



A study on the level of acceptance of an Electronic Patient record system in the Dialysis unit of EHCC, Jaipur

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UNDER THE GUIDANCE OF:

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STUDY BACKGROUND

- ❑ In the dialysis unit, technicians spend much time—recording information that could have been tracked effectively by machine.
- ❑ In EHCC hospital, the dialysis technicians maintain the records manually.
- ❑ The manual records with its disadvantages like storage, lack of backup and security, time consuming and error prone, no clear audit trails and version history, resulted into improper scheduling, decrease patient satisfaction due to long waiting hours and less effective administrative management of the dialysis unit based on timely, complete knowledge of relevant information and decisions for optimization of dialysis unit.

- ❑ Keeping in view the benefits of the computerized patient record system the hospital has recently introduced into haemodialysis unit an Excel patient record system.
- ❑ The introduction of an information system does not guarantee the better management of healthcare; they should be used willingly and effectively.
- ❑ Therefore, the present study examines the end-user's acceptance of the Electronic patient record (EPRS).

RESEARCH QUESTIONS

- ☐ What are the bottlenecks in the manual patient record system of the dialysis unit?
- ☐ Does proper training on usage of EPRS will increase the acceptability of it among the technicians and nurses of the dialysis unit?

OBJECTIVES

- ☐ To find out the problem areas in manual patient record system of the dialysis unit.
- ☐ To find out the effect of training on the level of acceptance of EPRS by the technicians and nurses of dialysis unit.

RESEARCH METHODOLOGY:

Study design- Non-Experimental, before and after study

Study type- Qualitative type

Study location- Dialysis unit of EHCC, Jaipur

Study population- Technicians and Nurses of dialysis unit

Sampling- 13

Sampling technique- 100% sampling

Tool- Questionnaire

Data collection- Primary data through survey

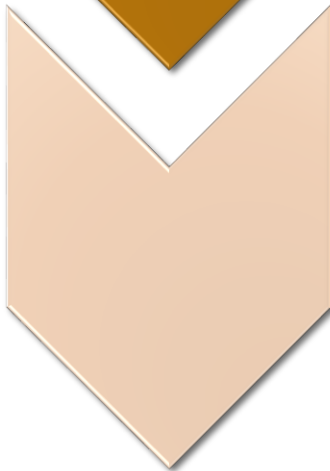
Inclusion criteria- Dialysis technicians, nurses, supervisor

Exclusion criteria- patients

FLOW OF STUDY



- The data to identify problem areas in manual patient record system was collected through direct observation and unstructured interviews with management team and doctors



- Electronic patient record system was prepared using MS EXCEL. A survey was conducted to find the perception of the staff towards EPRS before actual incorporation of EPRS.



- The incorporation of the system (Excel sheets) with proper training and simultaneous persuasion by putting forward the problem areas in manual patient record system which were identified earlier. (INTERVENTION)



- Post- Intervention, survey was conducted using same questionnaire to find the level of acceptance of EPRS by the staff of dialysis unit.



- Analysis of the collected data and then conclusion the study

Main Register

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F1 ProcName

S.No	Date	UHID	PatientName	IPD/OPD	ProcName	Dialyser details	Dialyser use	Blood access	Schedule time	In time	Out time	Performing Doc	Name of Technician	ProcQty	Rermarks
1	01-03-2020	59086	jaswinder singh	OPD	MAINTENANCE HAEMODIALYSIS (NEW DIALYSER) - 838	Pristine BD 240	New	AV fistula	shift 1	07:00:00	11:00:00	Dr. A.K. sharma	Vinit Arya 1509		
2	01-03-2020	33692	F. M. LODHA	OPD	MAINTENANCE HAEMODIALYSIS (NEW DIALYSER) - 838	Pristine BD 240	New	AV fistula	shift 1	7:10:00AM	11:10:00	Dr. A.K. sharma	Vinit Arya 1509		
3	01-03-2020	99757	JAIKISHAN TAMBHI	OPD	MAINTENANCE HAEMODIALYSIS (NEW DIALYSER) - 838	Pristine BD 240	New	AV fistula	shift 1	7:20:00AM	11:20:00AM	Dr. A.K. sharma	Vinit Arya 1509		
4	01-03-2020	60504	RAMKILADI BANADA	IPD	MAINTENANCE HAEMODIALYSIS (RE-USE)	Pristine BD 240	Reuse	AV fistula	shift 1	7:30:00AM	11:30:00AM	Dr. A.K. sharma	Vinit Arya 1509		

Fig. 1: Screenshot of Excel sheet of Main Register

Stock Register

File

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DATA COLLECTION

Data for acceptance of EPRS-

To measure the level of acceptance of EPRS a questionnaire with different items have been used to measure the 3 factors-

☐ **Perceived Usefulness (PU)-**

☐ **Perceived Ease of Use (PEOU)**

☐ **Attitude (AT)**

For collection of the data, the same survey questionnaire was conducted before and after the introduction of EPRS

Questionnaire

The motivation behind this survey is to measure the degree of your acknowledgment of EPRS (Excel sheets)- a new electronic patient record system introduced in Dialysis unit of EHCC. The information you provide will be confidential and will only be used for the research purpose. The questionnaire contains 15 items which you will have to rate with the help of the scales given below each statement/question. Before start rating this questionnaire, kindly provide your personal information.

1. Name-
2. Age-
3. Gender-
4. Employee ID-
5. Profession-

A. Perceived Usefulness

1. Using EPRS in my activity would empower me to accomplish tasks more rapidly.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

2. Using EPRS would improve my job performance

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

3. Using EPRS in my activity would expand my productivity

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

4. Using EPRS would improve my effectiveness at work

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

5. Using EPRS would make it simpler to carry out my responsibility

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

6. I would discover EPRS helpful in my activity

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

B. Perceived Ease-of-Use(PEOU)

7. Learning to work EPRS would be simple for me.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

8. I would think that it's simple to get EPRS to do what I need it to do.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

9. My interaction with EPRS would be clear and justifiable

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

10. It would be simple for me to get adept at utilizing EPRS

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

11. I would discover EPRS simple to utilize.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

C. Attitude

12. Using EPRS is a good idea

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

13. Using EPRS is a wise idea

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

14. I like the idea of using EPRS

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

15. Using EPRS would be pleasant

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

ANALYSIS AND INTERPRETATION

- ❑ The data to identify problem areas in manual patient record system was collected through direct observation and unstructured interviews with management team and doctors
- ❑ The data collected from the survey was analysed using Excel. The scores from PRE- Intervention i.e., before incorporation of Excel sheets for patient record maintenance (EPRS) and POST- Intervention i.e., after incorporation of Excel sheets for patient record maintenance (EPRS), were compared to interpret the acceptance of EPRS by end user's (Technicians/nurses).

Major problems identified in Manual Patient Record System

- Does not allow immediate organization and rearrangement of data.
- Difficult in reporting and outcome analysis.
- Wrong billing flow from the records due to wrong entry.
- Problem in storage- covers large area of storage.
- Improper scheduling due to overwriting and incorrect update of date which increases waiting time for patients.
- Double-entry of data or overwriting issues.
- Stock Inventory issues due to wrong entries.
- No Immediate access to the entire patient record in the dialysis unit, hospital, office, and home.
- No readily available standard and customizable reports for quality assurance.

PU is the extent to which an individual realizes that the application of a particular technology/system would help increase their overall professional performance.

Perceived Usefulness (PU)					
	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
PRE	13	1.66667	3.66667	2.70513	0.51439
POST	13	3.5	4.333333333	4.025641	0.318024529

PEOU determines the level to which an individual believes that incorporated technology/system would be maximally easy to use.

Perceived Ease of Use (EOU)					
	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
PRE	13	1	3.2	2.015385	0.580008842
POST	13	2.8	4.6	3.707692	0.459096102

The Attitude factor determines the positive impression of the staff towards incorporated technology/system.

Attitude (AT)					
	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
PRE	13	2	3.5	2.596154	0.525777812
POST	13	3.5	5	4.179487	0.478527537

FINDINGS

The computerized record keeping system was considered to result in better patient outcomes and welfare through proper scheduling, improved staff efficiency, regular stock maintenance, staff satisfaction, and effective management decisions based on performance issues in the dialysis unit.

PRE- INTERVENTION SURVEY RESULT:

The mean scores of all the 3 factors (PU, PEOU, AT) for PRE- intervention were lower than 3. It shows that earlier staff considered the EPRS to be not that useful for their professional career and claimed that it was not that easy to use.

POST- INTERVENTION SURVEY RESULT

The survey scores shows that staff members of dialysis unit after proper training and usage considered the EPRS to be useful for their professional career and claimed that it was easy to use.

CONCLUSION

- ❑ A system was designed to ease the burden on the technicians of manually maintaining the patient records as well as improve the access and analysis of the data for better decision making by both dialysis and administration department.
- ❑ The acceptance of the EPRS was benchmarked using a number of factors that can affect user acceptance of technology. Based on these findings, the study concludes that users of the EPRS system in dialysis unit of EHCC hospital have a good acceptance of this EPRS.
- ❑ Since proper training was provided to staff members, any future plans of introducing the EPRS in other units of hospital should provide the necessary training as the study concluded that training of the staff members is important for increasing acceptability of EPRS among its users.

RECOMMENDATIONS

- ☐ Regular audit on maintenance of EPRS should be done.
- ☐ Daily or weekly data sharing among all the stakeholders of renal unit should be done to keep a check on data quality.
- ☐ Before incorporation of fully fledged system, maintenance of manual record is also recommended.
- ☐ Regular training should be provided to keep the staff motivated to use EPRS for record maintenance.

Thank You!