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KNOWLEDGE ATTITUDE AND PRACTICE OF HEALTH CARE WORKER ON ELECTRONIC MEDICAL RECORD SYSTEM IN KING KHALID HOSPITAL MAJMAAH (KSA), IN 2015

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ABSTRACT

Background: Electronic Medical Record (EMR) system is "an electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization" knowledge, attitude and practice are important contributor for using the (EMR). **Purpose:** The study aims to assess knowledge, attitude and practice of health care workers on electronic medical record system in king Khalid general hospital majmaah (KSA). **Methods:** The data was collected from 260 health care workers in king Khalid general hospital majmaah, using convenience sampling technique. Participants were asked to fill in structured, pre-coded and pre-tested questionnaire which was consisting of three domains to assess their knowledge, attitude and practice (KAP). **Results:** The findings showed that the health care workers had high levels of knowledge (81.2%), and attitude (78.1%), but low level of practice (43.1%) in dealing with electronic medical record system in king Khalid general hospital Almajmaah, statistically significant difference were observed between practice and department of the staff (p= 0.000), and being a male of staff (p= 0.022), occupation of staff (p= 0.000). The knowledge and attitude were high among Saudi (53.6%, 55.7%), males (54.7%, 54.7%), and those who are less than 30 years old (55.7%, 55.7%) respectively. the practice was high among male (61.6%), who is less than 30 years old (57.1%), **Conclusion:** The health care workers in king Khalid general hospital Almajmaah (KSA) had very good level of knowledge, attitude and low practice concerning electronic medical record system.

KEYWORD: Electronic Medical Record System. Knowledge. Attitude. practice.

INTRODUCTION

Electronic Medical Record (EMR) system is "an electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization. EMRs have the potential to provide substantial benefits to physicians, clinic practices, and health care organizations. These systems can facilitate workflow and improve the quality of patient care and patient safety The Electronic Medical Record (EMR) –has been around since the late 1960‘s, when Larry Weed introduced the concept of the Problem Oriented Medical Record into medical practice. In 1972, the Regenstreif Institute developed the first medical records system. In 1991, the Institute of Medicine, a highly respected think tank in the US recommended that by the year 2000, every physician should be using computers in their practice to improve patient care. EMR usually composed of: Viewing, Documentation, care management, Ordering, Messaging, Analysis and Reporting, Patient-Directed Functionality, Billing. Barriers to EMR use are: High initial cost and uncertain financial benefits, High initial physician time costs Technology, Difficult complementary changes and inadequate support.

Globally Australia has one of the great e-health experiences, began operation in 2002.Canada. has been considered seriously since 1997 when the Minister of Health established the Advisory council on Health Infrastructure. In Europe (90%) in Netherlands, (88%) in Denmark, (62%) in United Kingdom In Saudi Arabia Most of the MOH hospitals lack information and communication infrastructure (7) King Faisal Specialist Hospital & Research Centre (KFSH & RC). Since their inception in 1975, KFSH & RC has applied the latest IT. The hospital has introduced internet technology and telemedicine since 1993(7) The National Guard Health Affairs (NGHA). Four hospitals and 60 clinics belongs to (NGHA) are interconnected via a wide area network. The NGHA hospitals enjoy the same level of automation as in KFSH & RC. (7).

MATERIALS AND METHODS

Study Design It's a descriptive Cross Sectional Study of Knowledge, Attitude and Practice of electronic medical record among Health Care Worker in king Khalid Hospital in Majmaah city. Study Area King Khalid Hospital which is a secondary care hospital that contain different specialty and provide health care to 142000 people, from Majmaah city and different neighboring governorate. Majmaah is a governorate in Al-Riyadh Province, Saudi

Arabia. It is located at around 25°54′14″N 45°20′44″E, and has an area of 30, 000 square kilometers. The population of the town is around 45, 000, while the population of the governorate as a whole is approximately 97, 349. Majmaah Governorate borders the Eastern Province and Al-Qasim to the north, Thadig and Shaqra to the south, Rumah to the east, and Zulfi and al-Ghat on the west. Study Population This research for health care workers e.g.; Physicians, Nurses, Pharmacists, Clinical Laboratories.

The number of this staff approximately 409 (113 Physicians from various specialties), (264 Nurses), (3 pharmacist), (11 Clinical Laboratories). Sample Technique: Total enumeration. Sample Size: All health care workers, which are 260 staff.

At the time of data collection Data Collection Data were collected by Well-designed questionnaire and validated for evaluating EMR system for the current study. The sample was 260 health care providers in King Khalid Hospital; we start the data collection by brief test of the questioner quality and how much it is clear. The questioners were initially given to the supervisor of each department (medicine, surgery, nursing, emergency, pharmacy, laboratory, physiotherapy, OPD). Later on we did the data collection by our self because of there were some questioner lost by them. The number of questioner's papers that distributed was around 400 we have around 270 back, 10 papers were empty. Data Analysis The data will be entered and analyzed using SPSS 20.0. Mean ± S.D was given for quantitative variables like age and biochemical parameters etc. Frequencies and percentage was given for qualitative variables. Cohen's Kappa was applied to observe the degree of association between raters. Diagnostic Statistics like (sensitivity, specificity, positive value, negative predictive value and diagnostic accuracy) was applied to compare the gold slandered with the other specialist's opinion.In addition Receiver Operative Characteristics Curve was also drawn to determine the best predictor with optimum sensitivity and septicity cutoff. A P-value of < 0.05 was considered as statistically significant. Ethical Consideration The ethical approval was obtained from the ethical committee, basic health research center Majmaah university. Written consent from the health care workers will be taken. We were also briefed about the advantages of this research to the hospital due to their participation. All information was kept purely confidential.

RESULTS

The Age range of participants was from 30 to 60. The mean age was less than 30 years. Those who aged less than 30 years represented most of the sample i.e. (58.1%) 159. while (35.8%) were between 30-50 and (6.2%) are more than 50 years old. Almost two third of

participants were working in other departments*.male represents (53.5%) of participant while female represents (46.5%). majority of workers were nurses (38.8%. In this study we focused on knowledge, attitude and practice (KAP) of participants. majority of participants had knowledge about electronic medical record 211 (81.2%). Most of them knew how to use computer 238 (91.5%). 231 (88.8%) had computers. Age groups, showing that participants who aged less than 30 years had the highest average knowledge score as compared to other age groups (P=.355). Participants from other departments* had higher knowledge as compared to other departments* (P=.441). Male had better knowledge compared to female (P=.182). Similarly, Saudis had better knowledge as compared to other nationality (P=.182). relation between knowledge of EMR and occupation shows that technicians had higher knowledge compared with other occupation (P=0.431).

Regarding participants attitude towards electronic medical record, the mean score was close to that of knowledge (78.1%). Participants were thinking Electronic Medical Record Saves Time At Hospital 188 (72.3%). About two third of participants believed Electronic Medical Record Reduce The Medical Errors At Hospital 168 (64.4%). They also believed that It Easy To Use Electronic Medical Record At Hospital 165 (63.5%) and fast enough 168 (64.6%). Attitude level between different age groups, showing that participants who aged less than 30 years had higher average attitude level as compared to other age groups (P=0.431). attitude measures towards electronic medical records between different departments, (P=.868), showing that participants from departments other than (ER, OPD, LAP, AND PHARMACY) had higher average attitude level 116(57.1%), for office OPD it was 36 (17.7%) while it was 22 (10.8%) and 17 (8.4%) for ER and LAP. Among different occupations attitude towards electronic medical records varies from one to other (P=0.404) showing that Nurse had higher of attitude 74 (36.5%), Technician 69(34.0%). It was 11 (5.4%) for consultant. while the relation between attitude and nationality(P=.764), Saudis showed higher attitude towards electronic medical recode 113(55.7%) compared with non-Saudis 90(44.3%). practice levels between different age groups showing that participants who aged less than 30 years had the highest average practice level (P=0.843) as compared to other age groups. Male participants showed higher measurements of practice than female (P=0.022). Specialist had the highest average practice level as compared to other occupation ($p<0.001$).

DISCUSSION

The high knowledge of participant (81.2%) in this research reflect the years of Applying EMR in hospital which was 3 years. the knowledge of system is high because it was established for enough time and was well annunciating before starting the system. The knowledge was high among Saudi male who is less than 30 years old, and this may be due to that the Saudi employees are the majority and most of then are young in age .In comparing to another study in Bangalore and Jaipur in India in which there knowledge was (21.4%) (13), we found that the knowledge is higher in Majmaah hospital. The attitude is lower than knowledge among participant (78.1%) and this may be explain by that the difficulty of using the EMR and it is not fast enough. The attitude is high among Saudi male who is less than 30 years old, and we think it is due to high number of male Saudi staff in hospital .When comparing the attitude in our study with the attitude in Bangalore and Jaipur in India study (13) our result is higher. The practice was lower than knowledge and attitude (43.1%) and this may be due of lack of training courses, and language issue with some participant. the practice is high among males less than 30 years old, and this may be due to number of male staff and there are familiar with technology. In comparing to study done in Bangalore and Jaipur in India (13), the practice is higher in our study.

CONCLUSION

The health care workers have very good level of knowledge, attitude and low practice concerning electronic medical record system in king Khalid general hospital Almajmaah (KSA). the knowledge, attitude and practice were calculated (81.2% 79.1%, and 43.4%) respectively and related to demographic information had been answered. The relation between knowledge and attitude with demographic information were not statistically significant. The relation between practice and demographic information were statistically significant except for the age. the result shown in details in the result and discussion parts.

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