

THE IMPACT OF CONTINUOUS IMPROVEMENT BY HAKIM PROGRAM ON THE MEDICAL SERVICES PROVIDED TO PATIENTS

(An Applied Study on KhreibetAl-Souq Comprehensive Medical Center after Using the Hakim Program)

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ABSTRACT

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This study aimed to identify the effect of continuous improvement of medical services provided to patients , represented by the computerized Hakim medical program from the point of view of the medical staff workers, which is an applied study on KhreibetAl-Souq Comprehensive Medical Center after using the Hakim program. The researcher distributed (28) questionnaires on the study sample, i.e. approximately (40%) of the study population of (70) staff employees. (26) questionnaires were retrieved, and after checking the retrieved questionnaires, two questionnaires were excluded because they were not valid for statistical analysis, and accordingly, the number retrieved and valid for statistical analysis reached (24) questionnaires. The study reached several conclusions, the most important of which is that there is a statistically significant impact of continuous improvement represented by Hakim's computerized medical program on medical services provided to patients from the point of view of the medical staff, and that continuing to make improvements in work processes and procedures will lead to providing medical services to patients and beneficiaries, according to the requirements of both the beneficiaries and the medical employees, and will also lead to (more effective) arrangement, speed up and organization of work procedures and saves time and effort for both the medical workers and the beneficiaries,

KEYWORDS: *continuous improvement, hakim medical program, medical services, medical computing company, requirements of clients*

INTRODUCTION

Organizations of various types and activities seek to raise the level of services provided to clients by training workers and making continuous improvements to their operations and services that leads to achieving effective operations for the organization that has adopted continuous improvement, which is one of the main pillars of total quality management.

This study is applied to KhreibetAl-Souq Comprehensive Medical Center which adopted continuous improvement of its operations, with the aim of improving the services provided to patients and beneficiaries, when it applied the Hakim Computerized Medical Program, one of the programs of the Medical Computing Company, which aims to increase the effectiveness of the medical administration.

OBJECTIVES OF THE STUDY

This study seeks to achieve the following objectives:

- 1 Identifying the effect of continuous improvement, represented by the Hakim Computerized Medical Program on the medical services provided to patients in KhreibetAl-Souq Comprehensive Medical Center

from the point of view of the staff after using the Hakim Computerized Medical Program.

- 2 Clarification of the concept of the Hakim Computerized Medical Program in khreibetAl-Souq Comprehensive Medical Center.
- 3 Gain knowledge of how the Hakim computerized medical program works at KhreibetAl-Souq Comprehensive Medical Center.
- 4- Reaching results which will be the bases of suggestions and recommendations that would help the management of KhreibetAl-Souq Comprehensive Medical Center and the relevant authorities, to continue the continuous improvement of the operations and procedures of the center to raise the level of medical services provided to patients and beneficiaries; thus achieving patient and service recipient satisfaction.

THE PROBLEM OF THE STUDY AND ITS QUESTIONS

Organizations currently focus on continuous improvement of their operations and services because of its

clear impact on the services provided to clients. Therefore, continuous improvement helps organizations achieve their customers' satisfaction by influencing services in those organizations relevant to the needs and requirements of clients as those changes and developments in all areas of life; hence the problem of study emerges, and therefore the study problem can be formulated with the following main question:

Is there an impact of continuous improvement represented by the computerized Hakim medical program on the medical services provided to patients from the medical staff workers' point of view?

THE MAIN HYPOTHESIS OF THE STUDY

(H0) There is no statistically significant effect at the level of $\alpha=0.05$, of the continuous improvement represented by Hakim's computerized medical program on medical services provided to patients from the point of view of medical staff.

STUDY METHODOLOGY

1. The researcher conducted an exploratory study for a number of medical staff workers in KhreibetAl-Souq Comprehensive Medical Center on the subject of the study, and all workers indicated that the Hakim program led to continuous improvements of operations inside the center and had a positive impact on the medical services provided to patients and beneficiaries.

2. To achieve the objective of the study, the study followed the descriptive analytical approach, which depends on studying the actual current impact of continuous improvement, represented by the Hakim computerized medical program on medical services provided to patients and service recipients in KhreibetAl-Souq Comprehensive Medical Center after using the program, through the use of the field study to obtain data and information through a special questionnaire which was designed for this purpose. It was distributed to the study sample, and then this data and information was processed and statistically analyzed for the purpose of testing the study hypotheses and answering their questions according to the proposed study model.

STUDY MODEL

The study model included a structural detail of the following study variables:

A - Independent Variable: Continuous Improvement represented by Hakim Computerized Program.

B - Dependent Variable: medical services provided to patients from the viewpoint of medical staff workers

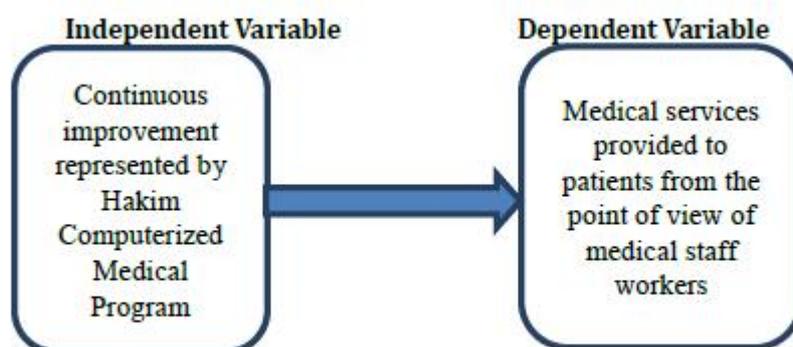


Figure No. (1) Model of Study Prepared By the Researcher Based On the Study Methodology

Measurement of study variables

The independent variable and the variable of the study will be measured through the questionnaire that was prepared and directed to the medical staff workers at KhreibetAl-Souq Comprehensive Medical Center that is the subject of the study. The study tool included a number of items to measure the impact of continuous improvement represented by the Hakim program on the medical services provided to patients from their point of view. All questions are of the closed type according to Likert scale.

Area and limits of study (place and sample of study)

The scope of the study will be as follows:

1. Place limits: KhreibetAl-Souq Comprehensive Medical Center.
2. Population limits: This study will be applied to workers in KhreibetAl-Souq Comprehensive Medical Center, and the study sample will represent (40%) of the study population.

Operational Definitions of the study

Continuous improvement: a stable and thoughtful pattern of group activity through which the organization

systematically generates and modifies its operating procedures with a view to improving its effectiveness. (Butler et al, 2018,1)

Medical services: are services concerned with the promotion, maintenance and restoration of health. (WHO, 2, 2016)

Hakim Medical Program: It is one of the programs of the Health Computing Company, the first national initiative to computerize the health sector in Jordan. (ehs.com.jo/ar (Hakim Program)

THEORETICAL FRAMEWORK CONTINUOUS IMPROVEMENT

Continuous improvement is an administrative philosophy that aims to work on continuously developing processes and activities related to tools, materials, people and production methods; continuous improvement operations aim to reach complete mastery in the productive processes of the organization.

Continuous improvement is a comprehensive process that includes all the activities of the organization, whether inputs or transformation operations or outputs, as well as

the transfer of outputs or products to the customer or service recipient, and the process of continuous improvement results in a decrease in inputs or an increase in outputs or an improvement in the quality of outputs or an increase in the level of employee satisfaction or clients alike.

The concept of continuous improvement

Continuous improvement can be defined as a stable and thoughtful pattern of group activity through which the organization systematically generates and modifies its operating procedures in order to improve its effectiveness. (Butler et.al, 2018,1)

PDCA Cycle approach for continuous improvement design stages

This approach is considered one of the most important approaches known in the field of designing the stages of the process of continuous improvements, which were developed by Deming Shewhart to become a general framework for the stages of activities of continuous improvement. It includes four steps:

1. Plan: The first step begins with planning, that is, by presenting the necessary plans to improve quality after defining the problem, collecting the necessary data and analyzing it.
2. Do: Implement the plan and apply the change to a limited extent.
3. Check: Measure and evaluate results. Determine whether or not there was success in the improvement effort.
4. Act: If the results are successful, adopt the improvement plan and apply it to other areas of the organization. If the results are unsuccessful, then amend or cancel the improvement plan.

This approach can be applied to any activity or process in the organization, whether private, public, industrial or service. (Joudeh, 2014, 181-183)

Hakim Medical Program

The Hakim Program, which is one of the programs of the Health Computing Company, is the first national initiative for the health sector computing in Jordan, which was launched at the end of 2009.

The implementation of the Hakim program at the national level aims to increase the effectiveness of the medical administration and achieve a fundamental development in health care provided to citizens and upgrade it to the best international standards. In addition to improving economic efficiency and procedures that will positively reflect on the patient's experience in the hospital or health center, by establishing an electronic medical file for every citizen and to facilitate access of the system users to it from any medical facility using the national number through linking the database of the Civil_ Affairs Department and the system database. The file includes comprehensive procedural and surgical reports and current medications and the patients' response whether positive or allergic to them, the medical and surgical history, and notes made when visiting a hospital or clinic.

The Health Computing Company has adopted in its strategy to implement the Hakim computer program for the public health sector in Jordan on the Vista information system developed and used in hospitals and clinics of the Department of Veterans Affairs in the United States of America. (Hakim Program Report)

How the Hakim Medical Program works

This program works according to the following procedures:

1. Establishing the electronic medical record: The electronic medical record department records the patient's personal information and enters it into Hakim system using his national number.
2. Reservation of the medical appointment: Then the medical record employee records the date of the patient's visit to the doctor electronically, which will save time and effort for both the patient and the doctor through the patient's knowledge of the specified visit date, and also helps the doctor to easily know his daily schedule and preliminary information about the patient.
3. Meeting the doctor: Upon meeting the doctor, the doctor performs the necessary examinations for the patient and directly enters his medical information into the system and saves it for the purposes of referring to it by authorized persons from any health facility applying the Hakim program under the umbrella of the management of this facility without any paperwork.
4. Obtaining appropriate health care: According to the doctor's instructions entered in the patient's electronic medical record, the patient receives the required medical service from the radiology department or the laboratory, after which all the results of the patient's examinations and x-rays are sent to the doctor electronically without the patient needing to receive it himself, and then The patient's prescription is sent to the pharmacy electronically so that his medicines are ready for delivery.

Medical services

Achieving patient satisfaction is a measure of the extent to which the health and medical goals of the organization are achieved and is the main goal of these organizations, as these organizations are interested in monitoring and measuring them more than before. The success of these organizations depends on the extent of the satisfaction of patients and the beneficiaries.

The concept of medical service

The definitions of the medical service have varied, and they have been defined as the services concerned with the promotion, maintenance and restoration of health. (WHO, 2, 2016)

KhreibetAl-Souq Comprehensive Medical Center

A comprehensive health center, KhreibetAl-Souq Comprehensive Medical Center was established in 2010. The center provides a variety of health services, including general and specialist medical care and specialization, school health services and environmental health services, dental health services, and the center is keen to provide and complement services that are required and needed by the local community through a specially formed committee.

The Center began implementing the computerized Hakim Medical System in its operations and services in December 2018. (Management of KhreibetAl-Souq Comprehensive Medical Center)

METHOD AND PROCEDURES STUDY METHODOLOGY

The study adopted the descriptive analytical approach as it is the appropriate approach to the nature of the study as study questionnaires were distributed to the study sample and then collected to obtain the required data.

The population and study sample of the study

The population of the study consists of the medical workers in the KhreibetAl-Souq Comprehensive Medical Center whose number is (70) workers. The researcher distributed (28) questionnaires on the study sample, which is approximately (40%) of the study population. (26) questionnaires were retrieved, and after checking the retrieved questionnaires, two questionnaires were excluded due to their lack of suitability for statistical analysis because some of the questions were not answered. Therefore, the retrieved and valid number for statistical analysis reached (24) questionnaires.

Sources of Data Acquisition

The study relied on two types of data sources:

Secondary data: It was based on a review of the various literature related to the subject of the study, published in books and theses, Arab and foreign universities, in addition to specialized websites.

Primary data: A questionnaire was developed as a suitable study tool to obtain the primary data in order to answer the study questions. The mentioned questionnaire consisted of two sections, and the first section included obtaining identifying data with the study sample in terms of gender and occupation.

As for the second part of the questionnaire, it included items that cover the impact of continuous improvement, represented by the Hakim Computerized Medical Program on medical services provided to patients from the workers' point of view.

Demographic variables

The following is an explanation of the personal characteristics of the study sample:

1- Distribution of respondents according to the gender variable: The data for the gender variable shown in Table (1-3) show that most of the individuals are of the female category, as they numbered 15 females with a percentage (62.5%), while the number of males reached 9 males with a percentage (37.5%), this indicates that The study population is mostly female.

Table (1-3): Distribution of individuals by sex

Personal characteristic	Gender	Frequency	Percentage%
Gender	Male	9	37.5%
	Females	15	62.5%
	Total	24	%100

2- Distribution of respondents according to the job variable: The data of the following table (2-3), related to the job variable, show that most individuals are from the administrative

category as it reaches (9) workers and a percentage of (37.5%), which is higher than other percentages of job categories for the individuals in the study sample.

Table (2-3)

Distribution of individuals according to the job variable

Personal attribute	Job	Frequency	Percentage%
Job	Specialist Doctor	2	8.3
	General practitioner	5	20.9
	Nurse	8	33.3
	Administration	9	38.5
	Total	24	%100

Study Results

Study question: Is there an effect of continuous improvement represented by the computerized Hakim medical program on the medical services provided to patients from the viewpoint of workers?

To answer this question, arithmetic averages, standard deviations, and ranks were calculated for the practice levels of the effect of continuous improvement represented by the Hakim computerized medical program on medical services provided to patients from the workers' point of view, as shown in the following table (3-3):

Table (3-3)

Arithmetic Averages, Standard Deviations, and Ranks, Practice Degrees of Impact of Continuous Improvement represented by Hakim's Computerized Medical Program on Medical Services Provided to Patients from the Workers' Point of View

No.	Scope of Impact of Continuous Improvement on Services	Arithmetical mean	Deviation	Degree of Practice	Rank
1	Employees realize the importance of continuous improvement, represented by the Hakim Medical Program in carrying out the services provided to patients.	3.8333	1.30773	High	5
2	Continuous improvement, represented by the Hakim Medical Program, affects the performance of workers providing services to patients	3.6667	1.40393	High	6
3	Continuous improvement, represented by the Hakim Medical Program, accelerated the delivery of services provided to patients	4.3333	1.04950	High	1
4	Continuous improvement led by Hakim medical program led to the organization of work procedures	4.2083	1.02062	High	3
5	The improvement, represented by the Hakim Medical Program, led to the organization of patients by regions	4.2917	1.04170	High	2
6	Continuous improvement has helped medical staff of the Hakim Medical Program to know the previous record of patients very quickly in other health centers before meeting them	3.4583	1.53167	medium	8
7	Services provided to patients are being continuously improved by introducing the Hakim Medical Program	4.1667	1.00722	High	4
8	Completed patient treatment procedures are linked to other state agencies	4.2917	1.04170	High	2
9	Hakim's program preserved patient rights to receive services	4.2083	1.02062	High	3
10	The doctor can know his schedule easily with Hakim Medical Program	3.5417	1.50302	medium	7
11	Continuous improvement provided by the Hakim Medical Program saves time and effort of both the medical worker and the patient	3.2917	1.57367	medium	9
	Overall average	3.930	1.209	High	-

The results of Table (3-3) indicate that the answers of the study sample to the phrases that clarify the field of the effect of continuous improvement represented by Hakim's computerized medical program on the medical services provided to patients from the viewpoint of the workers under study, the arithmetical mean ranged between (4.33 - 3.29).

According to the scale adopted in this study, the majority was high of the degree of approval of the study sample on phrases in the fields, and the general average for the field as a whole was (3.930) and a standard deviation (1.209) which is high according to the scale, and depending on the abovementioned, we conclude that there is an effect of

continuous improvement represented by the Hakim Computerized Program on Medical services provided to For patients from the viewpoint of workers and according to the viewpoint of the study sample.

The hypothesis of the study: There is no statistically significant effect at the level of significance

.050.05), for continuous improvement represented by Hakim's computerized medical program on medical services provided to patients from the point of view of workers.

The testing of this hypothesis includes the use of statistical methods appropriate to the nature of this hypothesis and the presentation of the answer and in the following table (3-4):

Table (3-4)
The results of the study hypothesis test

Hypothesis level Sig	Calculate T	hypothesis
.000	19.643	H0

The results of the analysis indicate the presence of a statistically significant effect at the level of significance (ad" 0.05), for continuous improvement represented by the Hakim computerized medical program on the medical services provided to patients from the workers point of view, and as is evident in Table (3-4) the results of the analysis showed that the value of (C) is calculated which is equal to 19.643) and with a significance level equal to (.000) which is less than (0.05).

FINDINGS AND RECOMMENDATIONS

First: The results of the study

The study found the following:

1. There is a statistically significant effect of continuous improvement represented by Hakim's computerized medical program on medical services provided to patients from the viewpoint of workers.
2. Continuing to make continuous improvements in work processes and procedures will lead to the provision of medical services to patients and beneficiaries in accordance with the wishes of both beneficiaries and workers.
3. Continuous improvement leads to arrange, speeding up and organizing work procedures and saves time and effort of both the worker and the beneficiary.

Second: Study recommendations

In light of the results of the study, the study recommends the following:

1. The need to continue to make continuous improvements represented by the Hakim Computerized Medical Program, as it has an impact on the medical services provided to patients and beneficiaries.
2. The need to continue to make continuous improvements in work processes and procedures that will lead to the provision of medical services to patients and beneficiaries according to the needs and requirements of both beneficiaries and workers.
3. The need to continue continuous improvement leads to arranging work procedures, expediting and organizing them, and saves time and effort on both the worker and the beneficiary.

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