

Study on Perspective of Doctors on Newly Implemented EMR System on the Healthcare Delivery at Moolchand Hospital

By

Rahul Charansingh Prajapati

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2015-2017



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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Rahul C. Prajapati student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Moolchand Medcity Hospital, New Delhi from 6th February 2017 to 6th May 2017.

The Candidate has successfully carried out the study designated to his during internship training and his approach to the study has been sincere, scientific and analytical. The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



Dean, Academics and Student Affairs
The IIHMR University, Jaipur



Professor
The IIHMR University, Jaipur



Moolchand Medcity

The certificate is awarded to

Rahul C Prajapati

In recognition of having successfully completed his

Internship in the department of

Operations

and has successfully completed his Project on

A study on perspective of doctors on newly implemented EMR system on the healthcare delivery at Moolchand Hospital.

6th February to 6th May 2017

Moolchand Medcity Hospital

New Delhi

He comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish him all the best for future endeavors

Pallavi
12-05-17
Manager Human Resources

India's First JCI and Comprehensive NABH Accredited Hospital

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled A study on perspective of newly implemented EMR system on the healthcare delivery at Moolchand Hospital and submitted by Rahul C. Prajapati, Enrollment No. IIHMR-U/01/2015-17/0330 under the supervision of Dr. Neetu Purohit for award of MBA in Hospital and Health of the University carried out during the period from 6th February 2017 to 6th May 2017, Embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



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THE IIMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled "A study on perspective of newly implemented EMR system on the healthcare delivery at Moolchand Hospital, New Delhi".

A handwritten signature in blue ink, appearing to read 'Rakshit', with a horizontal line extending to the right.

Signature of student

DECLARATION

I, Rahul C. Prajapati hereby declare that this dissertation entitled is the outcome of my own study undertaken under the guidance of Dr. Neetu Purohit, Professor, Indian Institute of Health Management and Research, Jaipur. It has not previously formed the basis for the award of any degree, diploma or certificate of this Institute or of any other Institute or university. I have duly acknowledged all the sources used by me in the preparation of this dissertation.



Signature of the Student

Rahul Prajapati

Master of Health and Hospital Administration

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Date: 16/05/17

ABSTRACT

Background: The electronic medical record (EMR) has the most wide-ranging capabilities and thus the greatest potential for improving quality. Research has demonstrated that EMR offer numerous advantages over traditional paper-based systems. Through rapid information retrieval and efficient data management, EMR systems have the potential to improve the quality of patient care and to control costs. This can be achieved through fewer adverse drug events, lower mortality and morbidity rates, seamless continuity of patient care, greater efficiencies, and lower costs. (Physician use n attitude)

Objective: To know the perspective of doctors on EMR implementation in Moolchand Hospital. To assess the extent of compliance in EMR implementation.

Method: A Descriptive study was carried out at OPD of tertiary care Hospital from 6th February 2017 to 6th May 2017.

Result: As per data 31% of the staff collects the data several times, that is more often than the other staff. Whereas 17% of the staff never collects the data or the said information.it can be said that it is far more easier to change the attitude of the 31% of the staff from several times to daily with a little motivation and encouragement, as compared to changing the attitude of the 17%,where a much greater effort and innovation or incentive would be required.

Conclusion:

Most of the doctors understand and consider that most of the tasks in EMR is their part their work. There is still some scope of change in attitude in some clinical task like Obtain the results from new tests or investigations, Answer questions concerning general medical knowledge, Produce data reviews for specific patient groups Complete sick-leave forms,Collect patient data for various medical declarations,Check and sign typed dictations, so that the new emr can be utilised to the full extent, thus improving the quality of services and patient satisfaction in the long run.

Acknowledgement

At the completion of my dissertation I would like to show my sincere gratitude to the Moolchand Medcity Hospital especially to Mr. Vibhu Talwar, Managing Director, Mr. Shravan Talwar, CEO and Dr. Madhu Handa, Medical Superintendent for providing me such an opportunity. Without their constant support and guidance it would never be a success.

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Rahul Charansingh Prajapati

(IIHMR/2015-2017)

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A study on perspective of doctors on newly implemented EMR system on the healthcare delivery at Moolchand Hospital.

A study on perspective of doctors on newly implemented EMR system on the healthcare delivery at Moolchand Hospital.

1. INTRODUCTION

The electronic medical record (EMR) has the most wide-ranging capabilities and thus the greatest potential for improving quality. Research has demonstrated that EMR offer numerous advantages over traditional paper-based systems. Through rapid information retrieval and efficient data management, EMR systems have the potential to improve the quality of patient care and to control costs. This can be achieved through fewer adverse drug events, lower mortality and morbidity rates, seamless continuity of patient care, greater efficiencies, and lower costs. (Physician use n attitude)

EHRs are defined as “a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. Included in this information are patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports.” 13

Electronic health record (EHR) systems have the potential to transform the health care system from a mostly paper-based industry to one that utilizes clinical and other pieces of information to assist providers in delivering higher quality of care to their patients. (13)

This study titled “A study on perspective of doctors on newly implemented EMR System on the healthcare delivery by evaluating the clinician’s perspective of EMR system was designed to study the potential impact of the EMR system on health care delivery by utilizing task-oriented questionnaire modified for use in Moolchand Medicity Hospital and thereby providing any remedial suggestions to improve health care quality and safety.

1.1. Research Question

What is the perspective of doctors on newly implemented EMR system on the healthcare delivery at Moolchand Hospital.?

1.2 Objectives

- To know the perspective of doctors on EMR implementation in Moolchand Hospital.
- To assess the extent of compliance in EMR implementation.

2. REVIEW OF LITERATURE

1) Annekathryn Goodman(2015) this paper explores the challenges and achievements of the newly emerging Qatar healthcare system. The method of study is PubMed was searched using MESH terms like Qatar, healthcare, medical development, medical insurance and medical history. During the study Website of the World Bank, CIA fact book, Qatar Ministry of Health, Hamad Medical Corporation, Organization for Economic Co-operation and Development and the US State department were searched for information about Qatar's healthcare system and its history. The Result of study shows Qatar is a rapidly growing, multicultural country with over 80 nationalities represented. Qatar has developed a healthcare system with universal coverage.

2) Keenan et al. (2006) A study on electronic medical records found improvement in daily work and enhanced patient care: (a) medication turn-around times fell from 5:28 hours to 1:51 hours; (b) radiology procedure completion times fell from 7:37 hours to 4:21 hours; and (c) lab results reporting times fell from 31:3 minutes to 23:4 minutes. In the same study, transcribing errors for orders declined, and length of hospital stay decreased. Other benefits of electronic medical records systems are possibility for online monitoring of vital signs, capability for multi-site review of patients' records, and improved physicians' collaboration in patient care. EMR facilitates easy access to medication administration records, sharing of consultation reports, and decreased transmit time of test results by reducing the time taken to deliver paper versions.

3) Bonnie B. Dean(2009) This review assessed the use of electronic medical record (EMR) systems in outcomes research. In this author systematically searched PubMed to identify articles published from January 2000 to January 2007 involving EMR use for outpatient-based outcomes research in the United States. EMR-based outcomes research studies ($n = 126$) have increased sixfold since 2000. Although chronic conditions were most common, EMRs were also used to study less common diseases, highlighting the EMRs' flexibility to examine large cohorts as well as identify patients with rare diseases. Traditional multi-variate modeling

techniques were the most commonly used technique to address confounding and potential selection bias. Data validation was a component in a quarter of studies, and many evaluated the EMR's ability to achieve similar results previously achieved using other data sources. Investigators using EMR data should aim for consistent terminology, focus on adequately describing their methods, and consider appropriate statistical methods to control for confounding and treatment-selection bias.

4) **Shamma Al Alawi(2012)** This study was conducted to understand the attitude and knowledge of physicians about the EMR. Another goal was to identify the disadvantages and suggestions to improve the system. The physicians' perceptions about the EMR summarized in the preceding text suggested several ideas to improve the system. Physicians in all focus groups were satisfied with the EMR system, although some physicians were facing some difficulties at the beginning of implementation. Most of the participants identified the long time required to do the documentation in the system as a factor that affects their practice and communication with the patients. The same results were found in a study conducted in Hawaii. Participants reported that the Clinical Information System had reduced clinicians' productivity, primarily because of extra work such as processing laboratory result reports, entering orders and navigating through the systems.

5) **K. Noraziani, A. Nurul(2013)** this study was to discuss on implementation of electronic medical record in healthcare systems globally through SWOT analysis and gather a lesson that can be learn from the progression of the systems. Methodology: A review on the literature through open access journal, PPUKM library portal using key words. Result: Lessons can be learned from existing local and global EMR implementation. EMR implementation provides opportunities to improve health service deliveries in Malaysia.

6) **John A. Gale ,David Hartley, Zach Croll(2014)**This study was discuss Meaningful Use of Electronic Health Records by Rural Health Clinics. The study drew a random sample of 660 RHCs from the CMS Provider of Services file. The survey was conducted electronically using Survey Monkey, which required participants to have a functioning email address. Data collection for the survey took place during spring and summer of 2011. It should be noted that had a rich data set on EHR adoption, performance on Stage 1 meaningful use measures, and barriers and challenges of EHR implementation among responding clinics.

7) **Nir Menachemi, Taleah H Collum(2011)**, The purpose of this paper is to review and summarize the benefits and drawbacks of EHR systems. This study focused on key EHR

functionalities, including clinical decision support systems, computerized order entry systems, and health information exchange. This paper describes the potential benefits of EHRs that include clinical outcomes (eg, improved quality, reduced medical errors), organizational outcomes (eg, financial and operational benefits), and societal outcomes (eg, improved ability to conduct research, improved population health, reduced costs). Despite these benefits, studies in the literature highlight drawbacks associated with EHRs, which include the high upfront acquisition costs, ongoing maintenance costs, and disruptions to workflows that contribute to temporary losses in productivity that are the result of learning a new system. Moreover, EHRs are associated with potential perceived privacy concerns among patients, which are further addressed legislatively in the HITECH Act. Overall, experts and policymakers believe that significant benefits to patients and society can be realized when EHRs are widely adopted and used in a “meaningful” way.

3. Methodology

3.1 Study Design: Descriptive Study, Convenient Sampling

3.2 Period of Study: February 6, 2017 to May 6, 2017.

3.3 Study Population: Clinicians from all departments.

3.4 Total Interviews: 30

3.5 Inclusion Criteria:

- Clinicians working for more than 1 year in the organization and using EMR.

3.6 Exclusion Criteria:

- Other staff(Nurses and Billers) working on EMR except Physicians /Clinicians

3.7 Study Tool:

- Self-administered reliable and validated paper based EMR questionnaire, including 24 clinical tasks ⁽⁴⁾.

4. Results:

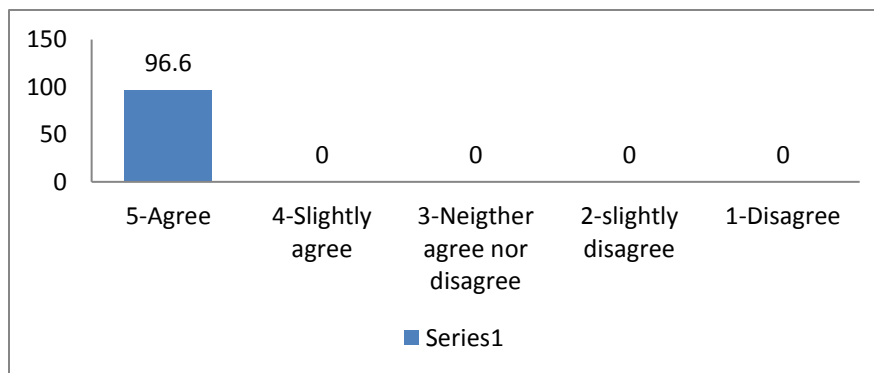
Review the patient's problems in EMR

- As per data 100% doctors agreed that reviewing the patient's problems in EMR is a part of their work. And they are doing it willingly.

Seek out specific information from patient records in EMR.

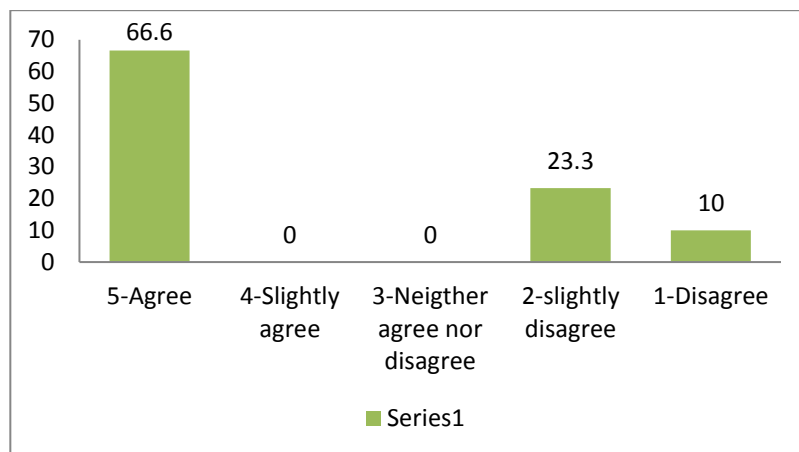
- 100% doctors agreed that seeking out specific information from patient records in EMR is their part of work.

Follow the results of a test or investigation over time in EMR



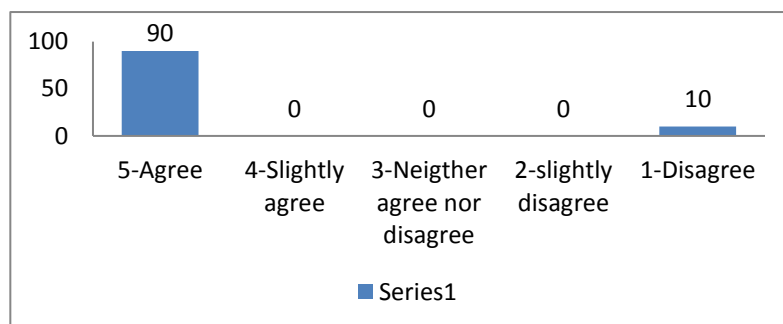
96% doctors agreed that following the results of a test or investigation over time in EMR is part of their work. And remaining doctors partially agreed for same.

Obtain the results from new tests or investigations



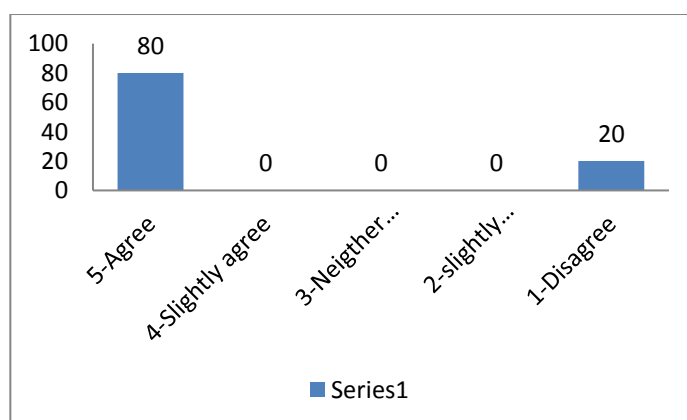
As per the graph 66.6% doctors agreed that obtain the results from new tests or investigation is relevant to their task and 23.3% slightly disagree with this and rest 10% disagreed.

Enter daily notes



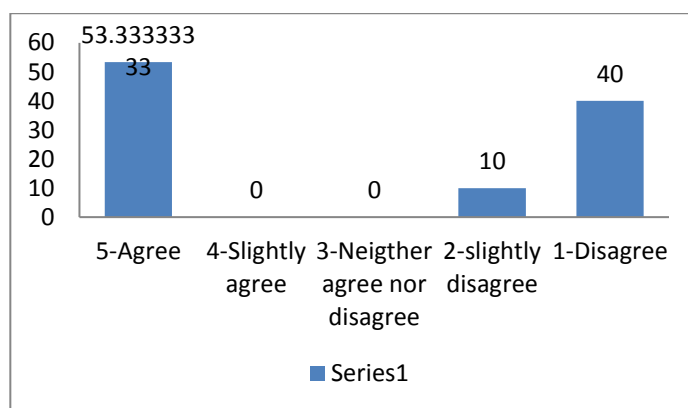
As per the graph 90% doctors agreed that enter daily notes is relevant to their task and 10% disagreed for the same.

Obtain information on investigation or treatment procedures



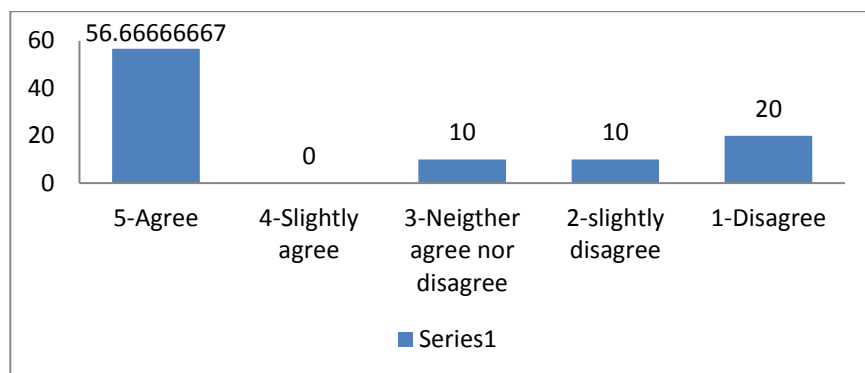
As per the graph 80% doctors agreed that Obtain information on investigation or treatment procedures is relevant to their task and 10% 10% disagreed for the same.

Answer questions concerning general medical knowledge



As per the graph 53.3% doctors agreed that Answer questions concerning general medical knowledge is relevant to their task and 10% slightly disagree with this and rest 40% disagreed.

Produce data reviews for specific patient groups



As per the graph 56.6% doctors agreed that Produce data reviews for specific patient groups to their task and 10% neither agree nor disagree 10% slightly disagree with this and rest 20% disagreed.

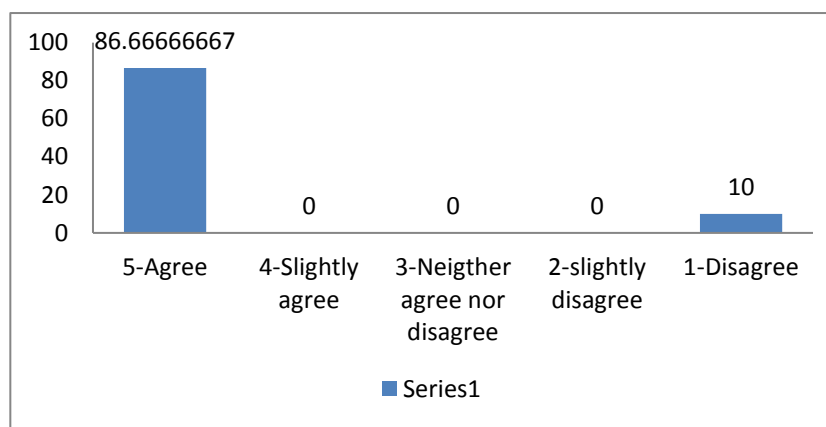
Order clinical biochemical laboratory analyses

As per the graph 100% doctors agreed that Order clinical biochemical laboratory analyses is relevant to their job.

Obtain the results from clinical biochemical lab analyses

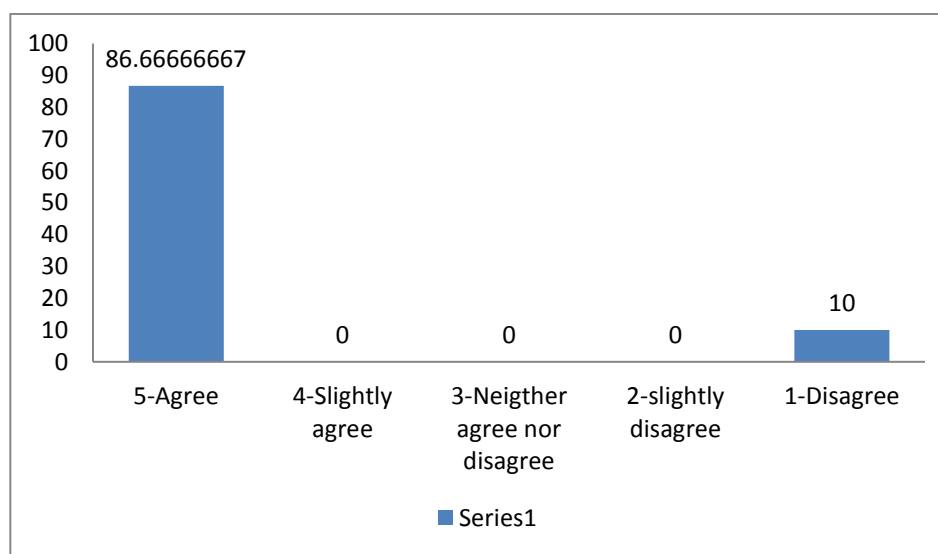
As per the graph 100% doctors agreed that Obtain clinical biochemical laboratory analyses is relevant to their job.

Order X-ray, ultrasound or CT investigations



As per the graph 86.6% doctors agreed that Order X-ray, ultrasound or CT investigations is relevant to their job and 10% disagreed for the same.

Obtain the results from X-ray, ultrasound, or CT investig.



As per the graph 86.6% doctors agreed that obtain the results from X-ray, ultrasound or CT investigations is relevant to their job and 10% disagreed for the same.

Order other supplementary investigations

- 100% doctors agreed that Order other supplementary investigations is relevant to their job in emr.

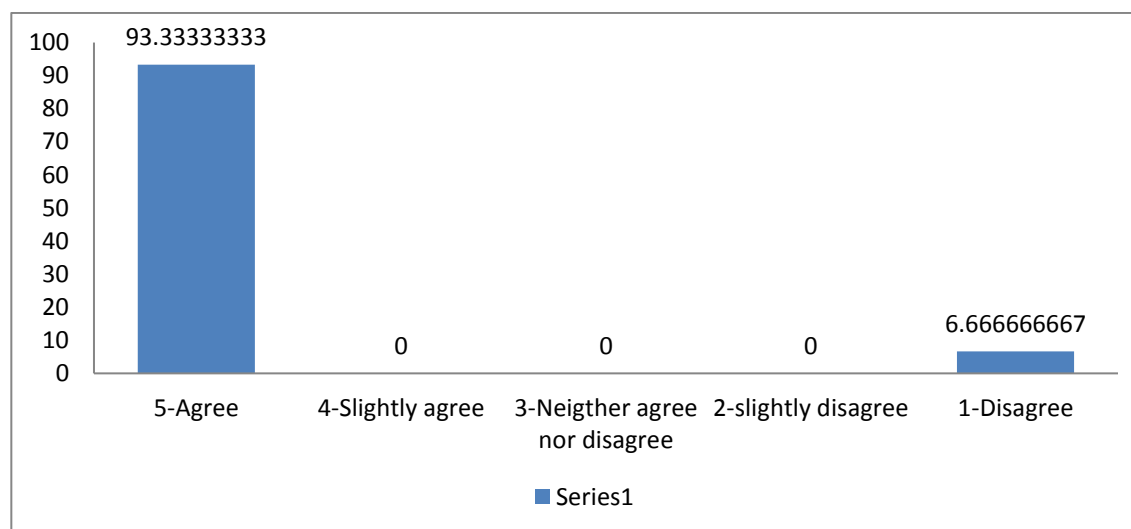
Obtain the results from other supplemental investigations

- 100% doctors agreed that Obtain other supplementary investigations is relevant to their job in emr.

Refer the patient to other departments or specialists

100% doctors agreed that refer the patient to other departments or specialists relevant to their job in emr.

Refer the patient to other departments or specialists



93.3% doctors agreed that refer the patient to other departments or specialists relevant to their job in emr. And 6.6% disagree.

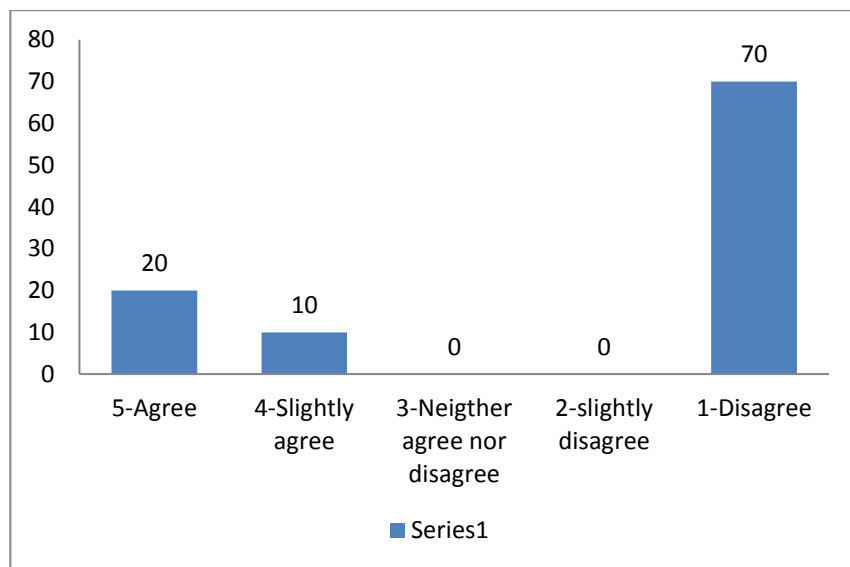
Order treatment directly (e.g. medicines, operations etc.)

- 100% doctors agreed that Order treatment directly (e.g. medicines, operations etc.) is relevant to their job in emr.

Write prescriptions

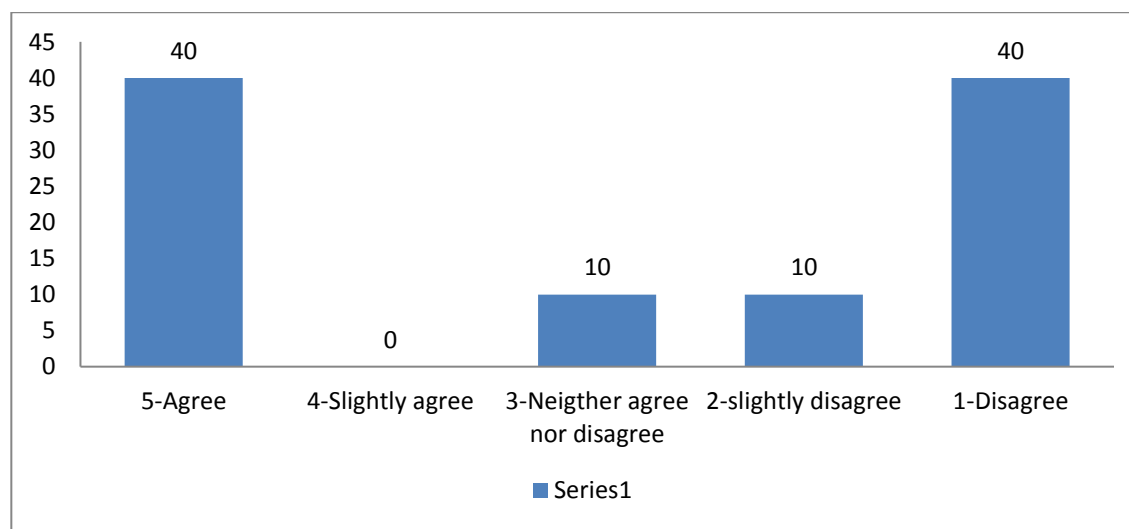
- 100% doctors agreed that write prescriptions is relevant to their job in emr.

Complete sick-leave forms



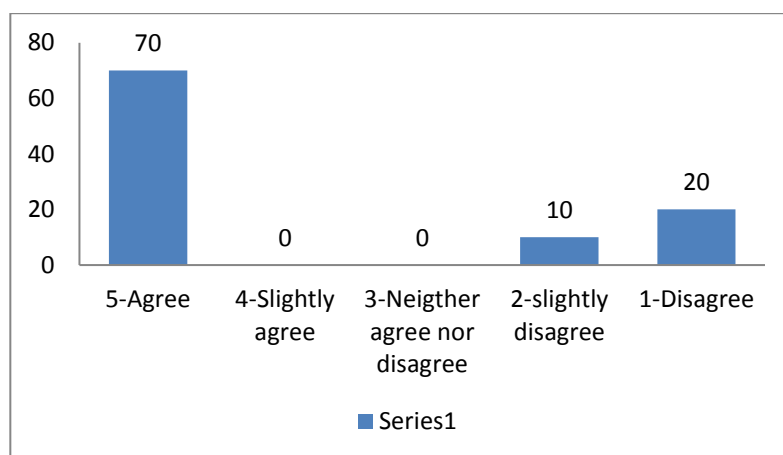
- 70% doctors disagreed that Complete sick-leave forms isn't relevant to their job in emr and 20% agree and rest 10% slightly agreed.

Collect patient data for various medical declarations



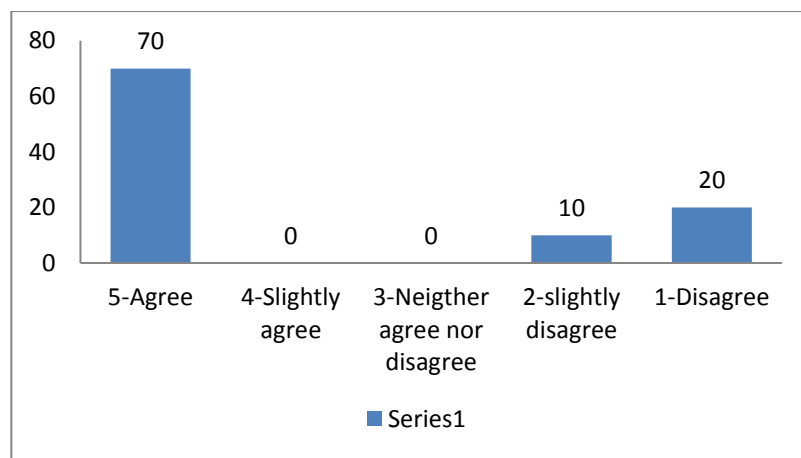
- 40% doctors agreed that Collect patient data for various medical declarations is relevant to their job in emr and 10% neither agree nor disagree and 10% slightly disagreed and rest 40% disagreed.

Give written specific information to patients



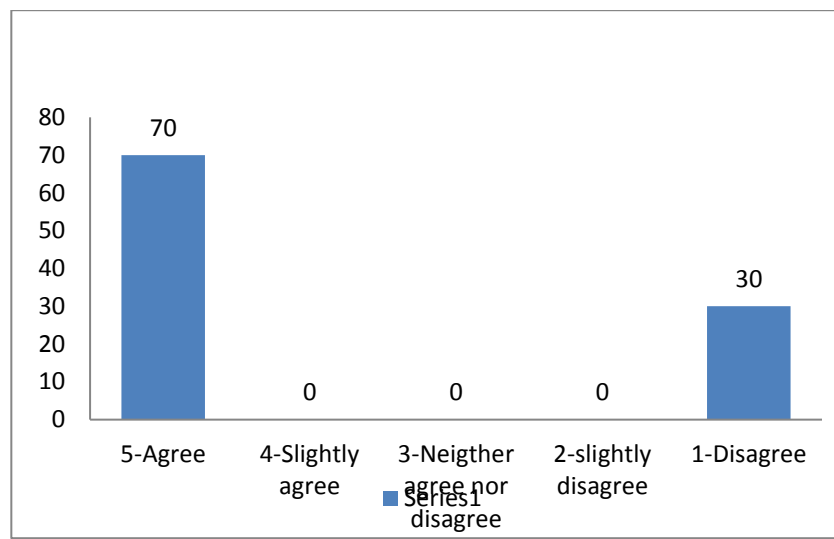
- 70% doctors agreed that Give written specific information to patients is relevant to their job in emr and 10% slightly disagreed and rest 20% disagreed.

Give written general information to patients about the illness



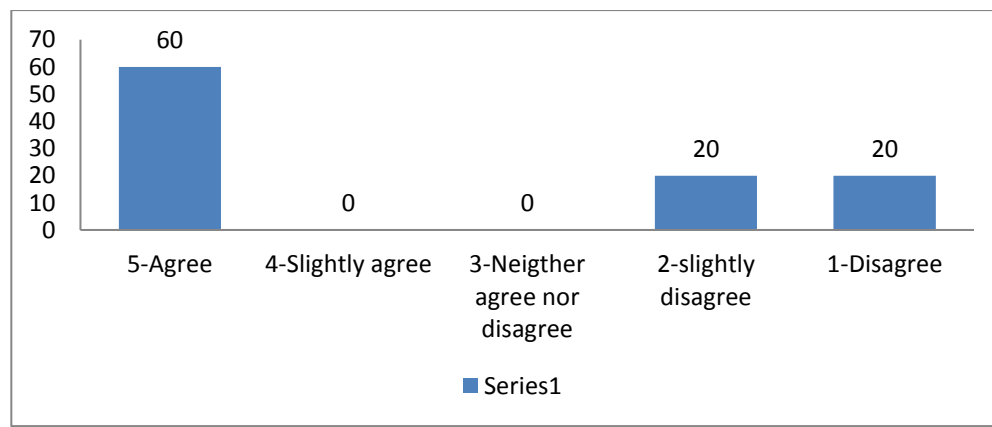
- 70% doctors agreed that Give written specific information to patients about illness is relevant to their job in emr and 10% slightly disagreed and rest 20% disagreed.

Collect patient information for discharge reports



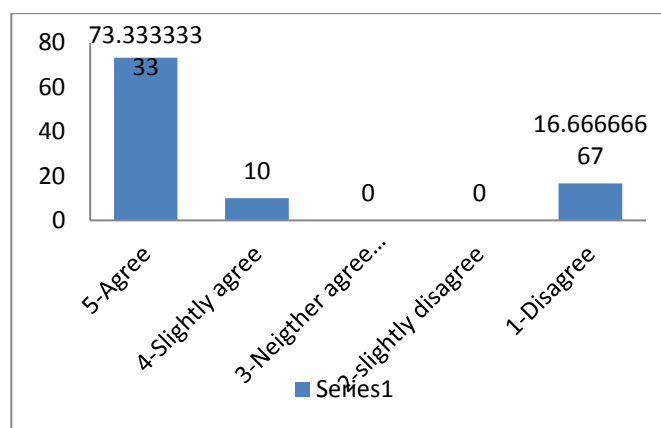
- 70% doctors agreed that Collect patient information for discharge reports is relevant to their job in emr and and rest 30% disagreed.

Check and sign typed dictations



- 60% doctors agreed that Collect patient information for discharge reports is relevant to their job in emr and 20% slightly and rest 30% disagreed.

Register codes for diagnoses or performed procedures



- 73.3% doctors agreed that register codes for diagnoses or performed procedures is relevant to their job in emr and rest 16.6% disagreed.

4.1 Compliance of Using EMR

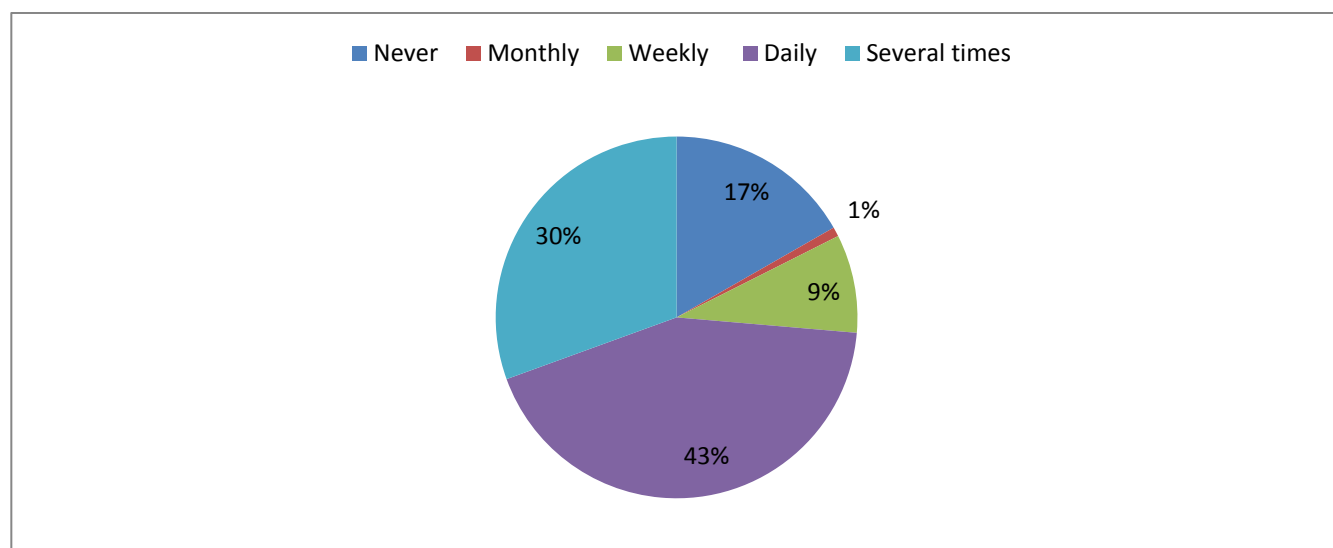


Fig.4.2.2 Analysis of Question No.2 (How often do you maximally perform this task)

As is evident from the pie chart, 31% of the staff collects the data several times, that is more often than the other staff. Whereas 17% of the staff never collects the data or the said information. It can be said that it is far more easier to change the attitude of the 31% of the staff from several times to daily with a little motivation and encouragement, as compared to changing the attitude of the 17%, where a much greater effort and innovation or incentive would be required.

5. Conclusion

Most of the doctors understand and consider that most of the tasks in EMR is their part their work. There is still some scope of change in attitude in some clinical task like Obtain the results from new tests or investigations, Answer questions concerning general medical knowledge, Produce data reviews for specific patient groups Complete sick-leave forms,Collect patient data for various medical declarations,Check and sign typed dictations, so that the new emr can be utilised to the full extent, thus improving the quality of services and patient satisfaction in the long run.

Questionnaire

Appendix		
Clinical Tasks in EMR		
Sno		I considered the task to be part of my work as a physician in this hospital : Agree or Disagree
1	Review the patient's problems in EMR	
2	Seek out specific information from patient records	
3	Follow the results of a test or investigation over time	
4	Obtain the results from new tests or investigations	
5	Enter daily notes	
6	Obtain information on investigation or treatment procedures	
7	Answer questions concerning general medical knowledge	
8	Produce data reviews for specific patient groups	
9	Order clinical biochemical laboratory analyses	
10	Obtain the results from clinical biochemical lab. Analyses	
11	Order X-ray, ultrasound or CT investigations	
12	Obtain the results from X-ray, ultrasound, or CT investig.	
13	Order other supplementary investigations	
14	Obtain the results from other supplemental investigations	
15	Refer the patient to other departments or specialists	

16	Order treatment directly (e.g. medicines, operations etc.)	
17	Write prescriptions	
18	Complete sick-leave forms	
19	Collect patient data for various medical declarations	
20	Give written specific information to patients	
21	Give written general information to patients about the illness	
22	Collect patient information for discharge reports	
23	Check and sign typed dictations	
24	Register codes for diagnoses or performed procedures	

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