ata approach for approximately 2 decades. The current and previous 5 years health plans called for horizontal and vertical expansions of PHCCs all over the country. In year 2000, the number of PHCCs in the country was more than 1800 and in Riyadh, there are more than 70 PHCCs. These PHCCs serve defined populations residing in defined catchment areas and all eligible individuals are expected to have a health record (file) in the PHCCs concerned. The services are totally free of all charges. Assessing how this system is functioning and identifying strengths and weaknesses including patients' views and suggestion is an evaluation process which need to be undertaken for corrective measures and for proper expansion of the service and enhancing their utilization. This study is one attempt in that pursuit aiming and identifying what aspects the consumers think can encourage utilization of the services if implemented. This is a pattern of community participation, which is a central concept in Primary Health.

**Methods.** This study is a facility-based study in PHCCs, Riyadh. The study sample consisted of every tenth Saudi consumer visiting the selected PHCCs during a one month period (September 1998) whose age was 15 years and above. On geographical basis, 8 PHCCs were selected, 2 from each geographical zone by simple random sampling. Seventy-five consumers were selected from each PHCC by systematic random sampling. They were informed regarding the objectives of the study and their participation is voluntary, and were assured that the data collected will be used only for the stated research purposes. Anonymous self administered questionnaires including patients socio-demographic characteristics and their feedback on 21 items and whether they think that each one of these items is highly encourages, encourages, has no effect or discourages utilization of PHCCs services. The 21 items were related to 4 groups. Seven items for health facilities in the PHCCs themselves, 6 items for physicians' characteristics, 4 items for other health team characteristics and 4 items for the geographical location of PHCCs. The patients' responses were rated on a scale of 4 points: highly encouraging (4

points), encouraging (3 points), has no effect (2 points), or discouraging utilization of services (one point). The clients' responses were compared across the socio-demographic characteristics of the patients and the 8 PHCCs studied using chi square test. The internal consistency of the overall score and the group scores for facilities, physician, health team and geographical location were all examined using Cronbach's alpha. The coefficient alpha for the full tool used was 0.892. The alpha coefficients for facilities were 0.848, physicians were 0.890, health teams were 0.925 and geographical locations were 0.891. Trained Health Service Administration students from the College of Applied Medical Sciences, Riyadh, KSA, were available to answer subject's queries and help in filling in questionnaires for illiterate subjects. Collected data was manually checked for completeness before being analyzed using Statistical Package for Social Sciences (SPSS), version 10.

**Results.** **Table 1** shows the socio-demographic characteristics of the study sample. The patients were mostly males, young, married, with secondary school education, working as government employees with a monthly income of less than 4500 Saudi Riyals. **Table 2** shows the responses of the clients to the 21 factors studied. As can be seen an experienced, Moslem physician working with Arabic speaking health team offering free health services highly encourage utilization of the services. A crowded health center located near public services, work or private health center appears to discourage utilization. Health manpower factors are the most important encouraging categories, while the geographical location of the PHCC away from home is the least encouraging category. **Tables 3, 4, 5 & 6** show the effect of the 4 categories studied (physician, other health team members, facilities and geographical location) on the utilization of services according to the socio-demographic characteristics of the patients. Females think that a female, Moslem physician who easily grants referral to hospital, Arabic speaking health team offering health education activities highly encourage utilization significantly more than males. Males, on the other hand, gave significantly more encouraging effect to personal knowledge of the physician and co-operative receptionists than females. Patients with presecondary education think that personal knowledge of the physician, Arabic speaking health team offering services in PHCCs located near private Health Centers and public services significantly encourage utilization compared to patients with secondary or above educational level. Literate subjects gave more weight to co-operative receptionists as encouraging factor compared to illiterate subjects. Students gave significantly lower effect for gender or personal knowledge of physician,

**Table 1** - Socio-demographic characteristics of the study subjects.

Characteristics	n	(%)
<b>Sex</b>		
Male	326	(60.4)
Female	214	(39.6)
<b>Age (years)</b>		
15-29	172	(31.9)
30-39	169	(31.3)
40-50	119	(22)
>50	80	(14.8)
<b>Marital Status</b>		
Married	312	(57.8)
Single	228	(42.2)
<b>Education</b>		
Illiterate	28	(5.2)
Elementary & Intermediate	87	(16.1)
Secondary	253	(46.9)
University	172	(31.9)
<b>Occupation</b>		
Government employee	337	(62.4)
Private sector	85	(15.7)
Laborer	20	(3.7)
Student	64	(11.9)
Unemployed	34	(6.3)
<b>Monthly income (Saudi Riyals)</b>		
<1500	95	(17.6)
1500 - <4500	176	(32.6)
4500 - <7500	185	(34.3)
>7500	84	(15.6)
<b>Total</b>	<b>540</b>	<b>(100)</b>
n - number		

**Table 2** - Patients' scores and ranks of factors utilization on Primary Health Care Centers services.

Factors	Mean	Rank	Overall mean	
<b>Physician</b>				
Experienced	3.64	1	3.39	
Moslem	3.59	2		
Same gender	3.38	7		
Examines patients in each visit (continuity)	3.34	9		
Refers to hospital easily	3.28	14		
Personal knowledge	3.10	17		
<b>Health Team</b>				
Friendly behavior	3.51	3	3.40	
Arabic speaking	3.40	6		
Co-operative receptionists	3.36	8		
Presence of supervisor to deal with patients complaints	3.32	11		
<b>Geographical location</b>				
Near home	3.41	5	3.04	
Near private health facility	2.99	18		
Near work	2.98	19		
Near public service	2.79	20		
<b>Facilities</b>				
Free service	3.51	4	3.12	
Adequate car parking service	3.33	10		
Comfortable reception area	3.31	12		
Available ambulance service	3.30	13		
Available telephone/drinking water	3.18	15		
Health education activities	3.15	16		
High patient load	2.08	21		
n - number				

Arabic speaking health team or health education activities as encouraging utilization factors compared to non-students. Married patients think that Arabic speaking health team highly encourages utilization significantly more than single patients do. Patients with higher monthly income gave significantly more weight to shorter distance from home as encouraging utilization factor. Age of patients was not significantly associated with any of the 21 factors studied and there were no significant differences among the 8 PHCCs studied.

**Discussion.** Our age is the age of health care consumerism. To make health care more responsive to patients' needs, insight into patients' priorities is needed.<sup>7</sup> Hence, study of consumers' attitudes, evaluation and satisfaction with services provided, and how utilization of the service can be encouraged was vital. Findings of this study indicate that manpower factors are the most important determinant factors in utilization of PHCCs services in Riyadh. In this respect, the physician was the most important factor in encouraging utilization of

services. A Moslem and highly experienced physician topped the list of all encouraging factors with a score of 3.71 points out of 4 (93%). This is not surprising since the physician is traditionally the health team leader and virtually all consumers have to consult with him/her in all visits. The outcome of such consultation depends to a large extent on physicians' professional experience. Professional skills of physicians was frequently cited as a concern for patients in PHCCs services in many countries including KSA.<sup>5,7-9</sup> A Moslem physician is much more preferred than a non-Moslem. This is not unexpected in a totally conservative Moslem community. A Moslem physician will probably be more concerned with the teaching and traditions of Moslems in delivering the service. This also appears to explain the score giving by patients to the physician being of same gender of patient (3.55 points - 80%) particularly for females which is expected. Other studies did not reveal significant or consistent association of physician religion, ethnic group or gender on utilization of services.<sup>7</sup> Continuity (patient examined by same physician in all visits)

**Table 3** - Scores of physicians' characteristics affecting utilization according to subjects' socio-demographics.

Characteristics	Experience (P value)	Same gender (P value)	Moslem (P value)	Personal knowledge of physician (P value)	Examine patients in each visit (P value)	Refer to hospital easily (P value)
<b>Sex</b>	(0.524)	(0.038)	(0.003)	(0.001)	(0.559)	(0.005)
Male	3.63	3.32	3.51	3.22	3.34	3.20
Female	3.67	3.47	3.70	2.92	3.30	3.41
<b>Marital Status</b>	(0.943)	(0.052)	(0.204)	(0.303)	(0.524)	(0.338)
Single	3.64	3.44	3.62	3.13	3.42	3.25
Married	3.64	3.30	3.54	3.06	3.30	3.32
<b>Education</b>	(0.241)	(0.019)	(0.099)	(0.008)	(0.234)	(0.183)
Illiterate	3.75	3.50	3.50	3.14	3.39	3.50
Elementary and Intermediate	3.74	3.59	3.64	3.38	3.31	3.32
Secondary	3.60	3.37	3.64	3.07	3.32	3.32
University	3.65	3.26	3.48	2.99	3.33	3.18
<b>Age</b>	(0.587)	(0.131)	(0.893)	(0.070)	(0.234)	(0.591)
20 - 29	3.62	3.27	3.58	2.98	3.33	3.34
30 - 39	3.62	3.43	3.57	3.08	3.29	3.21
40 - 50	3.67	3.48	3.63	3.22	3.36	3.28
>50	3.71	3.34	3.58	3.23	3.34	3.31
<b>Job</b>	(0.197)	(0.007)	(0.225)	(0.013)	(0.731)	(0.768)
Employee	3.65	3.45	3.63	3.13	3.34	3.26
Private sector	3.75	3.42	3.46	3.08	3.31	3.32
Laborer	3.50	3.40	3.40	3.30	3.35	3.50
Student	3.56	3.08	3.59	2.87	3.38	3.31
Unemployed	3.53	3.15	3.53	3.15	3.15	3.24
<b>Income (Saudi Riyals)</b>	(0.262)	(0.642)	(0.544)	(0.509)	(0.732)	(0.289)
<1500	3.63	3.38	3.58	3.08	3.37	3.41
1500 - <4500	3.65	3.40	3.65	3.07	3.33	3.19
4500 - <7500	3.59	3.40	3.55	3.17	3.34	3.29
>7500	3.75	3.27	3.55	3.01	3.24	3.32

**Table 4** - Scores of health team characteristics affecting utilization according to subjects' socio-demographics.

Characteristics	Arabic speaking (P value)	Friendly behavior (P value)	Cooperative receptionist (P value)	Supervisor dealing with patients complains (P value)
<b>Sex</b>	(0.009)	(0.245)	(0.02)	(0.23)
Male	3.33	3.48	3.42	3.28
Female	3.51	3.55	3.26	3.37
<b>Marital Status</b>	(0.016)	(0.887)	(0.424)	(0.159)
Single	3.47	3.51	3.38	3.40
Married	3.31	3.50	3.32	3.25
<b>Education</b>	(0.013)	(0.315)	(0.027)	(0.977)
Illiterate	3.46	3.54	3.25	3.25
Elementary and Intermediate	3.52	3.60	3.40	3.33
Secondary	3.46	3.53	3.37	3.32
University	3.24	3.44	3.34	3.31
<b>Age</b>	(0.489)	(0.299)	(0.534)	(0.565)
20 - 29	3.33	3.50	3.32	3.34
30 - 39	3.41	3.51	3.36	3.31
40 - 50	3.46	3.44	3.33	3.23
>50	3.45	3.63	3.48	3.39
<b>Job</b>	(0.038)	(0.170)	(0.037)	(0.930)
Employee	3.43	3.50	3.34	3.31
Private sector	3.47	3.62	3.47	3.31
Laborer	3.45	3.55	3.55	3.35
Student	3.14	3.34	3.31	3.39
Unemployed	3.41	3.56	3.21	3.23
<b>Income (Saudi Riyals)</b>	(0.778)	(0.558)	(0.581)	(0.603)
<1500	3.46	3.56	3.35	3.33
1500 - <4500	3.37	3.55	3.42	3.31
4500 - <7500	3.42	3.47	3.30	3.33
>7500	3.36	3.51	3.38	3.42

**Table 5** - Scores of geographical characteristics affecting utilization according to subjects' socio-demographics.

Characteristics	Near work (P value)	Near home (P value)	Near public service (P value)	Near private health (P value)
<b>Sex</b>	(0.185)	(0.087)	(0.041)	(0.52)
Male	3.02	3.36	2.71	2.96
Female	2.91	3.48	2.90	3.01
<b>Marital Status</b>	(0.319)	(0.05)	(0.023)	(0.941)
Single	3.01	3.46	2.87	2.98
Married	2.93	3.32	2.67	2.99
<b>Education</b>	(0.145)	(0.836)	(0.003)	(0.014)
Illiterate	3.07	3.53	3.25	3.54
Elementary and Intermediate	3.17	3.43	3.01	3.01
Secondary	2.92	3.39	2.75	2.95
University	2.94	3.40	2.64	2.92
<b>Age</b>	(0.173)	(0.343)	(0.07)	(0.650)
20 - 29	2.98	3.41	2.59	2.92
30 - 39	2.92	3.43	2.95	2.99
40 - 50	2.91	3.29	2.76	2.97
>50	3.17	3.50	2.91	3.09
<b>Job</b>	(0.220)	(0.174)	(0.045)	(0.616)
Employee	2.99	3.42	2.86	2.98
Private sector	2.96	3.25	2.72	3.04
Laborer	3.35	3.60	3.00	3.20
Student	2.95	3.53	2.50	2.91
Unemployed	2.74	3.29	2.65	2.82
<b>Income (Saudi Riyals)</b>	(0.137)	(0.022)	(0.921)	(0.323)
<1500	3.00	3.43	2.72	3.05
1500 - <4500	3.03	3.25	2.81	3.03
4500 - <7500	3.01	3.50	2.78	2.98
>7500	2.76	3.50	2.81	2.82

**Table 6** - Scores of PHCCs characteristics affecting utilization according to subjects' socio-demographics.

Characteristics	Available telephone and drinking water (P value)	Crowded with patients (P value)	Comfortable reception area (P value)	Available ambulance service (P value)	Free service (P value)	Available car parking (P value)	Health education activities (P value)
<b>Sex</b>	(0.827)	(0.000)	(0.658)	(0.448)	(0.608)	(0.353)	(0.022)
Male	3.18	1.91	3.33	3.29	3.49	3.35	3.08
Female	3.17	2.33	3.29	3.35	3.53	3.27	3.27
<b>Marital Status</b>	(0.475)	(0.288)	(0.781)	(0.805)	(0.144)	(0.105)	(0.024)
Single	3.15	2.13	3.32	3.30	3.55	3.37	3.23
Married	3.21	2.01	3.30	3.32	3.45	3.24	3.05
<b>Education</b>	(0.008)	(0.000)	(0.347)	(0.129)	(0.156)	(0.322)	(0.017)
Illiterate	2.79	2.79	3.11	3.71	3.61	3.00	3.25
Elementary and Intermediate	3.45	2.44	3.27	3.32	3.49	3.32	3.32
Secondary	3.17	2.01	3.38	3.28	3.56	3.33	3.21
University	3.12	1.88	3.28	3.30	3.41	3.32	2.97
<b>Age</b>	(0.088)	(0.198)	(0.515)	(0.773)	(0.458)	(0.962)	(0.689)
20 - 29	3.19	1.98	3.31	3.36	3.50	3.32	3.13
30 - 39	3.20	2.07	3.33	3.33	3.51	3.30	3.22
40 - 50	3.01	2.29	3.23	3.25	3.44	3.31	3.11
>50	3.18	2.00	3.41	3.28	3.61	3.36	3.13
<b>Job</b>	(0.508)	(0.023)	(0.269)	(0.058)	(0.037)	(0.505)	(0.002)
Employee	3.14	2.05	3.32	3.32	3.55	3.31	3.23
Private sector	3.18	2.32	3.35	3.28	3.33	3.31	3.27
Laborer	3.50	2.60	3.45	3.45	3.70	3.45	3.00
Student	3.28	1.75	3.33	3.45	3.55	3.42	2.84
Unemployed	3.18	2.06	3.00	2.97	3.29	3.09	2.79
<b>Income (Saudi Riyals)</b>	(0.399)	(0.048)	(0.925)	(0.814)	(0.219)	(0.872)	(0.318)
<1500	3.25	2.14	3.31	3.26	3.48	3.29	3.03
1500 - <4500	3.25	2.19	3.28	3.36	3.59	3.31	3.24
4500 - <7500	3.12	2.08	3.45	3.29	3.43	3.30	3.12
>7500	3.08	1.80	3.32	3.32	3.54	3.39	3.17

was also an important factor encouraging utilization with a score of 3.39 (84%) in our study in accordance with findings of comparable studies.<sup>8</sup> A friendly co-operative and Arabic speaking health team offering health education activities are encouraging factors for utilization of PHCCs services. This was particularly true for females. Females are generally of lower educational level and hence their health and English knowledge are likely to be deficient. Many studies reported that understandable communication, humanness and friendly conduct of health team were important issues for patients with direct effect on utilization patterns.<sup>8-10</sup> The physical environment of PHCCs and their location near homes, away from public services with enough car park and wide comfortable reception area help in boosting utilization of PHCCs services. The comfortable physical environment as a factor in encouraging utilization and increasing satisfaction was reported in several studies.<sup>4,5,8,11</sup> The relation of distance from home on utilization of services was reported in many studies nationally and internationally where the utilization is increased by travelling shorter distances to primary health care settings<sup>12</sup> and across a relatively small geographical area shorter distances even encouraged tertiary care utilization.<sup>13</sup> It is not surprising that personal knowledge of physician and easy referral to hospital were among the factors encouraging utilization of PHCCs service in Riyadh. Previous findings in KSA showed that most patients would like to be referred to hospital where they think they will receive better and appropriate care and physicians' reluctance to offer requested referral was a factor in their dissatisfaction with services.<sup>5</sup> It is to be noted that patients seem to value health education activities as a positive factor for utilization of PHCCs services. Health education is probably the most important component of Primary Health Care and all efforts should be carried out for further improvement of planning and delivery of health education messages including training of the health team members.

In conclusion the findings of this study show that patient utilization of PHCCs service in Riyadh can be augmented if PHCCs are located near to the homes, employing more experienced Moslem physicians and friendly Arabic speaking health team members. The services are already free for all eligible consumers.

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