

Research Article

The Effect of Computerized Health Information Network on the Medical and Supportive Decisions at Al Farwania Hospital in Kuwait State

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Abstract

The present study aims at identifying the effect of computerized health information network on the medical and supportive decisions at Al Farwania Hospital in Kuwait, and also the influence of the gender and the professional variables at Al Farwania Hospital in Kuwait State. The study sample consisted of (264) doctors in addition to the supportive professions. Tool was developed to measure the studied variables, which comprised of (21) items. The tool's validity and reliability were confirmed. Results of this study pointed out to a significant effect during the application of computerized health information on the field of medical and supportive jobs and statistically important differences that were attributed to the profession variable, without any differences related to the gender variable in both fields at Al Farwania Hospital in Kuwait.

KeyWords: Health Information, Medical, Supportive Decisions

Introduction:

At the age of technology and IT, varied community organizations seek to attain the modern technologies for increasing the effectiveness and the efficiency of their activities in a competitive environment. Information technology developed hugely in the recent decades as its most important role is to connect individuals, organizations and authorities through time and place and many other important applications that include collecting information and treating it to be used in decision making. (Alyah, 2015)

The computerized health information systems represent the essence of the electronic information related to the patient health care, that led to the idea of decentralization and information sharing among hospitals through the internet that enables millions of patient users to depend on means to searching to medical information (Al Awaddy, 2014). Through those activities and information, it is possible to identify the weaknesses and the strengths of the health care systems (Al Nagar, 2007). The medical decision is important as any decision which can be

taken in life, because any delay in the decision taking by the doctor may be critical, so it shouldn't be delayed. In some cases, it may be more complicated and specialized than other decisions (Al-Mahasenah and Al-Amayerah, 2014)

The way out of successful medical decision requires accurate information about the patient problem, then the required knowledge and experience, and finally, the skills of solving problems by applying knowledge on information selection and developing and executing the suitable decision (Al-Mahasenah and Al-Amayerah, 2014).

Problem of the study: Health sector in Kuwait faces a number of challenges as a result of the financial difficulties and the legislative and economical changes, in addition to the internal challenges and the necessity to increase the quality of the provided health service. Those challengers led to huge loads and undertakings for the hospitals management in Kuwait in order to provide their services with a higher quality, which satisfies patients who receive these health services. So this requires the

inclusion of technology in those hospitals management for taking the suitable medical decisions (Bo-Abas, 2010). **Therefor** the present research aims at answering about the following questions:

- 1- What is the effect of using the computerized health information on the field of medical and supportive works?
- 2- What is the effect of the computerized health information network on the medical and supportive decisions at Farwania Hospital in Kuwait?
- 3- Are there statistical significant differences in the effect of the computerized health information network on the field of medical and supportive works attributed to the variables of gender and profession?
- 4- Are there statistical significant differences in the effect of the computerized health information network on the medical and supportive decisions at Farwania Hospital in Kuwait, attributed to the variables of gender and profession?

Research objectives: The present research aims at identifying:

- 1- The effect of using the computerized health information on the field of medical and supportive works at Farwania Hospital in Kuwait
- 2- The differences in the effect of the computerized health information network on both fields Farwania Hospital in Kuwait in view of the two variables (profession and gender)
- 3- The differences in the effect of the computerized health information network on the medical and supportive decisions at Farwania Hospital in Kuwait in view of the two variables (profession and gender)

Importance of study:

- 1- The importance and vitality of the subject as it is the first study in Kuwait that aims at evaluating the effect of the computerized health information on the health decision.
- 2- The present study may attract the attention of other Kuwait hospitals and care center leaders to adopt the computerized technological, processes or techniques.
- 3- It may be considered as start to other future studies in the same field.

- 4- The present study may raise the awareness of the health sector staff in Kuwait about the importance of their training on using technological techniques

Research limitations:

Subject limitation of present study is the computerized health information network effect on the medical and supportive decisions at Farwania Hospital in Kuwait, during the time limitation of the academic year 2016/2017. Location limitation is Farwania Hospital in Kuwait and the Human limitation refers to the studied sample, which includes all the medical and supportive medical staff of this Hospital in Kuwait.

Theoretical background:

First: computerized health information network:

Information technology plays vital and critical roles in reinforcing development and upgrading health care sector that witnessed a huge development due to the spreading of those systems through the improvement in the administrative procedures by the creative technical solutions. The health care sector represents a mixture of accurate and integral procedures for all stages through which the patient passes from time of entering the hospital until leaving it. Accordingly, the procedures represent the essence of the successful health care services, where the role of technology emerges (Al Suisi, 2013)

Reasons for computerizing information in the health establishments:

Hmdownah (2015) noticed the nessity for the following aspects as the;

- 1- Fast and successive development of organizations in the 20th century.
- 2- Increased competition among organizations.
- 3- Democratic transformations with their variables.
- 4- Rational usage of resources, and performance control according to the technical and legal specifications and administrative regulations.
- 5- Need to decrease the operational costs and to increase sales and revenues of organizations.

- 6- Responding and adopting to the surrounding environment requirements.

Factors that help applying the computerized health information network:

- 1- The decreased cost of computers and the availability of a large number of trained manpower in addition to the accuracy, speed and information the easily obtainable
- 2- The facility of programming many health activities by using computers.
- 3- Comparing hospital information with another or with other health organizations.
- 4- The facility of storing information by different computer means.

Computerized health information network objectives: Al Awaddy (2014) referred to a number of objectives for the computerized health information network as follows:

- 1- Facilitating the process of analyzing a large amount of information and data which is required to take the decision.
- 2- Increasing the speed of performance and decision making without depending on large amounts of paper and files.
- 3- Producing a large number of outputs that facilitate the feedback and limiting the repetition of work and information, as data is entered once through any terminal unit, while other members of the health center will benefit.
- 4- Supporting information quality through establishing limitations on data entry for obliging the system users to enter it in the required form and method.
- 5- Controlling the work performance in health establishments, and planning for developing health programs.
- 6- Integration through connecting health sub-systems
- 7- Publishing health information and health education through training and development programs

The benefits of computerized health information systems: Al Dwek (2010) noticed a number of benefits related to the computerized health information systems as follows;

- 1- Quantitative benefit, 2- Descriptive benefits and 3- Strategic benefits

Applications of health information systems network in hospitals: Al Awaddy, (2014) state the following applications:

- 1- The Electronic Health Record (EHR)
- 2- Computerized Physician Order Entry (CPOE), where some medical supportive decision systems interact include:
 - Laboratory Information System (LIS)
 - Pharmacy Information System (PIS)
 - Picture Archiving Communication System (PACS)
 - Nursing Information System (NIS)

Accounting information system stages:

The accounting information system is formed of the following stages (Al Qaddy, 2016):

- 1- Inputs.
- 2- Treatment.
- 3- Outputs.
- 4- Control.

Second: taking medical decisions:

Medical decision taking stages: There are four stages for medical decision taking. These suitable stages interact and interrelate with each other's, for taking the medical decision that is used to apply the treatment strategy. These stages (Al Mohasenah & Al Amayerah, 2014) are:

- 1- Diagnosis.
- 2- Prediction.
- 3- Treatment.
- 4- Treatments follow up.

The role of computerized health information on the medical decision taking: According to Velde and Degoulet (2003):

- Health information systems will be the cornerstone for shaping an accurate health map for the state.
- By using health information system, decision makers may identify the stock of medicines and medical supplies at all hospitals and health care centers.
- Computerized health information systems provide the opportunity of controlling the performance level at all health organizations to avoid medical mistakes.
- The system will enable medical planners to control the financial performance of hospitals accurately.

- It will facilitate the process of extracting accurate statistics about the results of surgeries and analyzing all statistics regularly to discover the weaknesses and working for avoiding them.

Third: previous studies:

Alberdi et al., (2000) studied the role of computerization in the decision making process at the new born intensive care. They concluded that the management depends on decision making in the present system as an effective system. Hayajneh (2006) did a study to measure the extent of using and identifying the visions of doctors about the health information system at an educational hospital in Jordan. The study pointed out that 76% of doctors doesn't recognize all advantages of the system, and that reality prevents the integration of the system goals. The study of the Agency for Healthcare Research and Quality (2006) aimed at evaluating the health information technology at the American organizations through the costs and the advantages of the health information system prospect. The study resulted that the use of health information technology led to a huge transformation in the health care progress which made the health care more effective.

The study of Badh (2007) examined the effect of computerization work on the performance at neurology and the vertebral column surgery hospital in Dubai. He concluded that there is a positive relation between computerization work and performance at neurology and the vertebral column surgery hospital in Dubai.

Al Merri (2009) aimed at identifying the role of modern technology on raising the effectiveness of staff performance at the general directorate for medical services in the Saudi armed forces. The study concluded the following results: 1) the modern technology is available to fair extent at the general directorate for medical services in the armed forces, 2) the modern technologies are used by the staff of the general directorate for medical services in the armed forces to achieve their duties in: using computer to complete and record treatments, making a hard copy of

important treatments by ordinary and colored printers, and the strong positive reflections of using modern technology by this staff for facilitating work procedures in the general directorate for medical services, achieving much treatments daily, and accuracy of treatment achievement.

On the other hand, Al Dwek (2010) concluded the following results: the administrative and medical sample members who have used the computerized health information in their work were 94.5%. The study pointed out that, the computerized health information system which is currently used in Gaza European hospital affects the medical and administrative work fields and decisions well. The study of Schoen et al., (2012) aimed at identifying the extent of primary health care doctors (n= 10) usage of computerized health information systems and its effect on the general performance. The results elucidated that, there is a progress in the use of health information technology in the primary health care practices.

The study of Al Awaddy (2014) had been examined the role of the health information systems network in developing work abilities development in the governmental hospitals at Gaza strip from the prospective of administrative staff in the Southern Gaza hospitals. Results pointed out to a high level of health information systems network in the governmental hospitals for the programming components. Al Mahasenah and Al Amayerah (2014) analyzed the effect of using the health information systems and reached to some results that include: the concepts of Amir Hamazah Hospital's doctors concerning about the level of health information systems and the medical decision making was high. Also, there is an effect on the health information systems usage on the medical decision making.

Methodology: The analytical descriptive methodology was used because of its suitability for the nature of present study.

Study sample: A random sample consists of 45 doctors and 208 medical supportive staff, was selected.

Table (1): points to the gender and professional variables as follows:

Variables		Number	Percentage
Gender	Male	116	43.9%
	Female	148	56.1%
	Total	264	100%
Profession	Doctor	56	21.2%
	Laboratories	48	18.2%
	Rays	49	18.6%
	Nurses	30	11.4%
	Physiotherapy	46	17.4%
	Pharmacy	35	13.3%
	Total	264	100%

Tool of the study: The tool of computerized health information network effect on medical and supportive medical decisions at Farwania Hospital in the State of Kuwait. It was developed by revising the related theoretical literature and previous studies. The tool consists of 21 items, and three sections.

Study tool validity: Study tool validity was examined by the virtual validity method, through presenting it to a number

of jury members (n=). Then, data were collected from the jury members and rephrased according to what (80%) of the jury members agreed on. Accordingly, the tool consisted of 21 items are divided into two fields in its final form.

Study tool reliability: To examine the study tool reliability, the internal consistency method was used according to Cronbach Alpha correlation as shown in table (2)

Table (2): Shows out that all reliability correlations are acceptable for the research objectives.

Field	Items number	Correlation
The effect of using computerized health information on the field of medical and supportive medical works in Farwania Hospital	12	0.86
The effect of computerized health information network on the medical and supportive medical decisions in Farwania Hospital	9	0.89
Total questionnaire	21	0.92

Statistical treatment: (SPSS) software was used with the study questions responses, as follows: percentages, means, standard deviations ANOVA and LSD were applied. The present authors used the means of the sample responses as an indicator for the degree of using the following standard of estimating means, according to the equation

of the standard of correction. They depended on means of the sample responses to be an indicator of the computerized health information network effect on the medical and supportive medical decisions at Farwania Hospital in Kuwait, through the following equation:

$$\text{Group length} = \frac{\text{maximum} - \text{minimum}}{\text{Number of levels}} = \frac{5-1}{3} = \frac{4}{3} = 1.33$$

So, the grades were as follows:

Means (from 1: 2.33) a weak indicator

Means (from 2.34: 3.67) a fair indicator

Means (from 3.68: 5) a high indicator

Procedures of the study: Through examining the related theoretical background taking into considerations the previous studies, the studied tool was developed then the researcher selected the sample which received the tool. Questionnaires had been collected, then analyzed and results were concluded.

Variables of the study:

First: demographic (mediate) variables:

- a- Gender: including the two categories:
 - 1- Male. 2- female
- b- Profession: including six levels are;
 - 1- Doctor. 2- Laboratories.
 - 3- Rays. 4- Nurse.
 - 5- Physiotherapy. 6- Pharmacy.

Second: the dependent variable: the effect of computerized health information network on medical and supportive medical decisions at Farwania Hospital in Kuwait

Research procedures: The following procedures were followed:

- Developing the primary form of the studied tool.

- Ensuring its validity through presenting it to jury members.
- Developing the tool of the study in its final form.
- Attaining the letter of facilitating the researcher task for starting application.
- Administrating the study tool and applying it on the main study sample.
- Collecting questionnaires and entering the data of the studied sample to the computer by SPSS software.
- Analyzing and discussing the proposed questions, in the light of the results, then providing recommendations and related suggestions

Study results:

Results related to the first question: what is the effect of computerized health information on the field of medical and supportive medical works?

To answer this question, the percentages, means and standard deviations were (SD) calculated to interpret the effect of computerized health information on the field of medical and supportive medical works, (see table 3).

Table (3): Means, standard deviations and stratifications of the study sample responses to the effect of computerized health information on the field of medical and supportive medical works-

Grade	Field number	Fields	Means	SD	Level
1	8	It contributes in transferring lab examinations between lab department, internal wards, clinics, and emergency department electronically.	4.37	0.89	High
2	9	It provides an integrated medical system through connecting medical scans and video clips (such as X Rays, Sonar, tomogram, magnetic resonance rays, abdominal telescopes video) at the electronic digital medical file	4.33	0.91	High
3	2	It contributes in achieving communication between the internal wards and the medical records department electronically.	4.24	0.90	High
4	1	It facilitates providing information that benefits medical surveys and research	4.21	0.91	High
4	10	It saves medical records and information related to patients electronically, through electronic archiving and the option of retrieval at any time	4.21	0.92	High
6	3	It facilitates the process of completing the required information for examiners electronically	4.11	0.92	High
7	6	It contributes in preparing statistical reports related to work	4.07	0.96	High
8	4	It facilitates the process of communication and coordination between wards and supportive medical departments	4.03	1.06	High
9	12	It facilitates issuing medical orders electronically	3.92	1.01	High
10	5	It contributes in keeping the patient information confidently	3.79	1.10	High
11	11	It provides the opportunity for getting rid of the patient paper file completely, through the medical record	3,66	1.22	Fair
12	7	It helps in the process of communication and information exchange between hospitals and medical centers inside and outside the state geographical boundaries	3.34	1.39	Fair
			4.02	1.02	High

Table (3) points out the means for the effect of the computerized health information on the field of medical and supportive medical works in general

Results related to the second question: what is the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait?

Table (4): Means, standard deviations and stratifications of the study sample responses to the effect of computerized health information on the medical and supportive medical decisions at Farwania Hospital in Kuwait

Grade	field number	Fields	Means	SD	Level
1	6	It works for speeding up information exchange between varied medical authorities related to the diagnosis and treatment processes	3.98	1.08	High
2	8	It speeding up the execution of decisions by the nursing and supportive staff	3.97	0.90	High
3	5	It upgrades data and information regularly	3.91	1.03	High
4	9	It improves the sort of decisions	3.91	0.94	High
5	3	It speeds up the process of decision making because of its speed in providing the required information	3.88	0.97	High
6	2	It provides enough information about patient cases	3.80	0.90	High
7	7	It provides the opportunity for using quantitative methods in the decision making, such as prediction, quality control, and resource planning	3.80	0.99	High
8	1	It contributes in activating medical control on the mechanisms of carrying out the taken decisions	3.77	0.98	High
9	4	It decreases the required costs of the decision making process	3.72	1.06	High
			3.86	0.99	High

Table (4) points out that, the means of the effect of the computerized health information network on the medical and supportive medical decisions is 4.32 in general.

Results related to the third question: are there statistical significant differences in the effect of the computerized health information on the medical and supportive medical field that attributed

to the variables of profession and gender studied?

First: differences according to the profession variable: Means and standard deviations of the studied sample responses were used, (see table 5) points out.

Table (5): Means and standard deviations for the study sample responses about the effect of computerized health information network on the field of medical and supportive medical works at Farwania Hospital in Kuwait according to the variable of profession

Profession	N	Means	Standard deviation
Doctor	56	47.21	8.34
Laboratory technician	48	48.35	8.64
Rays technician	49	51.71	6.07
Nurses	30	40.56	10.29
Physiotherapy	46	47.06	8.66
Pharmacy	35	50.40	8.22
Total	264	47.89	8.82

Table (5) points out that there is a difference (DF) in the means and the standard deviations upon the effect of the computerized health information network on the fields of medical and supportive medical works at Farwania Hospital in Kuwait according to the variable of profession.

Table (6): ANOVA for comparing means and standard deviations of the study sample responses to the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the variable of profession.

Variance source	Sum of squares	DF	Means of squares	(F) value	Sig. level
Between groups	2613.260	5			
Within groups	17870.979	258	522.652	7.545	0.000
Total	20484.239	263	69.267		

Table (6) indicated out that, there are some differences related to the profession variable in the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait.

Table (7): Results of (LSD) test to discover the differences between the means of the study sample responses to the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the profession variable

Level	Laboratories	Rays	Nurses	Doctor	Physiotherapy	Pharmacy
Laboratories		-3.360 **	7.787**	1.139	1.288	-2.045
Rays			11.147**	4.500**	4.649**	1.314
Nurses				-6.647**	-6.498**	-9.833**
Doctor					0.149	-3.185
Physiotherapy						-3.334

(**) significant at the significance level of (0.05).

Table (7) points out to the following aspects:

- 1- There are some differences in the effect of computerized health information network on the medical and supportive medical fields at Farwania Hospital Kuwait State according to the professional variable between the laboratory rays technicians and nurses for the rays and nursing.
- 2- Also, the same differences are found between doctors, nurses and physiotherapists for the doctors, nurses and physiotherapists

- 3- Another difference is occurred between the nurses, physiotherapists and pharmacists for the doctors, physiotherapists and pharmacists.

Second: differences according to the gender variable:

To identify the differences in the effect of computerized health information network on the medical and supportive medical fields at Farwania Hospital in Kuwait according to the gender variable, T-Test was applied between the studied sample responses, as shown in table (8).

Table (8): T-Test results of the independent sample for testing the differences between means of the studied sample on the effect of the computerized health information network upon the medical and supportive medical fields at Farwania Hospital in Kuwait according to the gender variable.

Gender	n.	Means	S D	T- value	DF	Sig.
Males	116	47.82	9.05	-0.114	262	0.909
Females	148	47.95	8.67			

Table (8) indicates that, there aren't differences between males and females related to the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait.

Results related to the fourth question: are there significant statistical differences in the effect of the computerized health information network on the medical and supportive medical decisions connected

with the profession and gender variables at Farwania Hospital in Kuwait?

First: differences due to the professional variables: To identify the differences in the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the professional variables, the means and standard deviations of the studied sample responses were applied, (see table 9).

Table (9): Means and standard deviations of the study sample responses upon the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the professional variables.

Department/ specialization	n.	Mean	Standard deviation
Laboratory	48	35.89	7.31
Rays	49	36.40	4.72
Nurses	30	29.43	8.72
Doctors	56	33.75	8.72
Physiotherapy	46	32.58	6.90
Pharmacy	35	35.80	9.93
Total	264	34.21	7.98

Table (9) points out that, there are same differences between means and standard deviations for the effect of the computerized health information network

on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the professional variables.

Table (10): Results of ANOVA that comparing the means and standard deviations of the study sample responses on the effect of using computerized health information on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the professional variables.

Variance source	Sum of squares	DF	Means of squares	(F) value	Sig. level
Between groups	1279.186	5	255.837	4.263	0.001
Within groups	15484.935	258			
Total	16764.121	263	60.019		

The preceding table indicates that, there are some differences related to the profession variable on the effect of using computerized health information network upon the medical and supportive medical decisions at Farwania Hospital in Kuwait.

Table (11): Results of (LSD) Test to discover the differences between the means of the study sample responses on the effect of using computerized health information on the medical and supportive medical decisions according to the specializes variables.

Level	Laboratories	Rays	Nurses	Doctor	Physiotherapy	Pharmacy
Laboratories		-0.512	6.462**	2.145	3.308**	0.095
Rays			6.974	2.658	3.821**	0.608
Nurses				-4.316**	-3.153**	-6.366**
Doctor					1.163	-2.05
Physiotherapy						-3.213

(**) significant at the significance level of 0.05.

Table (11) out the following aspects are noticed:

- 1- There are some differences in the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the professional variables between the laboratory technicians, nurses and physiotherapy for nursing and physiotherapy.
- 2- Another differences are occurred between the rays and physiotherapy for physiotherapy.

- 3- Also, there are many between nursing, doctors and pharmacists, for doctors and pharmacists.

Second: differences due to the gender variables:

To identify the differences in the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the gender variables, T-test was applied on the differences between the responses of the studied sample, as shown table (12).

Table (12): T-Test results of the independent sample for testing the differences between means of the studied sample on the effect of using computerized health information network upon the medical and supportive medical decisions at Farwania Hospital in Kuwait according to the gender variable

Gender	n.	Means	S D	T-value	DF	Sig.
Males	116	34.21	8.25	0.006	262	0.995
Females	148	34.20	7.79			

Table (12) points out that there are some differences between males and females related to the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait.

Explanation of results:

Explaining the results related to the first question: what is the effect of using computerized health information on the field of medical and supportive medical works?

Results related to that question refer to the presence of a higher degree effect of using the computerized health information on the field of medical and supportive medical works. This result is a logical result, because that information provides much time of researching the illness history,

attaining documented information that are used in varied medical and supportive medical works, facilitating communication between varied records to attain information, in addition to its effective and critical role in saving much information and documents related to the illness, and the medical and supportive medical work without the need to larger places and many papers, also its critical and effective role in medical surveys and research, retrieving it at any time, facilitating the tasks related to examiners and ensuring attaining them

easily and its effective role in helping the medical and the supportive medical staff in preparing patient and medical reports.

That result agrees with the results of the Agency of Healthcare Research and Quality results (2006), as they refer to the positive role of the computerized health information related to the medical fields, also agrees with Badh study results (2007), which refer to the effect of work computerization on the performance in the neurological and vertebral column surgeries in Dubai. It also agrees with the study of Dewek results (2010), which concluded that the use of computerized health information systems in the medical fields at Gaza European Hospital is carried out to a higher extent. It also agrees with the results of (Schoen et al, 2012) study, that refer to the effective role of the computerized health information networks and their effect on the general performance in ten countries which are: Australia, Canada, France, Germany, Holland, Norway, Switzerland, the UK, and the USA. The study results also agree with the study of Al Awaddy (2014) that refers to the effective role of the health information system networks in developing the job capabilities of the governmental hospitals staff at Gaza Strip.

Those results don't agree with the results of Hayajineh (2006) that refer to doctor's underestimation to the role of computerized health information systems at the educational hospitals in Jordan. They also don't agree with the results of Al-Merri (2009) study, that concluded the role of computerized health information network in raising the proficiency of workers performance is a fair role.

At the second grade, came the item that states "It provides an integrated medical system through connecting medical scans and video clips (such as X Rays, Sonar, tomogram, magnetic resonance rays, abdominal telescopes video) at the electronic digital medical file", and this result is an important result of the computerized health information network, as it makes the medical file includes all data, information, analysis, and examinations related to the patient, that saves time and effort which is exerted in the

services which are provided to the patient, also those files are used in the follow up of patients and identifying the extent of their progress.

At the grade that precedes the last grade, came the item "it provides the opportunity of getting rid of the medical paper file of the patient by the electronic medical record", with a fair level, while that result is attributed to the important role of computerized health information systems in getting rid of paper records with their problems, as it is difficult to update them or depending on their accuracy. Also, they may be exposed to damage. That item took a fair grade, because the computerization of information at Farwania Hospital in Kuwait is at its early stages, so the matter requires an additional time to get rid of paper files.

At the last grade came the item, "it contributes in the process of communication and information exchange among hospitals and medical centers inside and outside the geographical boundaries of the state", while that item reached the last grade with a fair degree as the computerized information systems are concerned too much with the management of the processes which are related to the patient inside the hospital only, because the patient is followed up in the hospital which follows his residence, so information exchange between varied hospitals decreases, in addition that the computerized system is a new matter that requires much time to connect hospitals and varied medical centers internally and externally.

Explaining results which are related the second question: what is the effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait

Studies related to this question refer to the presence of higher degree effect of the computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait, that result is attributed to the contribution of computerized health information in providing accurate information, that plays an important role in the ability of taking

medical and supportive medical decisions depending on a scientific basis.

That result agrees with the study of Dewek results (2010), as they refer to the increased usage of computerized health information systems in the medical decision making at Gaza European Hospital, and also agrees with the results of Al Mahasenah and Al Amayerah study (2014), that concluded the effective effect of using health information systems on the process of medical decision making.

Those studies don't agree with the results of Alberdi et al study (2000), which concluded that the computerized health information network contributed secondarily in the medical decision making, and they also don't agree with the results of Almelky study (2004), which concluded that computerized health information systems network is used to a great extent in the administrative field decision making, and to a less extent in the medical field.

At the grade the precedes the last one, came the item that states "it contributes in activating the medical control on any mechanisms for decision making", with a high degree, that reflects the important role of computerized health information in achieving the effective control, with a higher degree of available information credibility and control by the concerned authorities, as the computerized health information isn't exposed to change or replacement by the ordinary people, but it represents an integrated systems which is difficult to be penetrated, that ensures its contents credibility.

At the last grade, came the item "it lessens the required costs of the decision making processes", with a higher degree, as this result is real and logical, because decision making at the traditional paper system required much time and effort, so increasing the costs of the decision making, in addition to the requirement of committees that provide information, while in the computerized system, the information which is required for decision making will be available, so, it facilitates the process of decision making and taking.

Explaining the results related to the third question: are there statistically significant differences in the effect of computerized health information network on the field of medical and supportive medical works according to the variables of (profession and gender)?

Results referred to the presence of statistically significant differences in the effect of computerized health information network on the medical and supportive medical works field, according to the variable of profession, while those results are attributed to the difference in the usage of computerized health information network by the medical and the supportive medical staff, in addition to their varied awareness about the importance of computerizing that information, as some medical and supportive medical professions are related to those networks more than other groups, so the degree of evaluating the importance of those networks differs by the different usage of them.

Results also concluded that there aren't any differences in the effect of computerized health information on the field of medical and supportive medical works, attributed to the gender variable. This result refers to the two genders agreement on the important and effective role of computerized health information network, related to medical and supportive medical works, because both genders work in the medical and supportive medical professions, so they recognize the importance of those networks similarly,

Explaining the results related to the fourth question: are there statistically significant differences in the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait, attributed to the variables of (profession and gender)?

The results related to this question concluded that there are differences in the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait, attributed to the profession variable, that because some medical and supportive medical professions need to take

decisions, while others don't need taking any decisions except in limited cases.

Results concluded that there aren't differences related to the effect of computerized health information network on the medical and supportive medical decisions at Farwania Hospital in Kuwait, in the light of gender variable, while this result refers to the similarity of both genders recognition of the health information network role in taking decisions. Also, both genders recognize the effective role of the computerized health information network in taking those decisions similarly.

Recommendations:

- 1- Connecting hospitals with each other through the computerized health information systems, to facilitate the processes of transferring patients between hospital.
- 2- Discarding the paper health file gradually, while commencing to carry out the electronic health record, and approving a unified coding system.
- 3- Performing workshops and courses for the medical fields' staff about the importance of the computerized health information system and training them on using it.
- 4- Allocating the required financial and human resources for providing and updating the computerized health information systems.
- 5- Providing effective control and protection to the computerized health information systems.

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