Current State Of EMR Adoption Model in India

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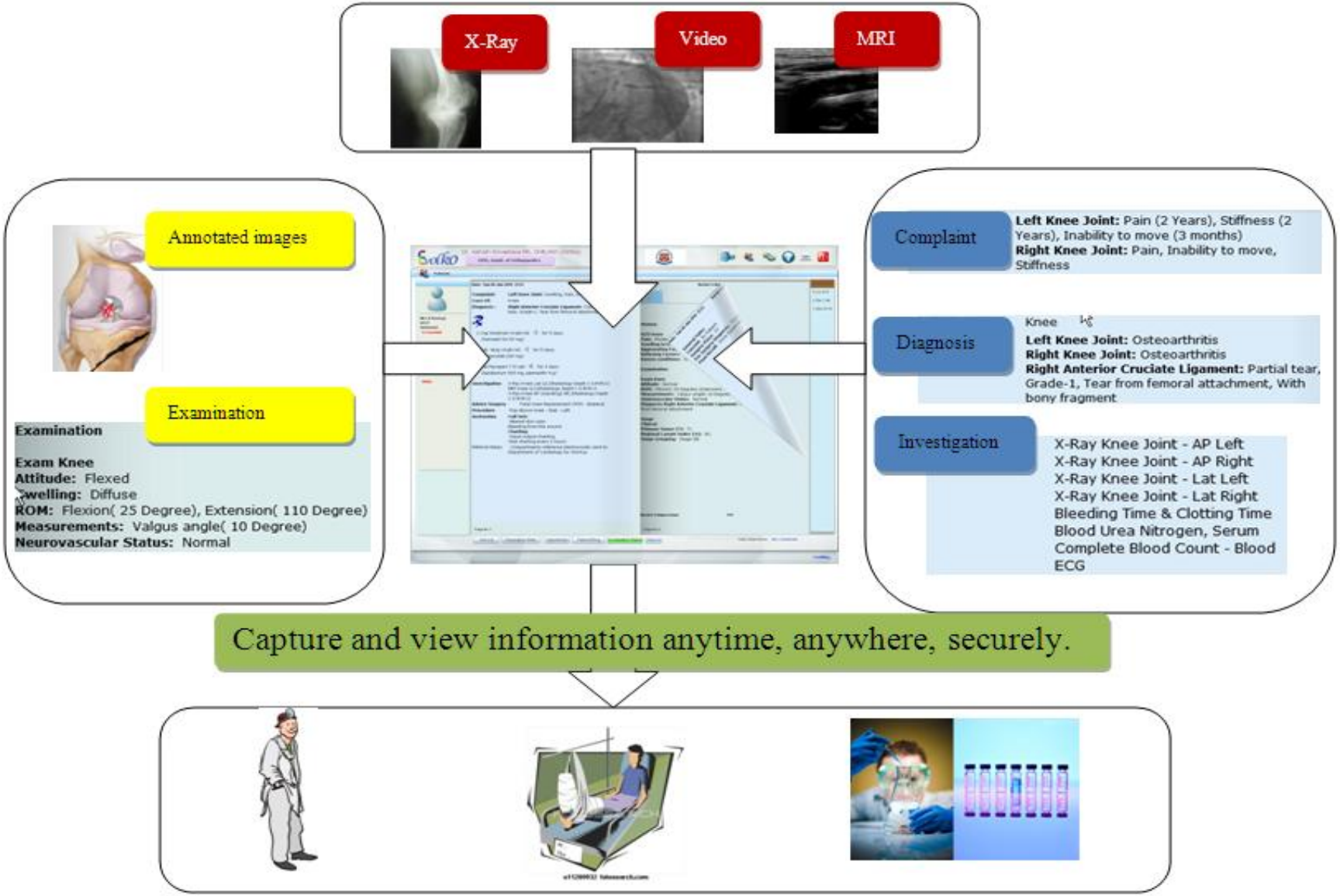
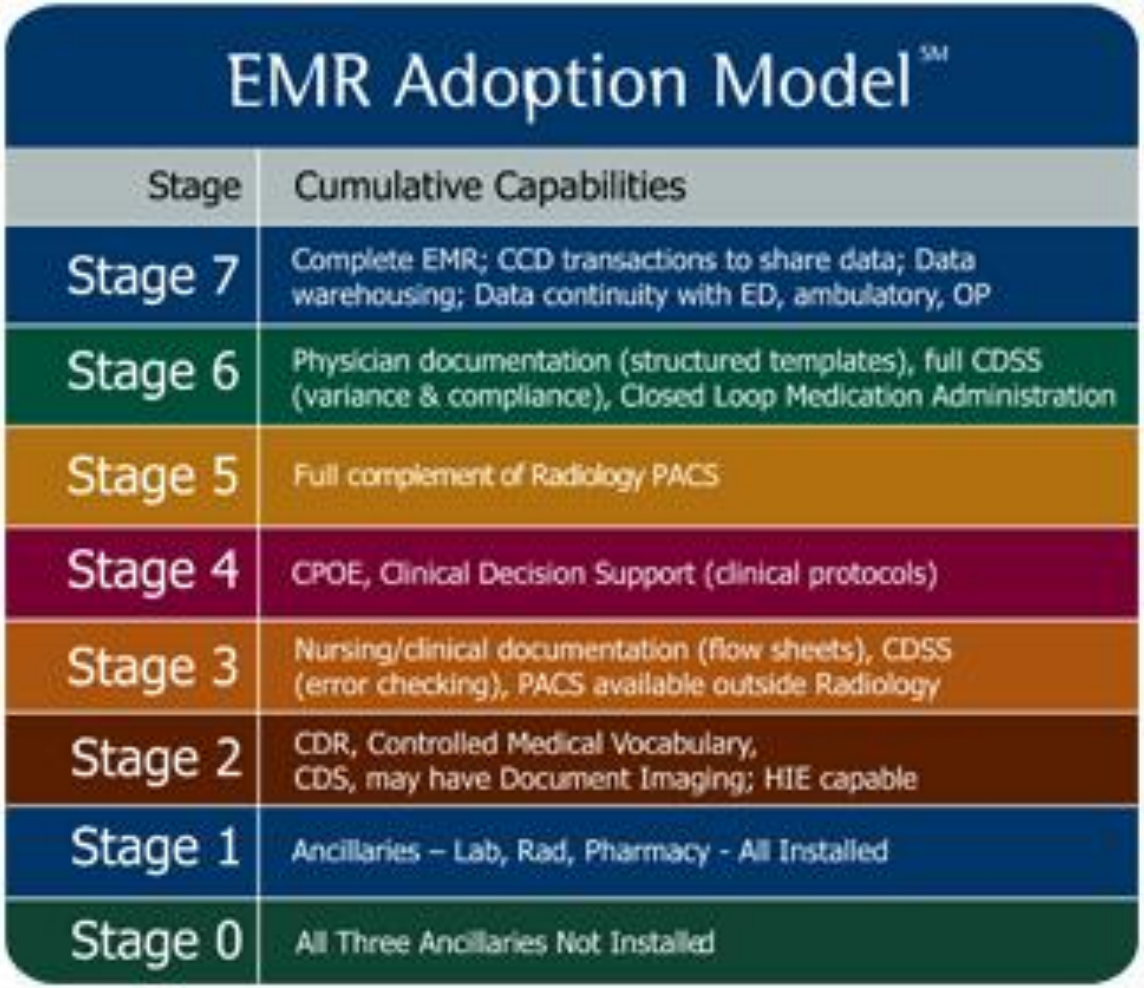
Introduction

- According to the Healthcare Information and Management Systems Society (HIMSS) “The EMR is a set of applications and workflow tools that digitizes the creation, collection, storage and management of patient information within the confines of a single organization. “
- Adoption is the process that “involves the multitude of activities, decisions, and evaluations that encompass the broad effort to successfully integrate an innovation into the functional structure of a formal organization” (Hall GE, Wallace R, Dossett W; 1973). An adoption model explains the complex process in a simple manner.

EMR


X-Ray
Video
MRI
Annotated images
Examination
Examination
Exam Knee
Attitude: Flexed
Swelling: Diffuse
ROM: Flexion(25 Degree), Extension(110 Degree)
Measurements: Valgus angle(10 Degree)
Neurovascular Status: Normal
Complaint
Left Knee Joint: Pain (2 Years), Stiffness (2 Years), Inability to move (3 months)
Right Knee Joint: Pain, Inability to move, Stiffness
Diagnosis
Knee
Left Knee Joint: Osteoarthritis
Right Knee Joint: Osteoarthritis
Right Anterior Cruciate Ligament: Partial tear, Grade-1, Tear from femoral attachment, With bony fragment
Investigation
X-Ray Knee Joint - AP Left
X-Ray Knee Joint - AP Right
X-Ray Knee Joint - Lat Left
X-Ray Knee Joint - Lat Right
Bleeding Time & Clotting Time
Blood Urea Nitrogen, Serum
Complete Blood Count - Blood
ECG
Capture and view information anytime, anywhere, securely.

HIMSS EMR Adoption Model



Objectives

- To identify the current scenario of EMR adoption and its stages in hospitals of Bangalore in India.
- To identify the barriers in EMR Implementation and Adoption by the hospitals.
- To identify the ways to overcome these barriers.

RATIONALE

- Paper based records are being used predominantly.
- Paper based records have limitations such as occupy space, have legibility and security issues associated with it and also high maintenance cost. They have to be converted to electronic configuration via scanning or emailing before they can be shared
- On the contrary, EMR has several advantages like easy data recovery, portability, improved intercommunication, quality of care, access to information, diminished medical errors, and more productive utilization of staff time.
- Despite the many benefits of EMR ,the adoption of EMR has been low.

Literature Review

Study in USA[1]:

The most common barriers to EMR adoption were:

- Inadequate Capital for Purchase (74%)
- Maintenance Costs (44%), Resistance on the part of physicians (36%),
- Unclear return on investment (32%)
- Lack of availability of trained staff (30%).

Study in India[2]:

A study was done among nurses in private medium* hospitals in Tamil Nadu. The major barriers seen were:

- Need for training (28.42%),
- Cost (17.89%),
- Lack of Leadership (11.58%),
- Lack of time (9.47%)
- Need more incentives (8.42%),
- Need for user friendly interface (6.32%)
- Communication (5.26%),
- Past Experience of User (3.16%),
- Ease of data exchange (3.16%)
- Security and Privacy(3.16%).

Soure:

1. *Jha Ashish,Desroches Catherine M. ,Campbell Eric G. et al- Use of Electronic Health Records in US hospitals. The New England Journal Of Medicine.(2009)*
2. Singh Brijendra,,Muthuswamy Prema-Factors affecting the adoption of Electronic Health Records by Nurses .World applied Science Journal(2013) DOI:http://www.idosi.org/wasj/wasj28(11)13/8.pdf

Methodology

The study was carried out in 15 health care facilities of Bangalore.

Study Design Technique

- Cross sectional descriptive study was performed

Tool for study

- A close ended Structured questionnaire was used

Sampling Technique

- Purposive sampling was done.

Sample

- The respondents for the questionnaire were doctors, nurses, administration staff.

Exclusion criteria:

- Those hospitals which refused to share information.

Limitations of the Study

- The design of the questionnaire was modified as per the hospital setups in Bangalore and hence limits the scope of this study to hospitals in Bangalore only.
- The report has been prepared with a limited knowledge and understanding of the subject, as the researcher is not an expert in the domain.

Results:
Stages of EMR in surveyed hospitals

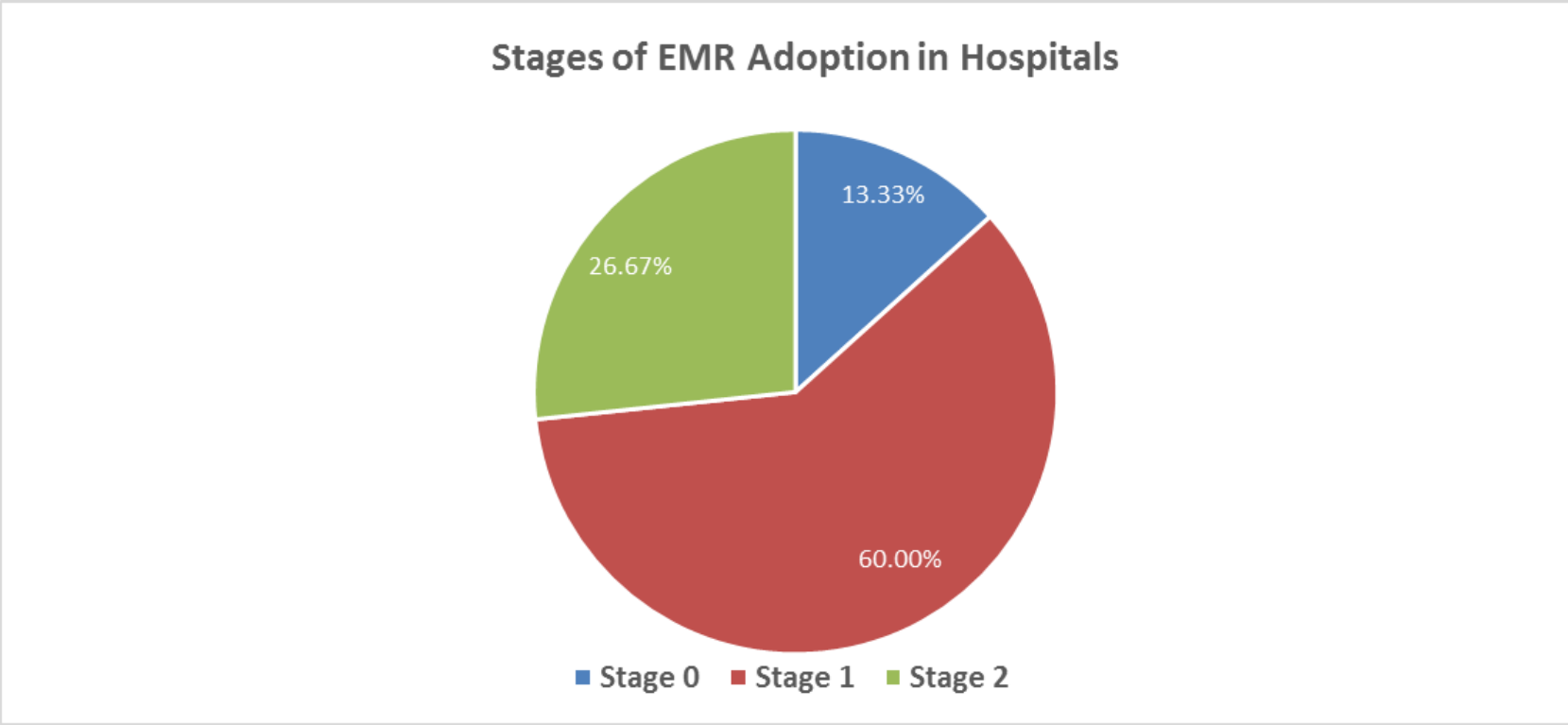


Figure no.1

Relationship of Bed strength with the Type of Information capture

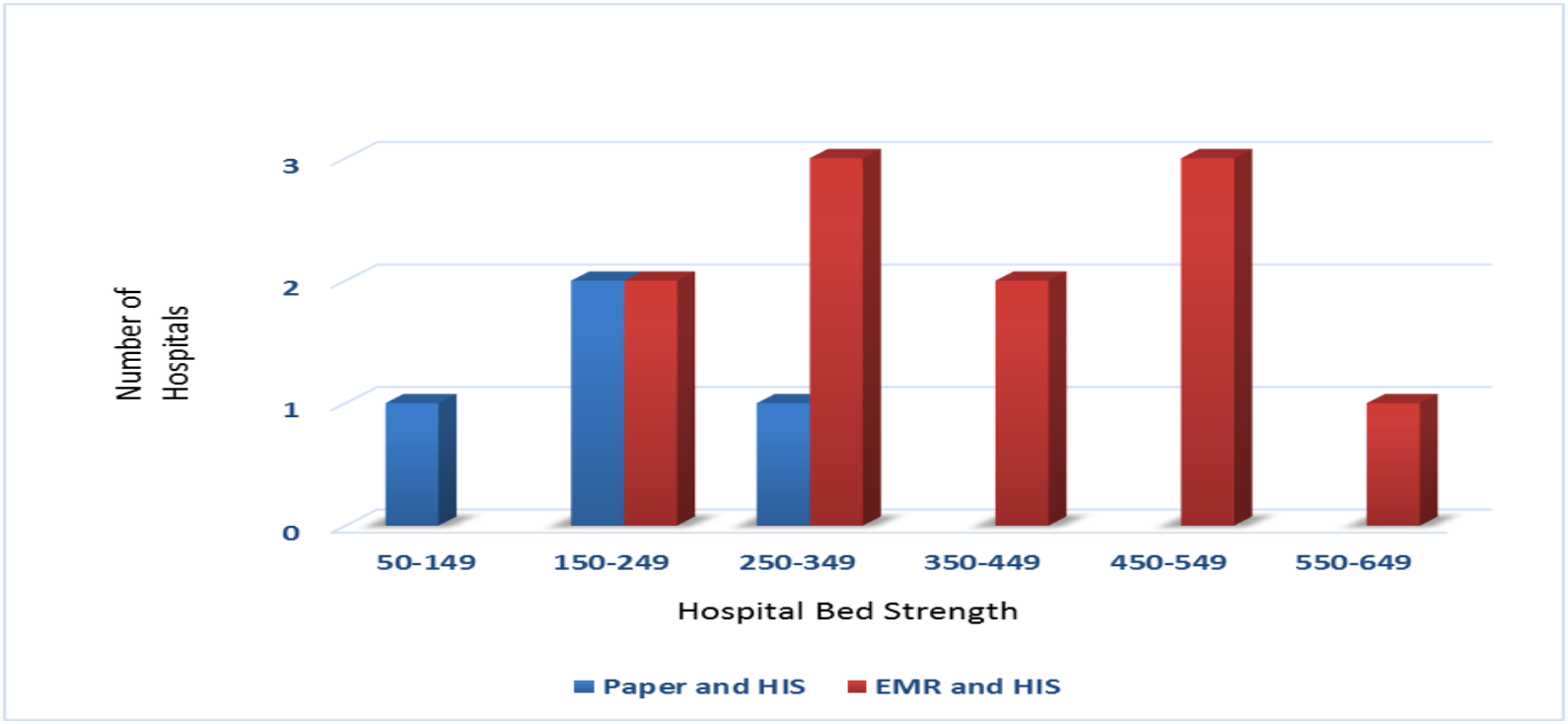


Figure no.2

Note: EMR and HIS denotes hospitals using EMR and HIS along with minimal use of paper

Relationship of Age group with the Type of Data used

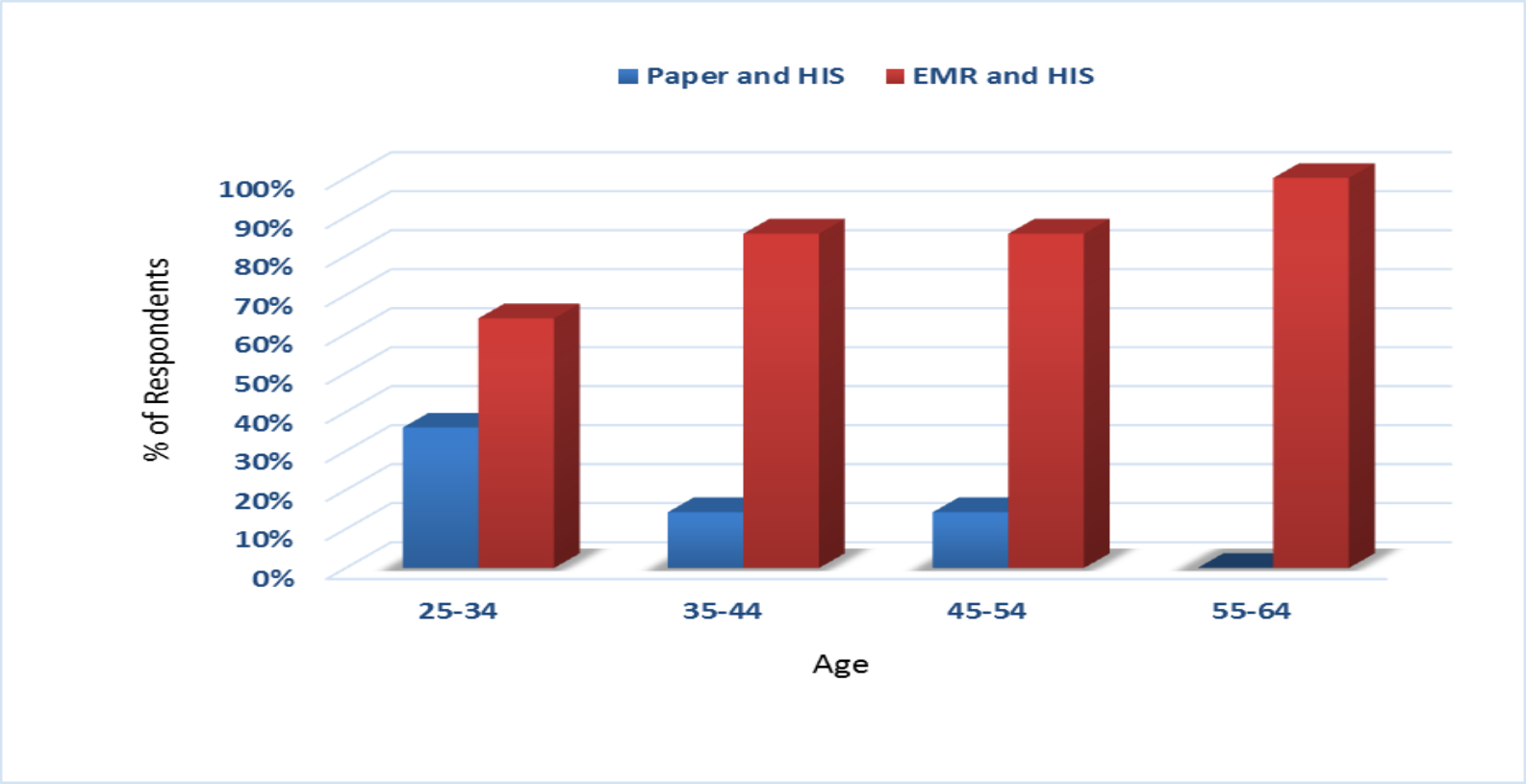


Figure no. 3

Note: EMR and HIS denotes hospitals using EMR and HIS along with minimal use of paper

Challenges in EMR Adoption

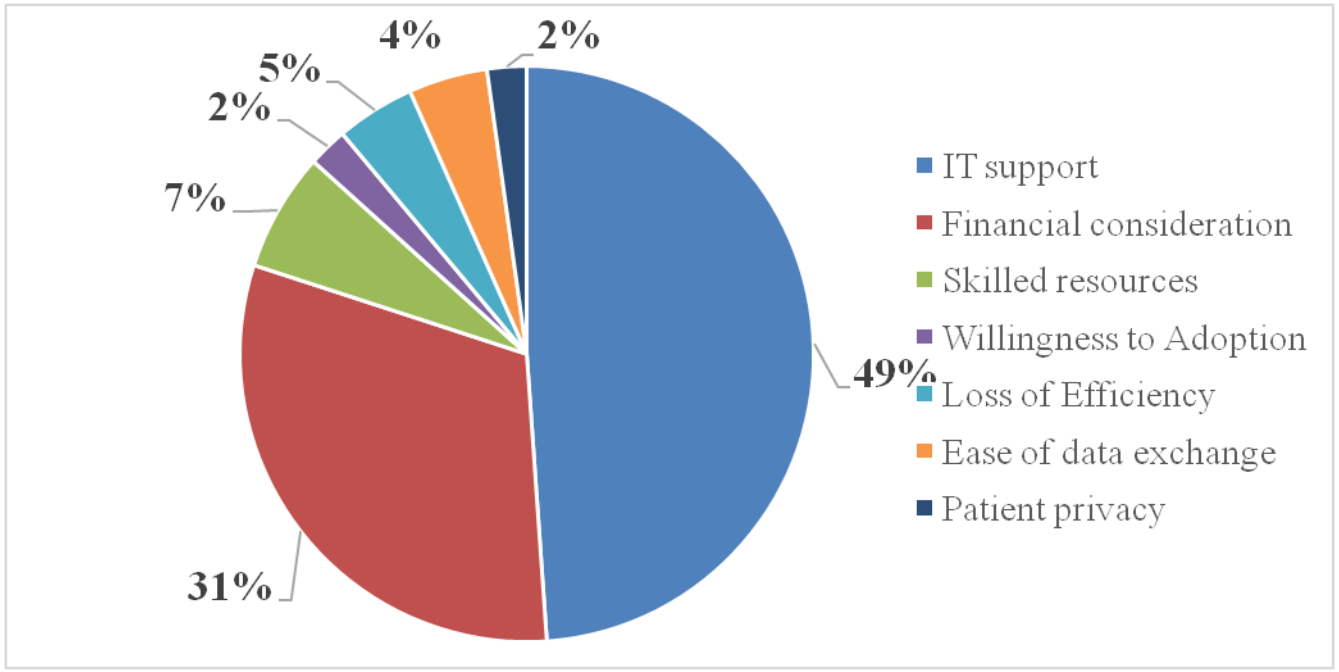


Figure no.4

Facilitators of EMR

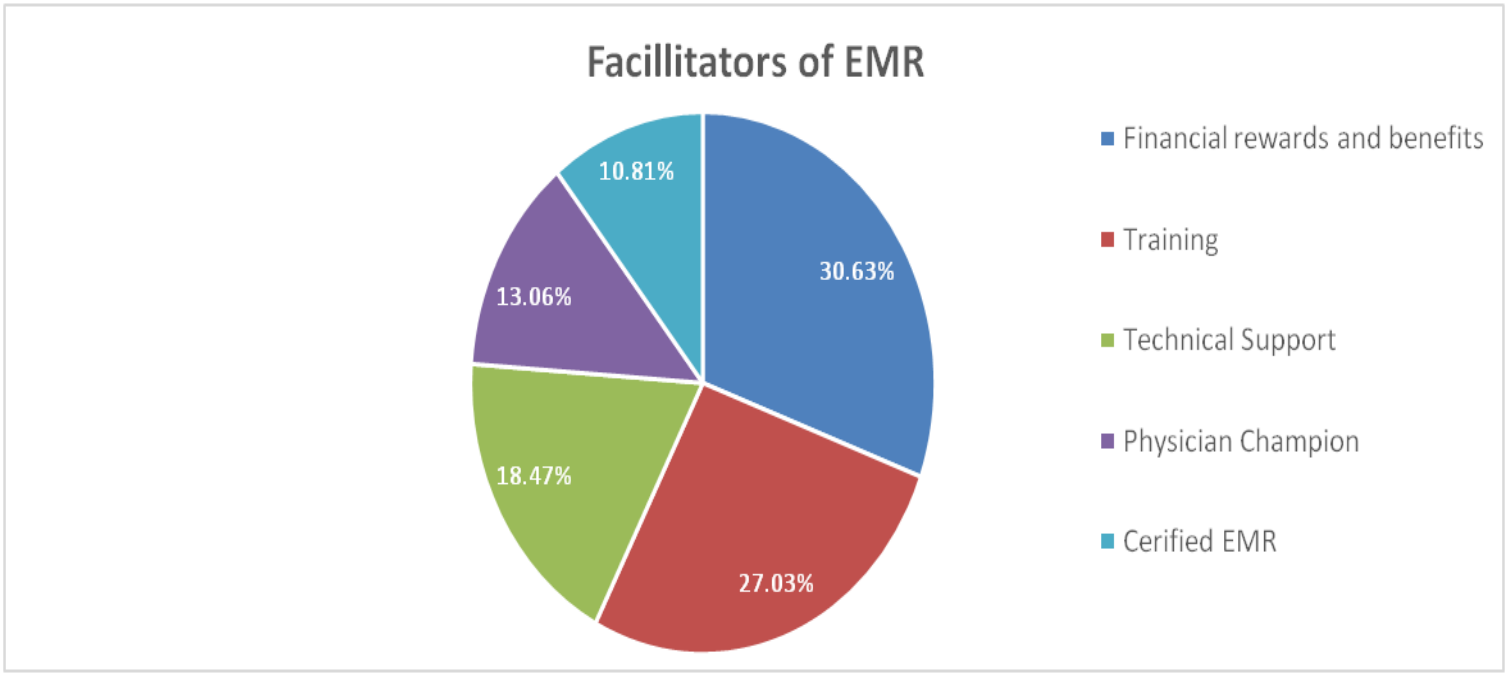


Figure no. 5

Conclusion

- The adoption of EMR in India is low.
- According to the survey, maximum hospitals are in Stage 1 with a few in transition towards Stage 2.
- The three major barriers according to this study are:
  - IT support (49%)
  - Financial consideration (31%)
  - Skilled resources (7%)
- The top three factors which came across that could improve EMR adoption were:
  - Financial rewards and benefits
  - Technical support
  - Training session for the EMR users

Suggestions

- Training sessions should be provided for EMR users
- Availability of technical support should be provided during business hours. Expert support, vendor support and IT support should be provided during EMR adoption and implementation
- Make a “User champion” amongst the teammates who would help other users to adopt to the change
- Clinician computer skill is another important factor that should be considered. They should be trained to overcome the gap in their computer using skill.


THANK YOU