

## **Health Care Services utilization and satisfaction among elderly in Dubai, UAE and some Associated Determinants**

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### **ABSTRACT**

**Background :** Planning and utilization of health services in the elderly group is a very important concern for both elderly as well as health care services providers. Quality of care is an essential need in health care delivery, and patient satisfaction has become an integral component of health care quality management

**Objectives:** To assess the elderly utilization and satisfaction with primary health care services provided at Dubai Health Authority and their associated factors. To study associated Determinants.

**Materials and methods:** A cross sectional study was carried out in primary health care facilities at Dubai Health Authority, United Arab Emirates among elderly (aged 65 years or more) similar to most developed world countries which accepted the chronological age of 65 years as a definition of elderly. Sample size estimation through Utilizing EPI\_INFO "6.04", applying certain criteria was (384) participant both males and females. Sample type was Stratified random sample with proportional allocation.

**Results :** The study has revealed that Elderly having not enough income were more liable to be high utilizers of services as compared to those having enough and more than save income (OR= 0.32; CI: 0.14-0.74). Elderly with IHD and those with osteoporosis were significantly more liable to be high utilizers of services as compared to those without these diseases (OR= 0.56; CI: 0.32-0.97 and OR= 0.36; CI: 0.16-0.79 respectively). The study showed that lower utilizers of these services were significantly more satisfied than high utilizers ( $P<0.05$ ). On the other hand, there was no statistically significant association between utilization of services and other items of satisfaction score. The study showed that satisfaction with services is correlated to the income (OR= 0.24; CI: 0.20-0.88). However, the association was not statistically significant (OR= 0.82; CI: 0.29-2.31).

**Conclusion:** The majority of the elderly at the primary health care centres were low utilizers (Less than once/month) of services. The significant determinants of being less satisfied about the services provided were being illiterate or with an educational level less than secondary school, or having osteoporosis.

**Key words:** Services utilization, satisfaction, Elderly, Dubai

## Introduction

Planning and utilization of health services in the elderly group is a very important concern for both elderly as well as health care services providers. (1) Quality of care is an essential need in health care delivery, and patient satisfaction has become an integral component of health care quality management. (2,3) Patient satisfaction has long been considered as a vital component when measuring health outcomes and quality of care. The prevalence of most chronic conditions rises with age, particularly stroke, heart disease, cancer, cataracts, risk of falls and incontinence. Integrated care models, which bridge across health and social care, are needed to help manage chronic conditions effectively in the community setting.(4) The health status of older adults is evaluated by tracking mortality and morbidity statistics, functional status measures, amount, type, frequency of social and health care services utilization and lifestyle behaviours related to health. (5) The global increase in people aged 60 years and above has attracted the attention of the world to the magnitude of the problems of providing health care for the elderly.(1) Elderly patients have a disproportionately high need for usage of health care. (4) World Health Organization set objectives for elderly care including; prevention of unnecessary loss of function, maintain good quality of life, keep elderly in their own homes as long as they wish, provide support of families or carers, and provide good quality terminal care. (6) Because the elderly tend to have multiple disorders and may have social or functional problems, they use a disproportionately large amount of health care resources. (7)

Elderly, and female in particular, report higher rates of services utilization, (8) 8 and educated elderly showed a higher utilization with primary health care. (9) On the other hand poor education, poverty, lack of drugs and basic laboratory services were identified as a barrier to utilization of services. (10) Several studies showed that satisfied patients are more adherent to medical treatment and have more symptom resolution. (11,12,13) Furthermore a satisfied patient is more likely to develop a deeper and longer lasting relationship with their medical provider, leading to improved compliance, continuity of care and ultimately better health outcomes. (13) A study conducted in Italy (2007) (14), reported that more than 60% of the elderly patients considered the healthcare they received to be satisfactory. Another study conducted in Saudi Arabia (2004) (15), found that 79.0% of elderly people were satisfied with the services provided by PHC. Although patient satisfaction has been assessed across various patient groups and care settings, only a few studies have been done among elderly patients. (16) This could indicate a low priority to the investigation of elderly patients' view of their care.

## Objectives

To assess the elderly utilization and satisfaction with primary health care services provided at Dubai Health Authority and their associated factors. To study associated Determinants

## Materials and Methods

A cross sectional study was carried out in primary health care facilities at Dubai Health Authority, United Arab Emirates among elderly (aged 65 years or more) similar to the most developed world countries which accepted the chronological age of 65 years as a definition of elderly. Elderly patients with communication problems, such as those with severe hearing impairment, and Elderly patients with a previous diagnosis of dementia, were excluded. Sample size estimation through Utilizing EPI\_INFO "6.04", applying certain criteria was (384) participants both males and females. Sample type was Stratified random sample with proportional allocation.

## Results

Table 1 shows that the only significant predictor for high utilization of PHC services was elderly household income. Elderly having not enough income were more liable to be high utilizers of services as compared to those having enough and more than save income (OR= 0.32; CI: 0.14-0.74).

Table 2 (page 28) shows that among studied medical characteristics, elderly with IHD and those with osteoporosis were significantly more liable to be high utilizers of services as compared to those without these diseases (OR= 0.56; CI: 0.32-0.97 and OR= 0.36; CI: 0.16-0.79 respectively).

Table 3 shows that utilization of PHC services was significantly associated with total, effectiveness, and accessibility items of satisfaction scores, as lower utilizers of these services were significantly more very satisfied than high utilizers ( $P<0.05$ ). On the other hand, there was no statistically significant association between utilization of services and other items of satisfaction score.

Table 4 shows that the only significant predictor of satisfaction with services was household income. Elderly having enough income were more liable to be very satisfied with services as compared to those having enough and more than save income (OR= 0.24; CI: 0.20-0.88). Similarly, those having not enough income were more liable to be very satisfied with the provided services as opposed to those having enough and more than save income. However, the association was not statistically significant (OR= 0.82; CI: 0.29-2.31). Among medical characteristics shown in Table 5, only history of osteoporosis was the only significant predictor for satisfaction with provided services. Elderly with history of osteoporosis were more liable to be less very satisfied with services as compared to those without history of osteoporosis (OR= 2.46; CI: 1.04-5.83).

## Discussion and Limitations

The present study also revealed that the highest percentage of the elderly in Dubai were utilizing PHC services less than once/month (66.4%); most of them coming for regular treatment of chronic diseases every 3 months. Similarly, regarding utilization of services, it was found that among the average elderly persons over 65 years of age in Pakistan, 2009, as shown by Saleem T, Khalid U, Qidwai study, expectations of their physicians: findings from a tertiary care

Table 1: Socio-demographic characteristics as predictors for utilization of PHC centres services: univariate analysis

Socio-demographic variables	High utilizer (n=129)	Low utilizer (n=255)	OR	95% CI
<b>Age in years</b>				
65- (n=292)	97 (33.2)	195 (66.8)	1.0	
75- (n=81)	29 (35.8)	52 (64.2)	0.89	0.52-1.54
85- (n=11)	3 (27.3)	8 (72.7)	1.33	0.31-6.46
<b>Gender</b>				
Males (167)	53 (31.7)	114 (68.3)	1.0	
Females (217)	76 (35.0)	141 (65.0)	0.86	0.55-1.35
<b>Marital status</b>				
Single (7)	3 (42.9)	4 (57.1)	1.0	
Married (270)	89 (33.0)	181 (67.0)	1.53	0.26-8.27
Divorced (6)	2 (33.3)	4 (66.7)	1.50	0.09-25.84
Widowed (101)	35 (34.7)	66 (65.3)	1.41	0.23-8.08
<b>Occupation</b>				
Working (19)	8 (42.1)	11 (57.9)	1.0	
Retired (145)	44 (30.3)	101 (69.7)	1.67	0.57-4.88
House wife (220)	77 (35.0)	143 (65.0)	1.35	0.47-3.81
<b>Educational level</b>				
Secondary and above (17)	5 (29.4)	12 (70.6)	1.0	
Less than secondary (93)	39 (41.9)	54 (58.1)	0.58	0.16-1.96
Illiterate (274)	85 (31.0)	189 (69.0)	0.93	0.27-2.95
<b>House hold income</b>				
More than enough (77)	25 (32.5)	52 (67.5)	1.0	
Enough (262)	77 (29.4)	185 (70.6)	1.16	0.64-2.06
Not enough (45)	27 (60.0)	18 (40.0)	0.32	0.14-0.74*

\*P=0.005

hospital in Pakistan uses more health care services than non elderly individuals. More than 50% of the patients were visiting their physicians at least once every two to three months. A previous study conducted in Alexandria 2002, (17) among elderly patients attending different outpatient clinics, found that most of the elderly visit the clinic once or twice/month i.e. 12-24 visits/year. The Asir study (18) demonstrated that their elderly utilized PHC centres fewer times/year than the younger adult age group. On the other hand, a much lower rate of utilization was found among the elderly population in Brazil 2007(19), where 72% of them sought and received health care services at least once/6 months. The type of illness or symptoms experienced for the particular illness and duration are

all known to affect health service utilization.(20) A study conducted in South Africa in 2010, (21) among patients attending community health care centre 16 years old and above showed that, above 45 years of age females and males (81.8%- 75%) visited the tuberculosis clinic frequently, followed by presence of history of diabetes (76.7% male and 75.9% female) and hypertension, 25% for both. The present study found that, the presence of IHD and those with osteoporosis were significantly more liable to be high utilizer of the services.

The present study revealed that elderly have not enough income and has a statistically significant high rate of utilization of PHC services at DHA. This finding is congruent with other

Table 2: Medical characteristics as predictors for utilization of PHC centres services: univariate analysis

Chronic diseases	High utilizer (n=129)	Low utilizer (n=255)	OR	95% CI
<b>History of chronic diseases</b>				
No (n=5)	0 (0.0)			
1-2 diseases (n=91)	18 (19.8)	5 (100.0)	1.0	
≥3 diseases (n=288)	111 (38.5)	73 (80.2)	0.81	0.66-1.40
		177 (61.5)	0.32	0.01-2.85
<b>Diabetes mellitus</b>				
No (121)	32 (26.4)			
Yes (263)	97 (36.9)	89 (73.6)	1.0	
		166 (63.1)	0.62	0.37-1.02
<b>Hypertension</b>				
No (114)	31 (27.2)			
Yes (270)	98 (36.3)	83 (72.8)	1.0	
		172 (63.7)	0.66	0.39-1.09
<b>Dyslipidemia</b>				
No (28)	7 (25.0)			
Yes (356)	122 (34.3)	21 (75.0)	1.0	
		234 (65.7)	0.64	0.24-1.64
<b>Ischemic heart disease</b>				
No (310)	96 (31.0)			
Yes (74)	33 (44.6)	214 (69.0)	1.0	
		41 (55.4)	0.56	0.32-0.97*
<b>Osteoarthritis</b>				
No (249)	75 (30.1)			
Yes (135)	54 (40.0)	174 (69.9)	1.0	
		81 (60.0)	0.65	0.41-1.03
<b>Osteoporosis</b>				
No (352)	111 (31.5)			
Yes (32)	18 (56.3)	241 (68.5)	1.0	
		14 (43.7)	0.36	0.16-0.79**
<b>COPD ☐</b>				
No (356)	118 (33.1)	238 (66.9)	1.0	
Yes (28)	11 (39.3)	17 (60.7)	0.77	0.33-1.81

\*P=0.028; \*\*p=0.004; Chronic obstructive pulmonary disease

Table 3: Association between utilization of services and satisfaction (n=384).

Satisfaction	Low utilizers N=255 No. (%)	High utilizers N=129 No. (%)	$\chi^2$ (P-value)
<b>Accessibility subscale</b>			
Satisfied (n=339)	52 (20.4)	38 (29.5)	3.92 (0.033)
Very satisfied (n=45)	203 (79.6)	91 (70.5)	
<b>Continuity and humaneness subscale</b>			
Satisfied (n=31)	20 (7.8)	11 (8.5)	0.05 (0.479)
Very satisfied (n=353)	235 (92.2)	118 (91.5)	
<b>Informativeness and thoroughness subscale</b>			
Satisfied (n=339)	225 (88.2)	114 (88.4)	0.002 (0.557)
Very satisfied (n=45)	30 (11.8)	15 (11.6)	
<b>Effectiveness subscale</b>			
Satisfied (n=42)	21 (8.2)	21 (16.3)	5.69 (0.015)
Very satisfied (n=342)	234 (91.8)	108 (83.7)	
<b>Total score</b>			
Satisfied (n=50)	26 (10.2)	24 (18.6)	5.35 (0.017)
Very satisfied (n=334)	229 (89.8)	105 (81.4)	

studies which suggest that individuals with higher income have more tendency to use private services (Al-Doghaithe 2003, (22) Andaleeb 2000, (23) and Al Ghanim. (24) Elderly needing help with ADL alone or ADL with IADL, increased their difficulty in accessing PHC by 39% which decreased their utilization of PHC centres as reported by a study done in the USA 2001, (25) while our study revealed no statistical significance between elderly with ADL or IADL and utilization of the PHC services. This can be explained by preparation of PHC building for easy access, presence of care giver and way of treating (nurses, administrative, medical record staff and physician) elderly with functional disability by easy access and less waiting time. The present study revealed that another significant predictor for being a high utilizer (once or more /month) of PHC services at DHA was being satisfied with services provided. Asir's study (17) revealed that the majority of elderly people (aged 60+ years) were satisfied with the services provided (79.0%) and accordingly preferred always to use the health services provided by the centre. An Alexandria study (17) revealed that multiple regression analysis utilization of other sources of medical care had a significant negative relation to total satisfaction score of the elderly about their facility. High degree of satisfaction was revealed as in

the overall satisfaction scale, 87.0% of the interviewed elderly persons reported being very satisfied while 13.% were satisfied with the PHC services provided. This is consistent with a study conducted in Sweden 2010, (26) among patients aged 20 years old and above attending medical centres, which showed that the elderly were the most satisfied group (90%) in comparison with younger age groups (76%). Among Gulf countries, a study was conducted in Saudi Arabia in 2001, (27) and included patients aged 15 years old and above attending PHC centres of Riyadh and revealed a lower rate of satisfaction (60% among the whole group). Another study conducted in Kuwait in 2008, (28) among patients 16 years of age and above attended PHC showed near satisfaction level (67.0% elderly age group compared to 61% among adult group).

Most satisfaction studies have revealed that satisfaction is multi-factorial and no one factor could be claimed to be the only contributor to satisfaction or dissatisfaction. (29)

Although older age was significantly associated with the risk of being less very satisfied regarding continuity and humaneness subscale of satisfaction in the bivariate analysis, it is not so in other subscales or in the multivariate analysis. Moreover,

Table 4: Association between socio-demographic characteristics of elderly and total satisfaction scale: univariate analysis

Socio-demographic variables	Satisfied (n=50)	Very satisfied (n=334)	OR	95% CI
<b>Age in years</b>				
65- (n=292)	35 (12.0)	257 (88.0)	1.0	
75- (n=81)	14 (17.3)	67 (82.7)	1.53	0.74-3.16
85- (n=11)	1 (9.1)	10 (90.9)	0.73	0.11-5.04
<b>Gender</b>				
Males (167)	22 (13.2)	145 (86.8)	1.0	
Females (217)	28 (12.9)	189 (87.1)	0.98	0.54-1.78
<b>Marital status</b>				
Single (7)	3 (42.9)	4 (57.1)	1.0	
Married (270)	32 (11.9)	238 (88.1)	0.18	0.03-1.07
Divorced (6)	2 (33.3)	4 (66.7)	0.67	0.04-10.72
Widowed (101)	13 (12.9)	88 (87.1)	0.20	0.03-1.27
<b>Occupation</b>				
Working (19)	3 (15.8)	16 (84.2)	1.0	
Retired (145)	19 (13.1)	126 (86.9)	0.80	0.19-3.84
House wife (220)	28 (12.7)	192 (87.3)	0.78	0.20-3.60
<b>Educational level</b>				
Secondary and above (17)	3 (17.6)	14 (82.4)	1.0	
Less than secondary (93)	19 (20.4)	74 (79.6)	1.20	0.28-5.86
Illiterate (274)	28 (10.2)	246 (89.8)	0.53	0.13-2.49
<b>House hold income</b>				
More than enough (77)	16 (20.8)	61 (79.2)	1.0	
Enough (262)	26 (9.9)	236 (90.1)	<b>0.42</b>	<b>0.20-0.88*</b>
Not enough (45)	8 (17.8)	37 (82.2)	0.82	0.29-2.31

\*P=0.0071

patients aged 85 years or more were more likely to be very satisfied with all other subscales and the total satisfaction scale. This may be explained by the fact that the study included elderly people only and significant differences may not be apparent between the different categories of elderly group. Another study conducted in UAE,( 30) has shown that age was a significant factor for the effectiveness subscale of satisfaction. Also, Al-Eisa (31), found that the older the patient, the higher the satisfaction. This may be due to the elderly having lower expectations about the service provided; hence they have higher satisfaction than younger population. Regarding gender, the present study found that females were less satisfied than males with the continuity of care, but there was no statisti-

cally significant difference. This result is consistent with the previous studies in Qatar 2009, (32), conducted among patients attending PHC centre aged 16 years old and above, and Al Sakaak (33) and Al Eisa (31) also found that males were significantly more satisfied than females. Al-Dawood (34) identified sex of the respondent as the most influential factor on the level of satisfaction. Among other sociodemographic variables, the present study demonstrated that the only predictors of being very satisfied were the educational status and income. According to the education status, studies showed contradictory findings; some had a positive effect of education and others revealed negative effect on satisfaction. A study conducted in Dubai 2008, (35) among patients attending Al Khawaneej

Table 5: Association between medical characteristics of elderly and total satisfaction scale: univariate analysis

Chronic diseases	Satisfied (n=50)	Very satisfied (n=334)	OR	95% CI
<b>History of chronic diseases</b>				
No (n=5)				
1-2 diseases (n=91)	1 (20.0)	4 (80.0)	1.0	
≥3 diseases (n=288)	11 (12.1)	80 (87.9)	0.55	0.05-14.14
	38 (13.2)	250 (86.8)	0.61	0.06-14.67
<b>Diabetes mellitus</b>				
No (121)				
Yes (263)	13 (10.7)	108 (89.3)	1.0	
	37 (14.1)	226 (85.9)	1.36	0.69-2.66
<b>Hypertension</b>				
No (114)				
Yes (270)	15 (13.2)	99 (86.8)	1.0	
	35 (13.0)	235 (87.0)	0.98	0.90-2.45
<b>Dyslipidemia</b>				
No (28)				
Yes (356)	4 (14.3)	24 (85.7)	1.0	
	46 (12.9)	310 (87.1)	0.89	0.30-2.68
<b>Ischemic heart disease</b>				
No (310)				
Yes (74)	37 (11.9)	273 (88.1)	1.0	
	13 (17.6)	61 (82.4)	1.57	0.79-3.14
<b>Osteoarthritis</b>				
No (249)				
Yes (135)	27 (10.8)	222 (89.2)	1.0	
	23 (17.0)	112 (83.0)	1.69	0.93-3.08
<b>Osteoporosis</b>				
No (352)				
Yes (32)	42 (11.9)	310 (88.1)	1.0	
	8 (25.0)	24 (75.0)	2.46	1.04-5.83*
<b>COPD <input type="checkbox"/></b>				
No (356)				
Yes (28)	50 (14.0)	306 (86.0)	1.0	
	0 (0.0)	28 (100.0)	0.80	0.33-1.93

\*P=0.039;  Chronic obstructive pulmonary disease

health centre, 20 years old and above, showed that, the low educated patients were very satisfied with the services provided. A study conducted in Croatia 2001, (36) among patients from 18 years old and above attending 47 PHC found that less educated people were more satisfied; the researcher proposed that less educated people may be more satisfied as they are less demanding. While a study in Qatar, (32) found that, those with higher education had lower but statistically insignificant level of satisfaction with continuity of care. On other hand the present study also revealed that those with less than secondary education had double to triple the risk of being less satisfied regarding effectiveness, continuity and humaneness subscales and the total satisfaction scale (together with the illiterate in the total scale). Contrary to the previous explanation regarding the relation between education and satisfaction, it may be proposed that some of those of lower educational level may underestimate the effort and services provided; hence they may be less very satisfied. A Community based sample would be more appropriate, but was not adopted due to time constraints. Community based sample would be also more accurate in portraying the actual pattern of health service utilization. Moreover, results of the present study may not be generalized to the whole PHC, as quality of care and patient characteristics may differ in different PHC centres. A recall bias may also have been encountered, as the elderly may express their satisfaction about the present or last visit to the PHC, which may not reflect the usual quality of services provided.

## Conclusion

The majority of the elderly at the primary health care centres were low utilizers (Less than once/month) of services. The significant determinants of being less very satisfied about the services provided were being illiterate or with an educational level less than secondary school, having osteoporosis, while presence of history of COPD increased the liability for being more very satisfied.

## Recommendations

The integration and coordination of health and welfare programmes and services to address effectively the various needs of older people and to improve primary health care systems to protect and promote healthy lifestyles, and to tackle the chronic health problems among an ageing population.

## References

1. Kinsella K, Velkoff VA. An ageing world: 2001. International population reports. Washington: US Department of Commerce, US Census Bureau, 2001.
2. Sule SS, Ijadunola KT, Onayade AA, Fatusi AO, Soetan RO, Connell FA. Utilization of primary health care facilities: lessons from a rural community in southwest Nigeria. *Niger J Med* 2008; 17(1):98-106.
3. Baltussen R, Ye Y. Quality of care of modern health services as perceived by users and non-users in Burkina Faso. *Int J Qual Health Care* 2006;18(1):30-34
4. Wait S, Harding ED. The state of ageing and health in Europe: executive summary. International longevity centre- UK, the Merck company foundation 2006: 1-6.
5. Worcester M. Primary care for the older patient. In: *Adult primary care*. Meredith PV, Horan NM (editor). Philadelphia. W.B. Saunders Company. 2000: 130-143.
6. WHO. Active ageing a policy framework. WHO, ageing and life course. Spain 2002:1-60.
7. Belachew T. Client satisfaction, primary health care and utilization of services in Sidama district, Southern Ethiopia, 2000. Thesis for a master degree submitted to the faculty of medicine, University of Oslo, 2001: 1-50.
8. Field KS, Briggs DJ. Socio-economic and locational determinants of accessibility and utilization of primary health-care. *Health Soc Care Community* 2001; 9(5):294-30
9. Ekuklu G, Berberoglu U, Eskiocak M, Saltik A. Utilization of Primary Health Care services by Turkish Gypsies and members of the general population at Muradiya health district in Edirne, Turkey. *Yonsei Medical Journal* 2003; 44(3):414-423.
10. Sule SS, Ijadunola KT, Onayade AA, Fatusi AO, Soetan RO, Connell FA. Utilization of primary health care facilities: lessons from a rural community in southwest Nigeria. *Niger J Med* 2008; 17(1):98-106.
11. Mauerhofer A, Bertchold A, Akre C, Michaud PA, Suris JC. Female Adolescents
12. Kane RL, Maciejewski M, Finch M. The relationship of patient, views on a youth- friendly clinic. *Swiss med wkly*. 2010, 140: 18- 23. Satisfaction with care and clinical outcomes. *Med Care*.1997;35(7):714-30.
13. Albrecht G, Hoogstraten J. Satisfaction as a determinant of compliance. *Community Dent Oral Epidemiol*. 1998;26(2): 139-46 .
14. Prato R, Martinelli D, Fusco A, Panebianco A, Lopalco PL, Germinario CA, Quarto M. The perception of healthcare quality of elderly in the city of Bri, South Italy. *BMC health services research*. 2007; 7 (174): 1- 10.
15. Mahfouz AA, Alsharif AI, Elgamal MN, Kisha AH. Primary health care services utilization and satisfaction among elderly in Asir region, Saudi Arabia. *Eastern Mediterranean health journal*. 2004; 10 (3): 365- 371
16. Theodosopoulou E, Raftopoulos V, Krajewska KE, Wronska I, Chatzopulu A, Nikolaos T, Kotrotsiou E, Paralikas T, Konstantinos E, Tsavelas G. A study to ascertain the patient's satisfaction of the quality of hospital care in Greece compared with the patients satisfaction in Poland. *Advances in medical sciences*. 2007; 52: 136- 139.
17. Bos AM. Health care provider choice and utilization among the elderly in a state in Brazil: a structural model. *Pan Am J Public Health* 2007; 22 (1): 41-50
18. Mahfouz AA, Alsharif AI, Elgamal MN, Kisha AH. Primary health care services utilization and satisfaction among elderly in Asir region, Saudi Arabia. *Eastern Mediterranean health journal*. 2004; 10 (3): 365- 371.
19. Al Doghether MH, Al Megbil TI. Determinants of prescribing for the elderly in primary health care. *Middle Eastern Journal of Age and Ageing* 2004; 1(1): 1-8.
20. Nteta TP, Mokgatle-NthabuM, Oguntibeju OO. Utilization of the Primary Health Care Services in the Tshwane Region of Gauteng Province, South Africa. *PLoS ONE, health service utilization* 2010;5 (11): 1-8.
21. Andaleeb, S. Public and private hospitals in Bangladesh: service quality and predictors of hospital choice, *Health Policy and Planning* 2000; 15(1): 95-102
22. Al-Doghhaither, A., Abdelrhman, B., Saeed, A. and Magzoub, M.E. Factors Influencing Patient Choice of Hospitals in Riyadh, Saudi Arabia, *The Journal of The Royal Society for the Promotion of Health*2003; 123(2): 105-109.



23. Babic-Banaszak A, Kovacic L, Mastilica M, Babic S, Ivankovic D, Budak A. The Croatian health survey- patient's satisfaction with medical service in primary health care in Croatia. *Collegiums Antropologicum* 2001;25(2): 449-58.
24. Al Ghanim SA. Factor influencing the utilization of public and private primary health care services in Riyadh city. *JKAU: Econ and Admin* 2004;19(1): 3-27.
25. Safavi K. Patient-centered pay for performance: Are we missing the target? *Journal of Healthcare Management* 2006; 51(4): 215-218
26. Rahmqvist M, Bara AC. Patient characteristics and quality dimensions related to patient satisfaction. *International Journal for Quality in Health Care* 2010; 22 (2): 86-92
27. Baker R. Use of psychometrics to develop a measure of patient satisfaction for general practice. In Fitzpatrick R, Hopkins A, eds, *Measurement of Patients' Satisfaction with Their Care*. London: Royal College of physicians of London, 1993, 57-75.
28. Bu-Alayyan S, Mostafa AR, Al-Etaibi B, Sorkhou E, Al-Taher H. Patient satisfaction with primary health care services in Kuwait. *Kuwait medical journal* 2008; 40(1): 25- 30
29. Al-Eisa, Al-Mutar, patients' satisfaction with primary health care services at capital health region, Kuwait. *Middle East Journal of Family Medicine* 2005; 3(2):10-16.
30. Mansour AA, Al-Osimy MH. A study of satisfaction among primary health care patients in Saudi Arabia. *Journal of community health* 1993; 18(3): 163- 17
31. Al-Sakkak MR, Al-Nowaiser NA. Patient satisfaction with primary health care services offered in Riyadh health centres. *Saudi Med J* 2008; 29(3): 432-436.
32. Al Emadi N, Falamarzi S, Al-Kuwari MG, Al-Ansari A, AlEmadi N. Patients satisfaction with primary health care services in Qatar. *Middle East Journal of Family Medicine*, 2009; 7(9): 4- 9.
33. Al-Dawood KM, Elzubier AG. Patients expectations and satisfaction in a teaching hospital outpatient clinic, Al Khubar, Saudi Arabia. *Saudi Med J* 1996; 17:245-250.
34. Wasfy A, AlMarzooki A, Mahdy N, Ahmed A. Patient's satisfaction with primary health care services in Al Khaweeney health centre in Dubai. *Sc.J.AZ.Mad.Fac.* 2008; 29 (3): 257-270.
35. Babic-Banaszak A, Kovacic L, Mastilica M, Babic S, Ivankovic D, Budak A. The Croatian health survey- patient's satisfaction with medical service in primary health care in Croatia. *Collegiums Antropologicum* 2001;25(2): 449-58.
36. Rudzik AEF. Examining health equity through satisfaction and confidence of patient in primary healthcare in Republic of Trinidad and Tobago. *J Health Popul Nutr* 2003; 21(3):243-250