Original Article

Utilization patterns of primary healthcare services at tertiary care hospital in Riyadh, Suadi Arabia

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Objective: To identify the patterns of health utilization, such as over-utilization, under-utilization and inefficient scheduling of resources and to measure the effectiveness and efficiency related to health utilization of facilities and services through an ongoing monitoring and educational program.

Methodology: In this descriptive cross-sectional study, self-administered questionnaires was used to collect data from 161 respondents from January to June 2019. A total of 400 patients were included in the study at 300 beds Tertiary Care Hospital in Riyadh, Saudi Arabia.

Results: Out of 400 patients, 242 (60.5%) were male and 158(39.5%) were female.

Conclusion: There was high utilization of lab and radiology services ranges between 60 - 70% of patients. (Rawal Med J 202;45:925-929).

Keywords: Health utilization, logistics, tertiary care.

INTRODUCTION

The Healthcare Utilization can be defined as the accessibility and affordability of the individuals to benefit from the services pertaining to health.[1] Health services distribution can be unequal in nations therefore, insufficient accesses to utilization of health resources, especially rural populations are enlisted among deprived groups in Saudi Arabia.[2] The services which are provided by ministry of health are totally free of all charges. The areas for assessing how this system is functioning and identifying strengths and weaknesses including patients' views and suggestion is still in the evaluation process.[3] Patient's demographic data including self–assessed health, age, income, residential area, and gender are the most important factors that effects health–seeking behavior, and self–rated health status was the most critical.[4]

Utilization of healthcare services purpose is to form accessibility and affordability of the household to avail these services to ensure primary care by means of measuring the effectiveness of health care delivery.[5] This has led to rise in health costs to the government, estimated at 17 Billion riyals which is expected to increase to 43 billion riyals per annum.[6] Recent studies indicate that the disparities in the social and economic factors affecting people in a country has resulted inconsistencies in the use of health services.[7] Though their demand for the service is greater as compared with European countries and North America, their access to it is less than those with higher incomes.[8] The aim of this study was to identify the patterns of health utilization and inefficient scheduling of resources and to measure the effectiveness and efficiency related to health utilization of facilities and services.

METHODOLOGY

A descriptive, cross-sectional study design with self-administrative questionnaire was used to collect information from 161 respondents over the period of 6 months (January to June 2019). The primary data was collected from all the patients of outpatient clinics at Tertiary Care Hospital in Riyadh Saudi Arabia; The Hospital consists about 300 beds and 240 clinics. The source population was the registered patients who visited the outpatient clinics from the 10th of March to 15th of April 2019. The target sample size was 400 patients based on the advice of an expert. Convenience sampling was used and any patient in the outpatient clinics during the dissemination was asked to participate in the research.

We used a pre-developed and validated

questionnaire.[9] It was in Arabic and English, consisting of three parts. The first part contains questions about the demographics such as gender, age group, and economical status. The second part asked about logistics such as parking space and distance to the hospital. The third part is to investigate the reasons for visiting the outpatient clinics and the services provided to the visitors.

Statistical Analysis: Statistical analysis was performed using SPSS version 20. Chi-Square test was used with alpha level of significance p-value of less than 0.05.

RESULTS

Out of 400 patients, males were 242) and females 158. The most frequent age groups were 30–40 age group (37.3%) followed by 18–29 (23.0%). 295 (73.5%) of the attendees were Saudi and most were married (58.3%) (Table 1). This comparison revealed that there was statistically significant difference between males and females with regard age group, nationality, marital status, educational level, job, monthly income (p<0.001).

Table 2 presents the logistics included the transportation, car parking, distance travelled, time spent, waiting areas, guide marks, and appointments preservation. Most of the patients came to the clinic with their private cars (64.8%) and parking was enough for them (89.5%). Surprisingly, 68% of the attendees were less than 5 km far from the hospital. In addition, 82.3% of this cohort takes less than 30 minutes to reach the hospital.

Table 1. Demographic data of the study sample.

Parameters		All (n=400)	Female (n=158)	Male (n=242)	P-value
Age group	18 – 29	92 (23%)	47 (29,7%)	45 (18,6%)	< 0.001
	30 – 40	149 (37,3%)	49 (31%)	100 (41,3%)	
	41 – 50	64 (16%)	6 (3,8%)	58 (24%)	
	51 – 60	48 (12%)	29 (18,4%)	19 (7,9%)	
	More than60	47 (11,8%)	27 (17,1%)	20 (8,3%)	
Nationality	Non-Saudi	106 (26,5%)	56 (35,4%)	50 (20,7%)	< 0.001
	Saudi	294 (73,5%)	102 (64,6%)	192 (79,3%)	
Marital Status	Single	102 (25,5%)	33 (20,9%)	69 (28,5%)	< 0.01
	Married	233 (58,3%)	90 (57%)	143 (59,1%)	
	Divorce	31 (7,8%)	21 (13,3%)	10 (4,1%)	
	Widowed	34 (8,5%)	14 (8,9%)	20 (8,3%)	
Education Level	Illiterate	37 (9,3%)	28 (17,7%)	9 (3,7%)	< 0.001
	High School	102 (25,5%)	30 (19%)	72 (29,8%)	
	Diploma	64 (16%)	13 (8,2%)	51 (21,1%)	
	Bachelor	186 (46,5%)	79 (50%)	107 (44,2%)	
	High Education	11 (2,8%)	8 (5,1%)	3 (1,2%)	
Job	No	67 (16,8%)	53 (33,5%)	14 (5,8%)	< 0.001
	Student	14 (3,5%)	5 (3,2%)	9 (3,7%)	
	Governmental	145 (36,3%)	48 (30,4%)	97 (40,1%)	
	Private	144 (36%)	48 (30,4%)	96 (39,7%)	
	Military	30 (7,5%)	4 (2,5%)	26 (10,7%)	
Monthly Income	<3000	73 (18,3%)	49 (31%)	24 (9,9%)	< 0.001
	3000 – 5999	82 (20,5%)	28 (17,7%)	54 (22,3%)	
	6000 – 9999	116 (29%)	42 (26,6%)	74 (30,6%)	
	10,000 - 18,000	108 (27%)	36 (22,8%)	72 (29,8%)	
	>18,000	21 (5,3%)	3 (1,9%)	18 (7,4%)	
Medical Insurance	No	168 (42%)	69 (43,7%)	99 (40,9%)	>0.05
	Yes	232 (58%)	89 (56,3%)	143 (59,1%)	

Table 2. Logistics characteristics of the study sample.

Parameters		All (n=400)	Female (n=158)	Male (n=242)	P-value
Transportation	Own Car	259 (64,8%)	105 (66,5%)	154 (63,6%)	>0.05
	Taxi/Bus	45 (11,3%)	20 (12,7%)	25 (10,3%)	
	Walk	29 (7,3%)	13 (8,2%)	16 (6,6%)	
	Ambulance	58 (14,5%)	20 (12,7%)	38 (15,7%)	
	Cycle	9 (2,3%)	0 (0%)	9 (3,7%)	
Car Parking	Not enough	42 (10,5%)	9 (5,7%)	33 (13,6%)	<0.05
	Enough	358 (89,5%)	149 (94,3%)	209 (86,4%)	
Distance in Km	<5km	272 (68%)	114 (72,2%)	158 (65,3%)	<0.005
	5 -10 km	95 (23,8%)	40 (25,3%)	55 (22,7%)	
	>10km	33 (8,3%)	4 (2,5%)	29 (12%)	
Time in Min	Less than 30min	329 (82,3%)	136 (86,1%)	193 (79,8%)	<0.001
	30-60min	49 (12,3%)	22 (13,9%)	27 (11,2%)	
	More than 60min	22 (5,5%)	0 (0%)	22 (9,1%)	
Waiting areas	No	65 (16,3%)	16 (10,1%)	49 (20,2%)	<0.005
	Yes	335 (83,8%)	142 (89,9%)	193 (79,8%)	
Guide Marks	Not	80 (20%)	21 (13,3%)	59 (24,4%)	<0.005
	Help	320 (80%)	137 (86,7%)	183 (75,6%)	
Appointment reservation	Tel	346 (86,5%)	143 (90,5%)	203 (83,9%)	0.058
	App	54 (13,5%)	15 (9,5%)	39 (16,1%)	

Table 3. Clinical characteristics of the study sample.

Parameters		All (n=400)	Female (n=158)	Male (n=242)	P-value
Prescription	No	42 (10,5%)	4 (2,5%)	38 (15,7%)	<0.001
	Yes	358 (89,5%)	154 (97,5%)	204 (84,3%)	
Prescription Not available	No	170 (42,5%)	71 (44,9%)	99 (40,9%)	>0.05
	One	122 (30,5%)	43 (27,2%)	79 (32,6%)	
	Frequently	95 (23,8%)	37 (23,4%)	58 (24%)	
	Every	13 (3,3%)	7 (4,4%)	6 (2,5%)	
Radiology request	No	136 (34%)	43 (27,2%)	93 (38,4%)	<0.001
	1-3	203 (50,8%)	78 (49,4%)	125 (51,7%)	
	4-6	54 (13,5%)	30 (19%)	24 (9,9%)	
	More than 6	7 (1,8%)	7 (4,4%)	0 (0%)	
Type of Radiology requested	No	136 (34%)	43 (27,2%)	93 (38,4%)	<0.05
	x-ray	32 (8%)	9 (5,7%)	23 (9,5%)	
	US	6 (1,5%)	2 (1,3%)	4 (1,7%)	
	CT	12 (3%)	8 (5,1%)	4 (1,7%)	
	Multiple	214 (53,5%)	96 (60,8%)	118 (48,8%)	
Lab request	No	108 (27%)	29 (18,4%)	79 (32,6%)	<0.001
	1-3	210 (52,5%)	77 (48,7%)	133 (55%)	
	4-6	57 (14,3%)	33 (20,9%)	24 (9,9%)	
	More than 6	25 (6,3%)	19 (12%)	6 (2,5%)	

Parameters		All (n=400)	Female (n=158)	Male (n=242)	P-value
Type of Lab requested	No	105 (26,3%)	26 (16,5%)	79 (32,6%)	<0.001
	Glu	18 (4,5%)	4 (2,5%)	14 (5,8%)	
	Multiple	277 (69,3%)	128 (81%)	149 (61,6%)	
Dressing Clinic	No	206 (51,5%)	77 (48,7%)	129 (53,3%)	>0.05
	1-3	156 (39%)	69 (43,7%)	87 (36%)	
	4-6	38 (9,5%)	12 (7,6%)	26 (10,7%)	
Health Education	No	149 (37,3%)	60 (38%)	89 (36,8%)	<0.05
	One	175 (43,8%)	60 (38%)	115 (47,5%)	
	Frequently	71 (17,8%)	33 (20,9%)	38 (15,7%)	
	Every	5 (1,3%)	5 (3,2%)	0 (0%)	
Dental Clinic visit	No	60 (15%)	16 (10,1%)	44 (18,2%)	>0.05
	1-3	196 (49%)	78 (49,4%)	118 (48,8%)	
	4-6	142 (35,5%)	64 (40,5%)	78 (32,2%)	
	More than 6	2 (0,5%)	0 (0%)	2 (0,8%)	
Cause of Dental clinic visit	No	60 (15%)	16 (10,1%)	44 (18,2%)	>0.05
	Prevention	73 (18,3%)	27 (17,1%)	46 (19%)	
	Treatment	190 (47,5%)	77 (48,7%)	113 (46,7%)	
	Restoration	6 (1,5%)	3 (1,9%)	3 (1,2%)	
	Prevention & Treatment	70 (17,5%)	35 (22,2%)	35 (14,5%)	
Cause of visit	Chronic	151 (37,8%)	50 (31,6%)	101 (41,7%)	<0.001
	Post-surgery	99 (24,8%)	32 (20,3%)	67 (27,7%)	
	Dental	61 (15,3%)	32 (20,3%)	29 (12%)	
	Vaccine	6 (1,5%)	5 (3,2%)	1 (0,4%)	
	Multiple	83 (20,8%)	39 (24,7%)	44 (18,2%)	

About 42.5% of the patients found the prescription available. The radiology requests were reported to be 1-3 time for 50.8% of the study patients. The dressing was mostly not used (51.5%). Health education was providing for one time to 43.8%. The dental clinic visits were reported for one time for 49% of the participants. The main causes of the dental clinic visits were for treatment (47.5%) and restoration (18.3%). No statistically significant differences were found between gender and prescription were not available, dressing clinic, dental clinic visit, and with cause of dental clinic visit, (p>0.05), respectively (Table 3).

DISCUSSION

The utilization in general is a matter of behavior, and according to behavior scientists, the behavior is the result of the interaction between personal characteristics, environment, and the social forces around the individual.[10] Understanding the utilization patterns will assist in maximizing the benefits of primary healthcare services and help in eliminating or at least reducing overuse which is providing health services even though there is no evidence of effectiveness, and underuse which happens when a service that is beneficial to the patient is not provided.[11]

There are many factors effecting utilization such as, health status, demographics, social factors and many other determinants. One of the most common ways for explaining healthcare services utilization is Principal-agent models. This implies that a patient's (principal) decision will be determined by the physician (agent) after the first visit.[7] Other

factors such as the structural and organizational health sector problems such as funding, human resources, and information technology could affect utilization patterns.[4]

Our study findings were consistent with the fact that, lower education and lower socioeconomic status individuals tend to use healthcare services more, this was observed in Belgium, Netherlands, Ireland, Spain, England, Italy, and many other European countries.[12] The increased age also related to higher utilization of healthcare services, gender differences showed that female tend to use healthcare services more than men, and patients with depression or anxiety also uses healthcare services more than others.[13,14]

The most important determinant of utilization is manpower factor; friendly, cooperative, and Arabic-speaking personnel encourages utilization, other factors such as patterns in age, marital status, smoking habit, gender economic status, education level, distance, car park and physical environment impact utilization pattern.[3,15] In order to improve the health status of the population, we must enhance the utilization of healthcare services, and to do so people must value health, must understand the importance of a proper use of services, and must benefit from the other services provided by primary healthcare center such as preventive and health promotion and education services.[2,16]

CONCLUSION
There was high utilization of lab and radiology services ranges between 60-70% of patients.

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