Original Article

An Evaluation of Medical Record Keeping Status to Assess Health Care Facilities for Hospitalized Patients In A Tertiary Care Hospital

Gazi Ikhtiar Ahmed[1], Md. Maruf Hasan Zaman[2]. Md. Abdulla Hil Kafi[3], Nahidul Islam[4], Syed Atiqur Rahman[5].

Abstract

Background: A patient's medical record should provide accurate information on who the patient is and who provided health care; what, when, why and how services were provided; and the outcome of care and treatment.
Objectives: The study was conducted with the objective of revealing the condition of medical audit of the inpatient department in Rangpur medical college hospital in short duration of time. **Materials and Methods:** *A cross-sectional descriptive study was done in inpatient department in Rangpur Medical College & Hospital. This was carried out on 160 medical documents, interview with providers, record of hospital statistics & personal observation on physical facilities in indoor at the time of the study to find out in what extend medical record exist in patient service.* **Results:** *In inpatient department of Hospital, the generation and location of the form in all wards were inpatient, administrative office & type of the forms were mixed pattern. There was no electronic record system in the medicine department. They consisted of forms, sheet & register khata. Medical records were not filled of in most of the cases. A hundred and sixty records were checked where most of the components were not filled up completely (above 30% not filled up). The recording of hospital statistics were satisfactory and maintained regularly in the inpatient department.* **Conclusion:** *The standard of documentation by providers in inpatient medical records was found to be acceptable, with improvements required in a number of specific items.*

Key words: Medical record, Hospital statistics.

Introduction

Hospitals deal with the life and health of their patients. Good medical care relies on well-trained doctors and nurses and on high-quality facilities and equipment. Good medical care also relies on good record keeping. Without accurate, comprehensive up-to-date and accessible patient case notes, medical personnel may not offer the best treatment or may in fact misdiagnose a condition, which can have serious consequences. Associated records, such as X-rays, specimens, drug records and patient registers, must also be well cared for if the patient is to be protected. Good records care also ensures the hospital's administration runs smoothly: unneeded records are transferred or destroyed regularly, keeping storage areas clear and accessible; and key records can be found quickly, saving time and resources. Records also provide evidence of the hospital's accountability for its actions and they form a key source of data for medical research, statistical reports and health information systems.

According to the director-general medical service of Bangladesh armed forces a complete case record being one which includes the following contents. These are identification data, complaints, personal & family history, history of present & past illness, physical examination, special examination, medical & surgery treatment, gross & microscopical pathological finding (where applicable), progress note, final diagnosis, condition of patient discharge, follow up and in case of death, autopsy finding.[1] The medical record "must contain sufficient data to identify the patient, support the diagnosis or reason for attendance at the health care facility, justify the treatment and accurately document the results of that treatment".[2]

The main purpose of the medical record is record the facts about a patient's health with emphasis on events affecting the patient during the current admission or attendance at the health care facility, and for the continuing care of the patient when they require health care in the future. The medical record has four

01. Assistant Professor, Dept. of Dental Public Health, Dental Unit, Khwaja Yunus Ali Medical College. Enayetpur, Siraganj, Bangladesh.
02. Assistant Professor, Dept. of Paediatric Dentistry, Rangpur Dental College. Medical purbogate, Rangpur, Bangladesh.
03. Assistant Professor & Head of Dept, of Pedodontics & Dental Public Health, Dental Unit, Islami Bank Medical College, Rajshahi, Bangladesh.
04. Lecturer, Dept. of Science of Dental Materials, Dental Unit, Khwaja Yunus Ali Medical College, Enayetpur, Siraganj, Bangladesh.
05. Assistant Professor, Dental Unit, Sir Salimullah Medical College, Dhaka, Bangladesh.

Corresponding author: Dr. Gazi Ikhtiar Ahmed, Assistant Professor, Dept. of Dental Public Health, Dental Unit, KhwajaYunus Ali Medical College, Enayetpur, Siraganj, Bangladesh. E-mail : sazaldnt@gmail.com, Cell Phone : 01782-747109

major sections that are administrative, which includes demo-graphic and socioeconomic data such as the name of the patient (identification), sex, date of birth, place of birth, patient's permanent address, and medical record number, legal data including a signed consent for treatment by appointed doctors and authorization for the release of information, financial data relating to the payment of fees for medical services and hospital accommodation; and clinical data on the patient whether admitted to the hospital or treated as an outpatient or an emergency patient.

Materials and Method

The study was descriptive type of cross-sectional in nature. The study site was inpatient medicine department in Rangpur Medical College & Hospital and conducted during January 2013 to December 2013. The study population consisted of documents involved in inpatient medical care & medical record keeping system in inpatient department of Rangpur medical college hospital. It includes number, type, component of forms for documentation and the resource for record keeping process are taking in consideration. Sample size was determine by purposive sampling method. In this study purposively eight wards of four units (both male & female wards) in medicine department were taken. 160 medical records were collected from medicine department. Record review for inpatient care & documentation process consisting of different forms are taken as sampling for medical record keeping during the study period. This was done with checklist to observe the condition of the medical care & record keeping in hospital. Regarding the study the emphasis is given on checking medical records using the checklist to find out the completeness of medical record keeping. The study was done through collection of data using questionnaire and checklist neither any intervention nor any invasive procedures was undertaken. However, prior to initiation of the study ethical clearance was taken from appropriate Ethical Committee.

Discussion

In inpatient medicine department of Rangpur Medical college Hospital, the generation and location of the form in all wards were inpatient, administrative office & type of the forms were mixed pattern. There was no electronic record system in the medicine department. They consisted of forms, sheet & register khata. The working paper of the ICDDR,B had similar findings of using the register khata in hospitals. The documentation of the medical record should be maintained in the site of creation of the record for organizational activities.[3] Another study also described the processing of medical record department wise. None of the processing guideline followed in documentation of the medical record. The lifecycle of e record keeping from the creation to the disposition of the documents were described in the study of the Newcastle general hospital by AzizahAbdul Rani.[4]

None of the standard life cycle method were followed in any of wards in inpatient medicine department.[5] There are several standard of the forms which were eight standard forms, supplemental forms and so on.[1] In this study the forms were taken in view with the five standard forms. It consists admission form/ sheet, medical history sheet (physical examination), physician order, nurses notes (progress note) & discharge notes.

The result revealed that there was inconsistency in the medical record keeping. The similar study by the royal college of physician (RCP) audited 149 case notes in five hospitals in England, Wales in 2002 and examined the completeness, specific feature of individual entries and also the quality of discharge summaries.[6] There was wide spread inconsistency of content and structure of records compounded by different hospital practices that made comparison difficult.[7] These standard were developed by the health informatics unit for physicians that are applicable to any patients medical record. The standards for the structure and content of medical records were developed in collaboration with the other medical colleges. They were approved by the Academy of Medical Royal colleges on 17th April 2008.[4] The standard should be used for all hospital patient records problem with the structure and content of medical record keeping were reported by the audit commission (1995 & 1999). The characteristic of a good medical record is complete, adequate & accurate.[1] The standard guideline of the World Health Organization , South East Asia Regional Organization also gave some criteria of the medical record. But none of these characteristic or criteria of a good medical record keeping were found in four units of inpatient medicine department of Rangpur Medical College Hospital.

The procedures of record keeping was older than present days. There is no electronic record system in the inpatient ward or in the central record room. There was also lack of standard assembling, filing, coding, indexing, preservation & system of deficiency checking, not even any standard guideline or flow chart.

The recording of hospital statistics were quite satisfactory in inpatient medicine department. The statistician was reported directly to the higher authority. The statistics of each ward was send to the higher authority in every month.

Table- I: Status of the content in Admission sheet in inpatient ward. (n= 160)

Name of components,	Filled up		Notfilled up	
Name of the patient	160	(100%)	0	(0 %)
Age of the patient	160	(100%)	0	(0 %)
Sex of the patient	160	(100%)	0	(0 %)
Religion of the patient	0	(0 %)	160	(100%)
Fathers/ Husband name	160	(100%)	0	(0 %)
Nationality	0	(0 %)	160	(100%)
Marital status	0	(0 %)	160	(100%)
Occupation	0	(0 %)	160	(100%)
Registration no.	160	(100%)	0	(0 %)
Ward no.	160	(100%)	0	(0 %)
Bed no.	0	(0 %)	160	(100%)
Date & Time of admission	160	(100%)	0	(0 %)
Address of the patient	160	(100%)	0	(0 %)
Name & Sign. of attending physician	160	(100%)	0	(0 %)
Diagnosis of the patient	160	(100%)	0	(0 %)
Date & Time of hospital leavi	160	(100%)	0	(0 %)

The table shows 160 forms were checked , among them 11 components were filled up all the admission form in contrast to 5 components were not filled up where four component marked as identification & social documentation record.

Table- II: Status of the content in Medical history form / sheet in medicine ward. (n=160)

Name of components	Filled up	Not filled up
Chief complains	160 (100%)	0 (0%)
History of present illness	129 (80.6%)	31 (19.4%)
History of past illness	15 (9.4%)	145 (90.6%)
History drugs	59 (36.9%)	101 (63.1%)

The table shows 160 records were checked , among them chief complains was filled up all the sheet in contrast to other three components were partially filled up.

Table- III: Status of the content in Physician order sheet in medicine ward : (n=160)

Name of components	Filled up	Not filled up
Treatment & medication order	160 (100%)	0 (0%)
Diet order	109 (68.1%)	51 (31.9%)
Follow up note	154 (96.2%)	06 (3.8%)
Sign. of physician with name	160 (100%)	0 (0%)

The table shows 160 records were checked, among them two components were filled up all the admission form in contrast to two components were partially filled up

Table- IV: Status of the content in Nurses note in the record sheet (n=160)

| Name of components	Filled up	Not filled up
Medication given	159 (99.4%)	01 (0.6%)
Date & time of medication	160 (100%)	0 (0%)
Nurses observation upon the condition of the patient	146 (91.2%)	14 (8.8%)
Condition of the patient at the time of admission	94 (58.8%)	66 (41.2%)
Chronological changes of the condition	32 (20%)	128 (80%)

The table shows 160 records were checked , among them two components were filled up all the admission form in contrast to three components were partially filled up where three components marked as condition of the patient during treatment.

Table- V: Status of the content in Discharge notes in record sheet (n= 160)

Name of components	Filled up	Not filled up
Name of attending doctor	160 (100%)	0 (0%)
Date & time of discharge	160 (100%)	0 (0%)
Patient name & address	160 (100%)	0 (0%)
Final diagnosis	153 (95.6%)	07 (4.4%)
Laboratory reports	88 (55.0 %)	72 (45.0%)
Condition of the patient at the time of discharge	160 (100%)	0 (0%)
Advice for future care	141 (88.1%)	19 (11.9 %)
Sign. of attending physician	160 (100%)	0 (0%)

The table shows 160 records were checked , among them five components were filled up all the admission form in contrast to three components were partially filled up where three components marked as medical condition & advice for future of the patient during discharge.

Table VI: Admission, discharge, referral & death records from May to October 2013.

Unit	Month	Admission	Discharge	Referred	Death
1	May to October	17027	2809	63	11
2	May to October	18231	3522	85	12
3	May to October	16948	2665	62	10
4	May to October	7480	1488	35	9
	Total	**59686**	**10484**	**245**	**42**
	Average	**9947**	**1747**	**41**	**7**

The inpatient admission data was collected from the hospital records from May 2013 to October 2013 in 4 units (both male & female ward) of inpatient medicine ward at Rangpur medical college hospital. Total 59686 patients were admitted during the period with average of 9947 patients per month. Among them unit 2 had more patients admission than other three.

**Fig- 01:** Average daily census in inpatient May'13 to October'13.
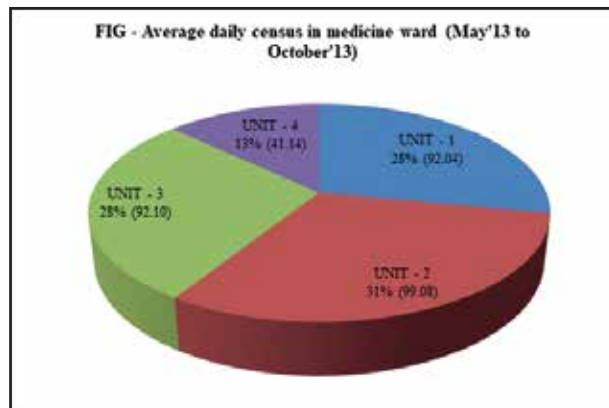
The figure shows average daily census was highest in unit 2 (31%)and lowest in unit 4 (13%).

**Fig- 02:** Average length of stay in medicine ward from May'13 to October'13.
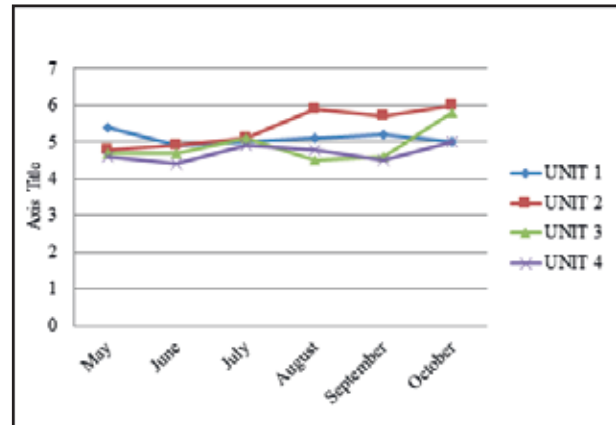
The figure shows average length of stay was highest in unit 2 but it remains same in all units in month of July. After then gradually up & down in different units from August to October.

Fig- 03: Bed occupancy rate in inpatient from May'13 to October'13.
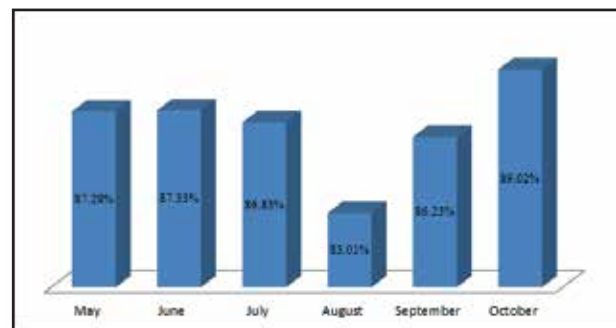
The figure shows that bed occupancy rate was highest in month of October and lowest in the month of August.

Fig- 04: Bed turnover rate in medicine ward from May'13 to October'13.
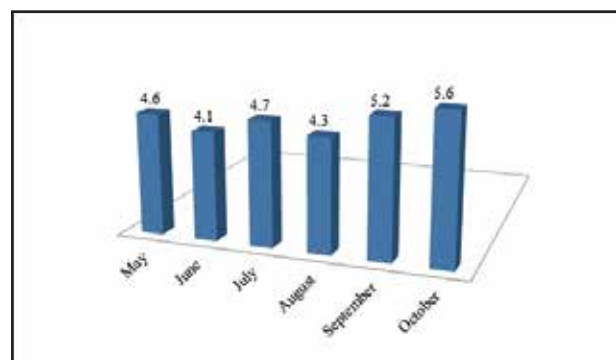
The figure shows that bed turnover rate was decreased from month of May then gradually increased from month of August.

Results

These forms are rated with completeness and incompleteness. A hundred and sixty admission sheets were checked , among them 11 components were filled up all the admission form in contrast to 5 components were not filled up where four component marked as identification & social documentation record. The completeness of the component of medical record were 68%. The difference of findings is not so remarkable.

One hundred and sixty medical history records were checked , among them chief complains was filled up all the sheet (100%) in contrast to other three components were partially filled up [History of present illness(80%),History of past illness(9.4%),History drugs(36.9%)] [Table II].

160 physician order records were checked , among them two components were filled up all the admission form in contrast to two components were partially filled up where the component of diet order was lowest (68%) [Table III].

In nurses note , medication , date & time of medication (99.4%) components were filled up all the admission form in contrast to three components were partially filled up where three components marked as condition of the patient during treatment [Table IIII].

 In this study, the discharge records were checked , among them five components were filled up all the admission form in contrast to three components were partially filled up where three components marked as medical condition(55%) & advice for future(88%) of the patient during discharge [Table V].

The inpatient admission data was collected from the hospital records from May 2013 to October 2013 in 4 units (both male & female ward) of inpatient medicine ward at Rangpur medical college hospital. Total 59686 patients were admitted during the period with average 9947 patients per month. [Table VI]

Average daily census (ADS) was highest in unit 2 [100 bedded unit] (ADS = 99) and lowest in unit 4 (ADS = 41). It indicates that unit 2 has more pressure on hospital beds on a day to day basis [Figure-01].

Average length of stay (ALOS) was highest in unit 2 (5.5) but it remains same in all units in month of July.[Figure-02] After then gradually up & down in different units from August to October. The average length of stay in inpatient medicine ward was 5.02 which was similar to medical college hospitals (ALOS=5).[5]

Bed occupancy rate was highest in month of October (almost 90%) and lowest in the month of August (83%)[Figure-03]. High bed occupancy indicates low quality of care in the department & Low bed occupancy indicates under utilization of facilities. Bed turnover rate was decreased from month of May (less than 4.5) then gradually increased from month of August

(more than 5). On average, each hospital bed had 5 occupants during May'13 to October'13.[Figure-04] The statistical findings have similarities with data which were published in Bangladesh health bulletin 2012.

Conclusion

Planning and fixing all regular activities into a program and listed in ward policy book. Establishing of ward routine and policies which enable easy and efficient work.Encouraging everybody to plan next day's work before leaving ward.Finally, training of personnel and use of modernized or electronic record systems should be implanted under the supervision & monitoring of the higher authority for good record keeping.

Acknowledgement

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