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Evaluation of the impact of Saudi Healthcare System Reform on the Patient Satisfaction in Primary Healthcare Centers in Makkah, Saudi Arabia

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Abstract: Introduction: the primary objective of this study is to investigate the impacts Saudi healthcare system reforms on the quality (effectiveness and efficiency) of the primary healthcare services at the respective centers. An exploratory and conclusive research design was initiated to determine the impact of the reforms on the quality services in primary health care centers in Makkah. The sample size was 300 patients who had been taken medical services or facilities in recent times at the different PHC centers. The findings stated that current provision of healthcare services as PHC centers are exemplary. Approval rate of PHC centers are quite responsive and quick, the overall experience about visiting to the healthcare providers at PHC centers has been significantly well with means of 3.34. Also, use of communication were well satisfying for the patients with means of 3.68. Moreover, the efficiency in booking appointments as well as the quality of services inside and outside the PHC centers was seemed to be high. **Conclusion**: In conclusion, the study has critically evaluated the reforms which are to be carried out within the Saudi healthcare system. The high satisfaction level of the patients indicated that the recent reform was well needed. Therefore, further study has to be conducted in different setting to support the current study results.
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1. Introduction

In Saudi Arabia, just like other countries around the world, works towards providing a cost-effective, easily accessible, and high-quality healthcare services to the citizens. The strategy that has been adopted by the Saudi government is the provision of primary health-care system. The primary health service is provided in the primary healthcare centers, which are distributed across the country [1]. The establishment of the primary healthcare in the country was mainly driven by the Ministry of Health, a process which began after the Alma Ata declaration of 1978[2]. Even though the primary healthcare approach in Saudi Arabia is a new concept, the focus of the healthcare in the country has been based on the provision of health care for all [3]. Besides, Saudi Arabia uses the strategy of primary healthcare to achieve a universal healthcare system for the citizens. However, the quality of the services offered at the primary healthcare centers has been found to vary, with some scholars reporting a considerably moderate to low level [4;5].

Health care quality in any jurisdiction, Saudi Arabia included, is referred to as the degree that the healthcare services for the individuals, families and community as well as the appointment programming systems that are utilized in the primary and secondary healthcare clinics and hospitals. The measure of quality is the patient outcomes [6;7]. However, most primary healthcare centers have failed to realize the much-needed patient outcomes, which results from the nature of the primary care systems, workforce challenges, financing supporting and the healthcare administration strategies among others [4].

According to Mohamed, et al.[8], in the field of measuring the quality of care and health outcome patient satisfaction is a crucial component that had been considered for measuring such purpose [5;8]. This study evaluated the satisfaction level of patients with the health care provider. Further, it also elucidates the factor that influences the level of satisfaction or results in an increase of dissatisfaction level.

Moreover, advantages and disadvantages of the

reform can also be identified. Hence, Saudi MOH in collaboration with VRO can underscore more on the advantages and avoid the disadvantages. This study among many from different locations and level of service will help the decision makers to reach the optimum situation to maximize the benefits of reform.

2. Research methodology:

This study implemented cross sectional research design to examine the research questions to gain insight on the impacts of the Saudi healthcare reforms on the PHC centers, particularly on the effectiveness and quality of the healthcare administration. The targeted PHCs were selected randomly over a period of three months in 2019. Also, self-report questionnaires were used for carrying out the survey among the participants. The questionnaire was adopted from SAMHSA patient satisfaction survey sample (http://surl.li/baxtb) and modified to suit the topics covered in the study. The dependent variable included patients' satisfaction outcomes and the independent variables included data on occupation, economic level, age, gender, and highest level of education. Furthermore, self-perception of the respondent's view of the impacts of the healthcare system reforms on the PHC was evaluated through a Likert Scale where the participants ranked satisfaction with their visit to the healthcare provider. Moreover, a pilot study was undertaken on the 30 of the total sample to check the feasibility of the sampling technique, clarity of the items that were to be assessed, as well as to determine the feasibility of the study. After checking the validity and reliability of the questionnaires, the pilot study was excluded from the actual study results and the necessary modifications were kept on the forms. A total of 300 participants were selected randomly from tow PHCs. The SPSS version 24 was used for analyzing data and the statistical techniques such as correlations, one-way analysis of variants (ANOVA), chi-square and Pearson correlations coefficient were also considered in the evaluations. Overall, this study was conducted under the approval of the ethical committee at the general directorate of health affaires Makkah region (GDHAMR), MOH, with a reference number (**H-02-K-076-0820-330**).

3. Results:

Three hundred questionnaires were distributed to the study participants, yielding 100% response rate. Table 1 illustrates the characteristics of the study population. While age group of 26 to 30 along with the age group of 31 to 35 constitute the majority of the population, age group of 20 to 25 was the least represented in the study population. In terms of the educational qualification most of the participants were having secondary and high secondary education contributing to the 37.33 and 36.33 percent among the study population. On a contrary, graduation has 14%, Master's 10.67% and rest 1.67 had doctorate degree. In case of experience data showed that most of the participants had three years of experience of taking the healthcare service from the PHC centers are combined of 32.33 percent. Whereas, 22 percent had 2 years of experience, 27.67 percent has 5 years of experience, 14.67 percent having 10 years of experience and only 3.33 percent has above 10 years of experience. In terms of the economic level are concerned majority of the respondents were having medium economic condition contributing to the 63 percent of the population. Other than that, average economic condition composed of 22.67 percent and rest low and high were accumulated around 5.33 and 9 percent. Among the participants, majority of them were employed in the private sector comprised of 36.33 percent and rest 21.3 percent were public sector employees, 19.67 percent were private sector employees and 22.67 were not working currently. In addition, the general mean of all statement covered the range (3.63) and this value is indicating a degree of high means high approval or majority of statement. Although, there was shown high degree approvals in four phrases and low approval rate in one phrase. Analyzed results shown discrepancy in study sample for approval this statement related this concept (2.92) where the higher range of approval between (3.30 to 3.63) which average are located in fourth phrase has categorized by Likert scale. Moreover, the general mean indicated the medium degree of approval instrument of this study. Study shown the result after compered between low division with high mean and high division with low mean. According to the lowest values being characterized into the high standard division it was measured when defined total arrangement phrase 1) current available provisions are not adequate enough to ensure global level healthcare service this phrase characterized in 1.418 deviation, and second phrase of Saudi healthcare systems has taken initiative of vision 2030 involved into 1.350 deviation. Third phrase, satisfied with the use of computerized records by the doctors at PHC centers into the deviation 1.071, fourth phrase, are satisfied with the healthcare services and facilities provision to excellence in serviceability is deviation of 0.0142. Also, it is clearly provides the value of chi-square test that the grade of statistical significant is higher than the level of moral significant (0.5) and therefore in this study null hypothesis as an invalid and alternative hypothesis are valid for chose which indicate relationship between patient at the PHC centers and Saudi healthcare systems has taken initiative of vision 2030 and this relationship current available provisions are adequate enough to ensure global level healthcare service although continuous quality needed to be ensured.

Table 1: Demographic information and study group criteria. This table shows a descriptive statistic result for mean of various and its standard division. The overall statement in four stages based on the topic current provision health service at PHC center along with the arithmetic's means and standard division of responses from study sample are also illustrated. The response proportional amount of the groups given in percentage.

Demographic information		
Total number of respondents = 300	***Number of responses***	***Percentage of response***
Age Group		
20-25	6	2.00%
26-30	109	36.33%
31-35	112	37.33%
36-40	54	18.00%
Above 40 years	19	6.37%
Educational qualifications		
Secondary	112	37.33%
High Secondary	109	36.33%
Graduation	42	14.00%
Master's	32	10.67%
Doctorate	5	1.67%
Years of experience in primary health care		
2 years	66	22.00%
3 years	97	32.33%
5 years	83	27.67%
10 years	44	14.67%
Above 10 years	10	3.33%
Economic level		
Low	16	5.33%
Medium	189	63.00%
Average	68	22.67%
High	27	9.00%
Occupation		
Business/ Self employed	64	21.33%
Public sector employee	109	36.33%
Private Sector employee	59	19.67%
Unemployed	68	22.67%

In addition, staff's communication skills were evaluated with key points listed in phrases (Table 3). However, the statistical significance introduced the general chi square values at 151.668 degree (Table 4). The moral significance (0.05) is higher than the level of statistical significance of all the statements and hence the null hypothesis is considered invalid where accepting the alternative hypothesis which indicates the link between are you satisfied with the level of communication flow within the department before and after and utilization of communication method and the level of satisfaction among patients as it shows higher degree by the arithmetic means of all phases.

Table 2: The association of independent factors: Patient satisfaction, use of communications, overall experience, the efficiency in booking appointments, quality of services inside and outside the PHC centers) with patient satisfaction. This.

No.	Statements	Mean	Std	Chi Square	Sig.
1	Use of communication	3.68	295	148.365	0.008*
2	Overall experience	3.59	432	285.146	0.000*
3	The efficiency in booking appointments	3.69	497	457.042	0.000*
4	Quality of services inside and outside the PHC centers	3.20	514	584.927	0.000*

Table 3: Communication key points: This table shows patient satisfaction regarding to communication process and flow toward facilities provided.

No.	Statements	Mean	Std.	Chi Square	Sig.
1	At what level you are satisfied with the PHC staff communications with patients?	3.28	1.06	189.25	0.00
2	Are you satisfied with the level of communication flow within the department departments before and after treatment?	4.17	0.99	176.12	0.00
3	How far you are satisfied with the communication done by the medical professionals understanding your medical issue?	3.70	1.12	148.36	0.00
4	How far you are satisfied with the methods of communication used by the hospital staff while proceeding with treatment facilities?	3.56	0.93	132.45	0.02
5	How far you are satisfied with overall communication process during your treatment period?	3.69	1.10	112.14	0.01

The general mean of 3.69 indicates that there is a higher degree of satisfaction and in first phrase level of efficiency in booking the appointment in Saudi healthcare system has been exemplary as per the respondents as the mean of responses is 3.56 (Table 4). In case of the level of significance of the statements it is 0.0 indicating the rejection of null hypothesis and it can be stated that the efficiency of booking appointments has a higher degree relationship it has been strongly agreed among the participants (Table 3). In the table general mean is 3.20 indicating higher degree of agreement for all the statements.

Table 4: General variable: The evaluation for main topic of the PHC services.

No.	Items	Mean	Std.	Chi Square	Sig.
1	General patient satisfaction	3.34	1.22	162.05	0.01
2	General use of communication	3.68	1.04	151.66	0.008
3	General overall experience	3.59	1.09	361.24	0.00
4	General efficiency in booking appointments	3.69	1.21	576.14	0.00
5	General quality of services inside and outside the PHC centers	3.20	1.20	656.74	0.00

In this variable the chi square value (162.05) with a degree of freedom (325) having a significance of 0.018 based on which we discard the null hypothesis and admit to proceed with other proposition (Table 2 and 4). It can be stated that patient satisfaction PHC centers have a significant positive impact over different factors such as Use of communication methods. In this case the chi square value (162.05) with a degree of freedom (295) having significance of 0.008 indicates rejection of null hypothesis (Table 2). It can be stated that use of communication methods has a significant positive impact over the patient satisfaction in PHC centers for achieving the service excellence (Table 4). In this case the chi square value 285.146 and degree of freedom 432 with the level of significance.000 indicates rejection of null hypothesis and it can be stated that overall experience about visiting to the healthcare providers at PHC centers has a positive significant impact upon the patient satisfaction for achieving the service excellence (Table 4). Furthermore, The quality of services inside and outside the PHC showed the category of chi square value 584.927 and degree of freedom 514 with the level of significance .000 denotes that rejection of null hypothesis as the significance is <0.05 which in turn accept the alternative hypothesis and it can be stated that quality of services inside and outside the PHC centers has a string positive relationship with the patient satisfaction (Table 3).

4. Discussion:

The study focused on analyzing how patient satisfaction improves due to the reform of PHC centers in Makkah. To understand the relationship between independent and independent variable linear regression tests are followed. In this study, the dependent variable includes the patient satisfaction, and the independent variables include the use of communication methods, service experience, the efficiency of booking appointments and quality of services inside and outside the PHC center. All these independents' variables have a direct relation with the dependent variable that is patient satisfaction. The correlation analysis showed that the existing of strong relationship among the variables and states that if the use of communication method, increase in the efficiency of booking appointment, the quality services inside and outside the PHC center is high then there is a chance of an increase in the level of satisfaction of the PHC services. The degree of freedom confirms that high level of quality service provided both inside and outside the primary health care center can effectively contribute directly towards increasing the level of satisfaction of the patients in the PHC center.

The overall study reveals that the patient satisfaction of PHC center has a positive impact on the use of communication method, the overall experience of the patients of PHC center before and after undergoing the treatment, the efficiency in the booking appointment and the service quality inside and outside the PHC. Also, the use of communications methods has a direct impact over the patient satisfaction. The overall experience of visiting the PHC center and getting the treatment facilities has a direct impact on patient's satisfaction. For instance, a study conducted in the Kingdom of Saudi Arabia showed an increased satisfaction level for the services delivered in PHC centers with targeted fulfilment scoring (81.7%) [8]. Notably, Mohamed et al. [8] found a significant relationship between the PHC centers services and the level of patient's satisfaction as well as the level of education for the respondents [8]. The measure of the patient satisfaction on the waiting area structure and communication with the receptionist and the provision of customers services such as parking structures showed that healthcare practices do not only begin inside the doctors' room or nursing rooms but from outside the rooms. In addition, Aswar et al. [9] found that short waiting time is an effective measurement of the patient satisfaction; thus, our findings on the high approval of the waiting time in the PHC showed a significant improvement in the services offered at the PHC [9]. Also, Habibi et al. [10] conducted a cross-sectional study in Mashhad, Saudi Arabia, where it was revealed that patient satisfaction has a statistically significant association with the duration of the service time as well as the waiting time upon making an appointment with the doctors [10]. The results in the study by Habibi et al. [10] on patient satisfaction on the waiting time are consistent with our findings, whereby, the level of satisfaction increases with decrease in waiting time. Nevertheless, recent study claimed that patients encountered poor experience with waiting time and communication in some PHC due to the increasing number of patients visiting PHC or lack of specialized services [5].

Moreover, Qatari and Haran [11] found similar results on the perception of the patients on satisfaction with the waiting areas structure. Otherwise, economic status and levels of education were found to influence the patient satisfaction on the waiting area and parking [11]. Overall, the reasons behind the high level of patient satisfaction in the PHC centers services in Makkah could be partly due to the fact that Makkah has high qualified healthcare providers and the implementation of the reforms in the Saudi healthcare services is yielding harvest. For the future research, the post implementation of the reforms after the

reforms have taken place could be analyzed using the survey among the patients who are taking the healthcare facilities at the OHC centers. Moreover, the qualitative survey can be gathered from the respondents to get the idea of the qualitative development opportunities for the future. With time it has sometime become difficult to maintain the quality of the services and future research could be a valuable tool to address such issues for ensuring optimum services.

Conclusions:

It was important to conduct this study, particularly in the public healthcare sector, which in most cases are attributed to various challenges in administration and poor patient satisfaction. It is very encouraging to appreciate the fact that healthcare administration in Saudi Arabia is headed towards the right direction, especially with the adoption of the healthcare reforms.

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