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Utilization Patterns of Primary Healthcare Services at the Tertiary Care Hospital

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Abstract

Objectives: This study aims to identify patterns of Health utilization, such as overutilization, underutilization 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. Studying the health resources utilization in primary care setting is highly important especially in the healthcare system with diverse specialties and backgrounds. Therefore, eliminating waste and efficiently manage resources will improve the management control, staff involvement and patient experience.

Research methodology: A descriptive cross-sectional study design with self-administrative questionnaires was used to collect information from 161 respondents over the period of 6 months (January to June2019). The target sample size was 400 patients based on Outpatient Department, at 300 bed Tertiary Care Hospital in Riyadh Saudi Arabia.

Results: Between March 2019 to April 2019, 400 patients were prospectively evaluated for their experience in attending in our outpatient clinic. 400 patients were with complete data and eligible for analysis. 242 (60.5%) of the sample were males. We categorized our sample in two groups. The first group includes the males (n=242), and the females (n=158). The response rate was 89% and the completion rate was 100%.

Conclusion: There was high utilization of lab and radiology services ranges between 60-70% of patients. High significant level shown for Lab and Radiology requests as well as the Health Education, with the Cause of visit, on other hand, Facility was convenient for patients in matter of Parking, waiting areas and accessibility to the hospital.

Keywords: Health utilization; Primary health care centers

Introduction

The healthcare utilization can be defined as the accessibility and affordability of the individuals to benefit from the services pertaining to health [1]. During 1966, the study has suggested, Patient satisfaction is the best measure in evaluating health care services and Primary Health Care system in large number of hospitals, in Kingdome of Saudi Arabia provides most curative and preventive health services [2]. The Worldwide Survey also shows that access to and utilization of PHCS distribution can be unequal in nations therefore, insufficient accesses to utilization of health resources, in addition, rural and (non-medic) populations are enlisted among deprived groups in KSA [3].

Notwithstanding, Utilization surveys have been proven to become a valuable source in providing quality improvement and strategic planning needed for health services and their overall goal of utilization by consumers. In addition, Assessment of quality and utilization of PHCCs services can be enhanced by including patients' perceptions and views with their professional judgments, these types of patients tend to be more optimistic in searching health care, complying with treatment and returning to the same care setting [4]. In KSA such studies are scarce and rather of general nature that are concentrating mainly on patients' attitudes and satisfaction with Primary Health Services particularly in the region of Riyadh.

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 which need to be undertaken for corrective measures and for proper expansion of the service and enhancing health utilization [5]. Although international evidence illustrates that, Primary health care centers plays a vital role in improving population health through reduction in rates of all cause of mortality and morbidity, two years later a study in KSA also concluded that patients' gender, education, and occupation are the most important while age was the least important characteristic associated with factors affecting health utilization [6].

Moreover, patient's demographic data including self-assessed health, age, income, residential area, and gender were found to be the most important factors that effects health-seeking behavior, and self-rated health status was the most critical. In the following year, there is evidence of markedly increased in rates of hypertension and coronary artery diseases in older aged patients [7], While, The Access to PHC is very crucial in maintaining good health status. Recent study in primary health care by Al-Sakkah, indicates that the disparities in the social and economic factors affecting people in a country has resulted inconsistencies in the use of health services [8].

Utilization of healthcare services purpose is to form accessibility and affordability of the household to avail these services that is pertaining to health where the Patient-centered outcomes have to be taken in account to ensure primary care by means of measuring the effectiveness of health care delivery [8]. Subsequently, this has led to rise in health costs to the government, for instance current healthcare cost of DB is estimated at 17 Billion riyals which is expected to

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moderately increase to 43 billion rivals per annum [9].

The Access to PHC is very crucial in maintaining good health status. 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 [10]. Unfortunately, population with low socioeconomic status are mainly faced with difficulties and barriers when they tend to look for better health care. Though their demand for the service is greater, but as compared with European countries and North America their access to it is less than those with higher incomes, and they are also less likely to be offered appointments in local PHCS [11].

Material & Methods

Study Design

A descriptive, cross-sectional study design with self-administrative questionnaires was used to collect information from 161 respondents over the period of 6 months (January to June 2019).

Setting

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 were the registered patients who visited the outpatient clinics from the 10th of March to 15th of April 2019.

Study population and sampling

The target population of the research. The target sample size was 400 patients based on the advice of an expert. Choosing the participants based on convenience sampling, without any inclusion or exclusion criteria, any patient exist in the outpatient clinics during the dissemination will be asked to participate in the research.

Study instrument

The researchers used a pre-developed and validated questionnaire [12], and modified by more relevant demographic under the supervision and help of an expert. The questionnaire was in Arabic and English, consist 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.

Data collection method

Data collection was done with the help of the medical staff of the hospital through a bilingual paper-based questionnaire. The researchers distributed 450 copies at the outpatient clinics at the tertiary care hospital. The response rate was 89% and the completion rate was 100%.

Statistical analysis

Using an expert statistician, the data were deceptively analyzed through SPSS software a sample of 400 patients is selected from a private hospital in Riyadh. The dataset contains information about three components, such as Demographics, logistics and clinical characteristics. The purpose of this analysis is to examine and determine whether there is a gender differences with Chi-Square with each of our characteristic variable individually.

Data are summarized by counting the number of subjects in each group and presented in the form of a table (cross-tabulation), which called a contingency table. Further, row percentages (in brackets) are used in order to spot any patterns in the data. Proper visualizations are used to illustrate key features. The alpha level of significance p-value of less than 0.05 were considered statistically significant.

Ethical consideration

This study was approved at the department of Health Administration, Collage of Business Administration King Saud University Riyadh Saudi Arabia under the regulation of ethical consideration. Respondents received written information explaining purpose of the study and were invited to take part on voluntary basis. Respondent confidentiality was protected during whole study.

Results

Between March 2019 to April 2019, 400 patients were prospectively evaluated for their experience in attending in our outpatient clinic. 400 patients were with complete data and eligible for analysis. 242 (60.5%) of the sample were males. We categorized our sample in two groups. The first group includes the males (n=242), and the females (n=158).

Demographics characters

Based on the bellow Table 1, the most frequent age groups that visit the clinics were 30–40 age group (37.3%) followed by 18–29 (23.0%) age group. 295 (73.5%) of the attendees were Saudi and most of the sample were married (58.3%). The comparisons between male and females with regard demographics data were presented in 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 value <0.001). In contrast, gender and the medical insurance were statistically unrelated (p-value>0.05). Table 1 provides an overall summary of the gender crossed by the demographics characters.

Logistics

Regarding logistics, our study evaluated significant items that included the transportation, car parking, distance travelled, time spent, waiting areas, guide Marks, and appointments preservation. This analysis revealed that most of the patients come to the clinic with their private cars (64.8%), the parking is enough for them (89.5%). Surprisingly, 68% of the attendees are less than 5 km far from the hospital. In addition, 82.3% of this cohort takes less than 30 minutes to reach the hospital. After arriving the hospital, 80% of the participants found guide marks helpful. Furthermore, 83.8% of the participants reported that waiting areas are comfortable. The differences of these items between males and females were presented in Table 2.

Clinical services

The clinic provides a prescription for 89.5% of the patients. However, 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% of the sample. 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 Not available, Dressing Clinic, Dental Clinic visit, and with Cause of Dental clinic visit, (p-value>0.05), respectively. Although a significant diversity was demonstrated between the gender and Prescription, Radiology request, Lab request, Type of Lab requested, Health Education, and Cause of visit, respectively (individually p-value<0.05). Table 3 displays an overall summary of the gender crossed by the clinical characteristics: Citation: Memon SI, Jasser BAI, Al-Enezi M, Masoud M (2020) Utilization Patterns of Primary Healthcare Services at the Tertiary Care Hospital. J Community Med Health Educ S3: 001.

| Parameters | | All (n=400) | Female (n=158) | Male (n=242) | P-value |
|-------------------|----------------|-------------|----------------|--------------|---------|
| Age group | 18-29 | 92 (23%) | 47 (29.7%) | 45 (18.6%) | |
| | 30-40 | 149 (37.3%) | 49 (31%) | 100 (41.3%) | |
| | 41-50 | 64 (16%) | 6 (3.8%) | 58 (24%) | <0.001 |
| | 51-60 | 48 (12%) | 29 (18.4%) | 19 (7.9%) | |
| | More than60 | 47 (11.8%) | 27 (17.1%) | 20 (8.3%) | |
| Netionality | Non-Saudi | 106 (26.5%) | 56 (35.4%) | 50 (20.7%) | 10.001 |
| Nationality | Saudi | 294 (73.5%) | 102 (64.6%) | 192 (79.3%) | <0.001 |
| | Single | 102 (25.5%) | 33 (20.9%) | 69 (28.5%) | |
| Marital Otatua | Married | 233 (58.3%) | 90 (57%) | 143 (59.1%) | -0.04 |
| Marital Status | Divorce | 31 (7.8%) | 21 (13.3%) | 10 (4.1%) | <0.01 |
| | Widowed | 34 (8.5%) | 14 (8.9%) | 20 (8.3%) | |
| | Illiterate | 37 (9.3%) | 28 (17.7%) | 9 (3.7%) | |
| | High School | 102 (25.5%) | 30 (19%) | 72 (29.8%) | |
| Education Level | Diploma | 64 (16%) | 13 (8.2%) | 51 (21.1%) | <0.001 |
| | Bachelor | 186 (46.5%) | 79 (50%) | 107 (44.2%) | |
| | High Education | 11 (2.8%) | 8 (5.1%) | 3 (1.2%) | |
| | No | 67 (16.8%) | 53 (33.5%) | 14 (5.8%) | |
| | Student | 14 (3.5%) | 5 (3.2%) | 9 (3.7%) | |
| Job | Governmental | 145 (36.3%) | 48 (30.4%) | 97 (40.1%) | <0.001 |
| | 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%) | |
| | Yes | 232 (58%) | 89 (56.3%) | 143 (59.1%) | >0.05 |

 Table 1: Demographic data of the study sample.

| Parameters | | All (n=400) | Female (n=158) | Male (n=242) | P-value |
|---------------------------|-----------------|-------------|----------------|--------------|---------|
| | Own Car | 259 (64.8%) | 105 (66.5%) | 154 (63.6%) | >0.05 |
| | Taxi/Bus | 45 (11.3%) | 20 (12.7%) | 25 (10.3%) | |
| Transportation | 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 Darking | Not enough | 42 (10.5%) | 9 (5.7%) | 33 (13.6%) | <0.05 |
| Car Parking | Enough | 358 (89.5%) | 149 (94.3%) | 209 (86.4%) | |
| | <5km | 272 (68%) | 114 (72.2%) | 158 (65.3%) | <0.005 |
| Distance in Km | 5 -10 km | 95 (23.8%) | 40 (25.3%) | 55 (22.7%) | |
| | >10km | 33 (8.3%) | 4 (2.5%) | 29 (12%) | |
| | Less than 30min | 329 (82.3%) | 136 (86.1%) | 193 (79.8%) | |
| Time in Min | 30-60min | 49 (12.3%) | 22 (13.9%) | 27 (11.2%) | <0.001 |
| | More than 60min | 22 (5.5%) | 0 (0%) | 22 (9.1%) | |
| | No | 65 (16.3%) | 16 (10.1%) | 49 (20.2%) | <0.005 |
| waiting areas | Yes | 335 (83.8%) | 142 (89.9%) | 193 (79.8%) | |
| Quide Marks | Not | 80 (20%) | 21 (13.3%) | 59 (24.4%) | <0.005 |
| Guide Marks | Help | 320 (80%) | 137 (86.7%) | 183 (75.6%) | |
| Appointment record (cfier | Tel | 346 (86.5%) | 143 (90.5%) | 203 (83.9%) | 0.058 |
| Appointment reservation | Арр | 54 (13.5%) | 15 (9.5%) | 39 (16.1%) | |

 Table 2: Logistics characteristics of the study sample.

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| Parameters | | All (n=400) | Female (n=158) | Male (n=242) | P-value |
|------------------------------|------------------------|-------------|----------------|--------------|---------|
| Prescription | No | 42 (10.5%) | 4 (2.5%) | 38 (15.7%) | 10.001 |
| | Yes | 358 (89.5%) | 154 (97.5%) | 204 (84.3%) | <0.001 |
| | No | 170 (42.5%) | 71 (44.9%) | 99 (40.9%) | |
| Prescription Not available | One | 122 (30.5%) | 43 (27.2%) | 79 (32.6%) | × 0.05 |
| | Frequently | 95 (23.8%) | 37 (23.4%) | 58 (24%) | >0.05 |
| | Every | 13 (3.3%) | 7 (4.4%) | 6 (2.5%) | |
| Radiology request | No | 136 (34%) | 43 (27.2%) | 93 (38.4%) | |
| | 01-Mar | 203 (50.8%) | 78 (49.4%) | 125 (51.7%) | 10.001 |
| | 04-Jun | 54 (13.5%) | 30 (19%) | 24 (9.9%) | <0.001 |
| | More than 6 | 7 (1.8%) | 7 (4.4%) | 0 (0%) | |
| | No | 136 (34%) | 43 (27.2%) | 93 (38.4%) | |
| | x-ray | 32 (8%) | 9 (5.7%) | 23 (9.5%) | |
| Type of Radiology | US | 6 (1.5%) | 2 (1.3%) | 4 (1.7%) | <0.05 |
| requested | СТ | 12 (3%) | 8 (5.1%) | 4 (1.7%) | |
| | Multiple | 214 (53.5%) | 96 (60.8%) | 118 (48.8%) | |
| | No | 108 (27%) | 29 (18.4%) | 79 (32.6%) | |
| | 01-Mar | 210 (52.5%) | 77 (48.7%) | 133 (55%) | 10.001 |
| Lab request | 04-Jun | 57 (14.3%) | 33 (20.9%) | 24 (9.9%) | <0.001 |
| | More than 6 | 25 (6.3%) | 19 (12%) | 6 (2.5%) | |
| | No | 105 (26.3%) | 26 (16.5%) | 79 (32.6%) | |
| Type of Lab requested | Glu | 18 (4.5%) | 4 (2.5%) | 14 (5.8%) | <0.001 |
| | Multiple | 277 (69.3%) | 128 (81%) | 149 (61.6%) | |
| | No | 206 (51.5%) | 77 (48.7%) | 129 (53.3%) | |
| Dressing Clinic | 01-Mar | 156 (39%) | 69 (43.7%) | 87 (36%) | >0.05 |
| | 04-Jun | 38 (9.5%) | 12 (7.6%) | 26 (10.7%) | |
| | No | 149 (37.3%) | 60 (38%) | 89 (36.8%) | |
| Health Education | One | 175 (43.8%) | 60 (38%) | 115 (47.5%) | -0.05 |
| | Frequently | 71 (17.8%) | 33 (20.9%) | 38 (15.7%) | <0.05 |
| | Every | 5 (1.3%) | 5 (3.2%) | 0 (0%) | |
| | No | 60 (15%) | 16 (10.1%) | 44 (18.2%) | |
| Dontal Clinic visit | 01-Mar | 196 (49%) | 78 (49.4%) | 118 (48.8%) | >0.05 |
| Dental Clinic visit | 04-Jun | 142 (35.5%) | 64 (40.5%) | 78 (32.2%) | 20.05 |
| | More than 6 | 2 (0.5%) | 0 (0%) | 2 (0.8%) | |
| | No | 60 (15%) | 16 (10.1%) | 44 (18.2%) | >0.05 |
| | Prevention | 73 (18.3%) | 27 (17.1%) | 46 (19%) | |
| Cause of Dental clinic visit | 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%) | |
| | Chronic | 151 (37.8%) | 50 (31.6%) | 101 (41.7%) | <0.001 |
| Cause of visit | 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%) | |

 Table 3: Clinical characteristics of the study sample.

Discussion

Primary health care is one of the important healthcare sectors and is the first line of patient care, providing treatment services, health promotion and prevention against diseases. Unfortunately, there are significant differences in access and the use of primary health care resources, thus causing problems of overuse or underuse of these resources. To eliminate these differences and base our healthcare services on the need, we need first to understand the factors and methods affecting utilization and the means of using these resources. The main aim in our study was to study the outpatient clinics utilization and to identify the correlation between the different demographical characteristics such as (age, gender) with other variables. There was statistically significant difference between males and females with regard age group, nationality, marital status, educational level, job, monthly income. No statistically significant differences were found between gender and availability of prescription, Dressing Clinic, Dental Clinic visit, and with cause of dental clinic visit. In the other hand, high significant level shown for Radiology request, Lab request, Type of Lab requested, Health Education, and Cause of visit.

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. Understand 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.

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. Which implies that a patient's (principal) decision will be determined by the physician (agent) after the first visit. Other factors such as the structural and organizational health sector problems such as funding, human resources, and information technology could affect utilization patterns.

Our study findings are 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 [13], increased age also related to higher utilization of healthcare services, gender differences shows that female tend to use healthcare services more than men, and patients with depression or anxiety also uses healthcare services more than others [14-21]. 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. This study has also reflected similar findings based on the former research.

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.

Study Limitations

Time was the biggest issue, the whole research was planned and completed within two months, and human resources was a big problem since all the researchers are students and workers at the same time.

Conclusion

There was high utilization of lab and radiology services ranges between 60-70% of patients. High significant level shown for Lab and Radiology requests as well as the Health Education, with the Cause of visit, on other hand, Facility was convenient for patients in matter of Parking, waiting areas and accessibility to the hospital.

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