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A Study to Assess the Accuracy of Medical Record Documentation of Priority I Patients in Emergency Department at a Tertiary Care Apex Hospital

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Introduction- The Emergency Department is the first point of contact for all critical cases. It plays a pivotal role in the outcome of the care provided and is one of the vital links in the chain of healthcare in present day hospitals. Further, emergency medicine is the only specialty in the "House of Medicine" that has a federal/legal mandate to provide care to any patient requesting treatment.(1)Therefore, time is always considered as the most valuable resource by the emergency physicians in providing emergency aid.

Road traffic accidents (RTAs), acute myocardial infarctions (AMIs) and cerebrovascular accidents (CVAs) are the most commonly cited causes of morbidity and mortality in India(2). The quantum of patient load reporting to the emergency departments across India is way beyond their capacity, resulting in a crowded and highly tense environment where time is of prime value. A medical record is as a systematic documentation of a patient's personal and social data, history of his or her ailment, clinical findings, investigations, diagnosis, treatment given, and an account of follow-up and outcome3. Clinical audit is to review clinical care against agreed medical profession standard in order to identify the shortcomings and opportunities for improvement.

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A Study to Assess the Accuracy of Medical Record Documentation of Priority I Patients in Emergency Department at a Tertiary Care Apex Hospital

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I. Introduction

The Emergency Department is the first point of contact for all critical cases. It plays a pivotal role in the outcome of the care provided and is one of the vital links in the chain of healthcare in present day hospitals. Further, emergency medicine is the only specialty in the "House of Medicine" that has a federal/legal mandate to provide care to any patient requesting treatment.(1)Therefore, time is always considered as the most valuable resource by the emergency physicians in providing emergency aid.

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II. Objectives

The study was conducted with an objective to assess the compliance of healthcare personnel assigned to Priority I patient care area in Emergency department of a tertiary care institute with regard to documentation, to identify the deficiencies, if any, in documentation, and to recommend intervention for the identified deficiencies.

III. Methodology

The study was a cross sectional medical record based study which was conducted in Medical Emergency of Tertiary care Hospital in North India over a period of 4 months (October, 2017 to March, 2018). The study population were patients received in area earmarked for Priority I cases between 1st June 2017 to 30th September 2017 at the medical emergency. Medical record of patients admitted in Paediatric casualty, trauma centre, eye casualty, surgical casualty and patients referred to other hospitals were excluded from the study. The patients admitted in Medical emergency during the study period were selected through UHID (Unique Health Identification Number) based simple random sampling. Keeping in view, the primary objective of the study and the lack of similar studies in an Emergency Department setting in Indian context minimum required, sample size was calculated based on the total number of patients admitted as Priority I in Medical Emergency for a period of one year from 1st September 2016 to 30th September 2017. The total number was approximately 700. Hence a representative sample of 10% of the total of 700 was calculated i.e.70 for the purpose of data collection. An audit tool was developed to assess the accuracy of medical record documentation of Priority I patients admitted in medical emergency from June 2017 to September 2017 (Annexure 1). The deficiencies were identified using appropriate statistical tools. The case records were

further classified into three categories based on the percentage of compliance to criteria mentioned in the tool formulated: A (> 80%), B (60-80%), C (<60%).Interventions were given as recommended for the deficiencies identified. Percentage of compliance of different components of medical record was assessed using Microsoft Excel version 2010.

IV. Observation and Results

a) Category wise distribution of case sheets

A total of 74 case records of the patients admitted as Priority I at the Medical Emergency between 1st June 2017 to 30th September 2017 were subjected to audit. Following were the observations.

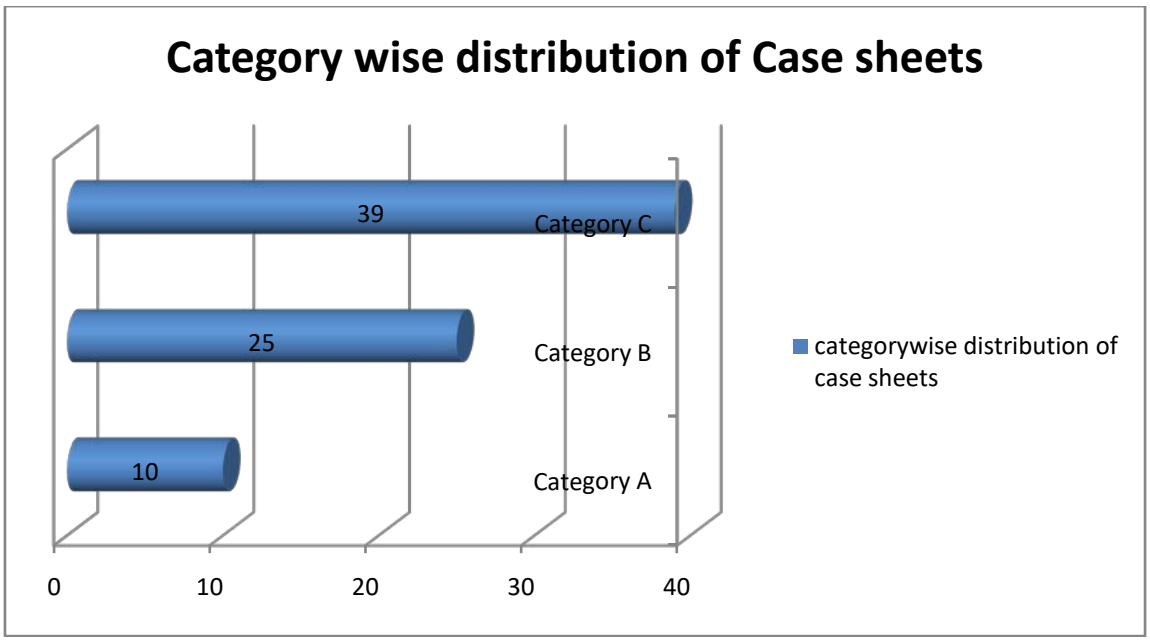

Figure 1: Out of 74 case records assessed, 10 case records (13.51%) of the records fell into Category A, 25 case records (33.78%) into B and 39 case records (52.70%) into C (Figure 1)

b) Component wise compliance of case sheets

Table 1

Sr. No.	Components	% of Compliance	Category
1.	Primary Assessment Area	59.77	C
2.	Emergency Room	62.10	B
3.	Referral	62.12	B
4.	Prescription details	92.05	A
5.	Blood Transfusion notes	48.70	C
6.	Nurses Records	60.88	B
7.	Discharge/Transfer records	38.40	C
8.	Death records	91.81	A

On further analysis of component wise compliance, maximum compliance was found in Death records and prescription, thereby earning Category A. In Postion B, a complinace of 62.10%, 62.12%, 60.88% were found in Emergency room, Referral Notes, Nurses Records. The least compliance of 38.40% was found in discharge/transfer records of the Patient. (Table 1)

c) *Percentage of Compliance of different components in Primary Assessment*

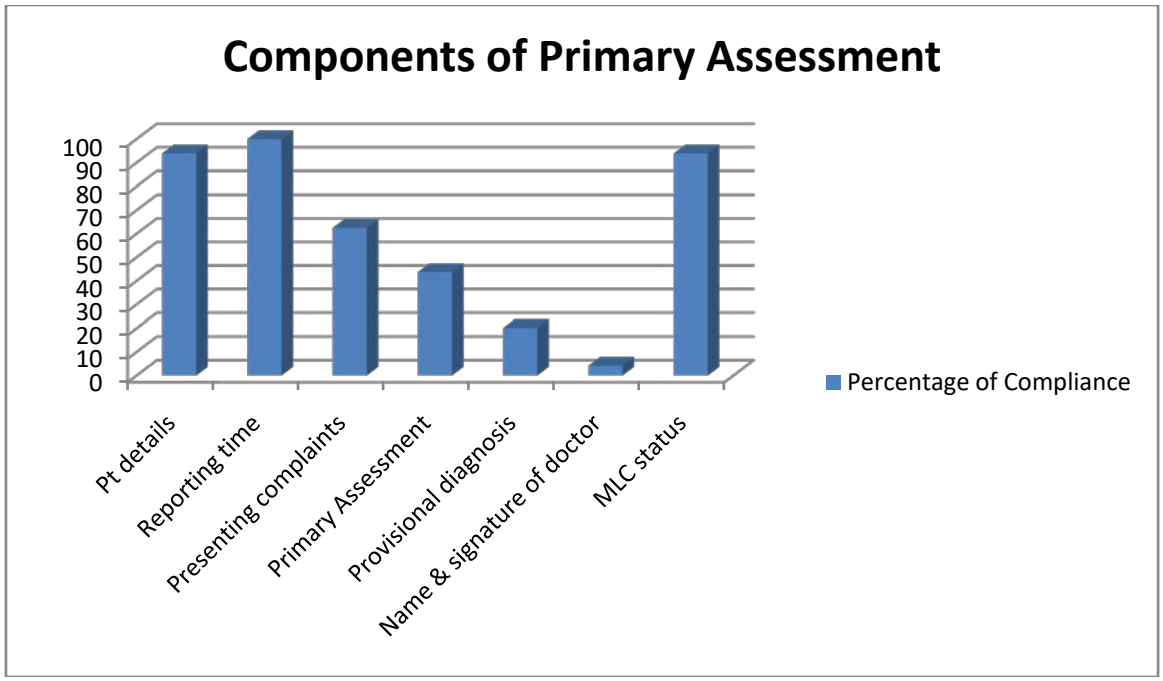

Figure 2: Percentage of Compliance of different components in Primary Assessment

Analysis of individual components/divisions of the audit tool was carried out. On analysis of Primary Assessment component, compliance with respect to medicolegal case records, patient details, triage record and reporting time were found to be above 80%. A compliance of 62.5% was found in recording of presenting complaints due to which it was categorised as B. The remaining parameters fell into Category C with component name & signature of the doctor having the least compliance of nearly 4.17%. (Figure 2)

Table 2: Percentage of Compliance of different components in Emergency Room

Sr. No.	Components of Emergency Room	Percentage of compliance	Category
1.	Time of first assessment	54.05	C
2.	Consent Form	80.40	A
3.	Presenting Complaints	91.89	A
4.	Past History	81.08	A
5.	H/o Allergy	13.51	C
6.	General Examination	81.75	B
7.	Systemic examination	74.32	B
8.	Provisional Diagnosis	52.70	C
9.	Plan of care	75	A
10.	Name &signature	51.35	C
11.	Pt details on all pages	27.08	C

Further, assessment of different parameters in the Emergency Room Component, it was found that an overall compliance of most of the parameters was above 80%. In contrast, to the Primary assessment, compliance with respect to recording of presenting complaints here was 91.89%. Least compliance in this component was observed in recording the history of allergy (13.5%) preceded by availability of patient details in all pages of the medical record (27.08%) *(Table 2)*. Plan of care was found to be well documented (85.61%) in the referral notes. Name and signature of the doctor referring and attending were found to be least compliant (47.26%) in the referral notes. Overall compliance of this component was 62.92%.

d) *Percentage of Compliance of different components in Referral*

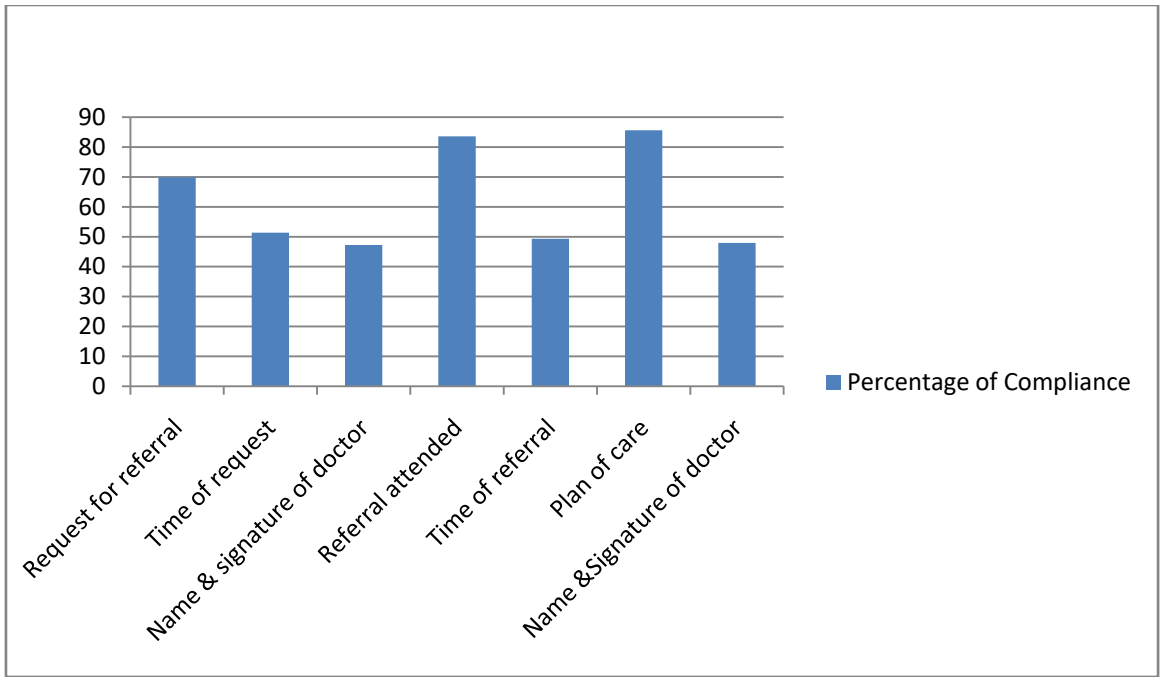

Figure 3: Percentage of Compliance of different components in Referral Notes

All the essential components in medication prescription like dose, route, strength, frequency, legibility of prescription was found to have a compliance of over 90% giving an overall compliance of 92.5% in this component. (Figure 3)

e) *Percentage of Compliance of different components in Prescription details (Overall compliance-94.11%)*

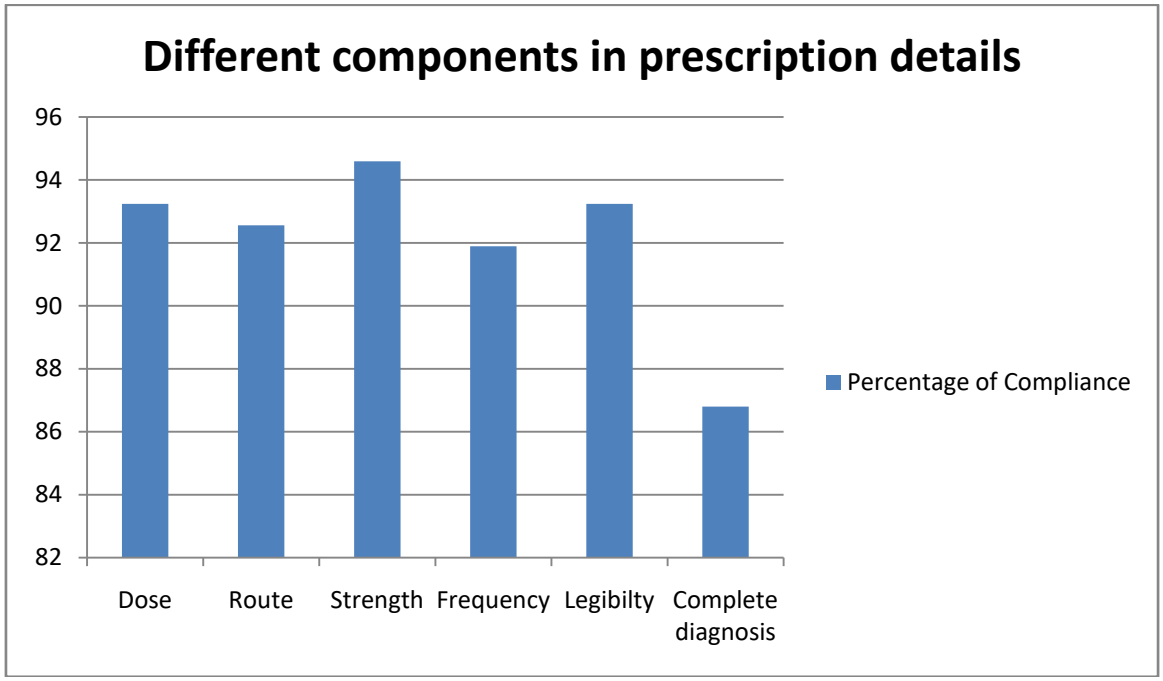

Figure 4: Percentage of Compliance of different components in Prescription details

Out of total components of Prescription details, all the components were in category A (>80%) with an overall compliance of 92.05%.

f) Percentage of Compliance of different components in Blood Transfusion Notes (Overall compliance-44.79%)

Table 3: Percentage of Compliance of different components in Blood Transfusion Notes

Sr. No.	Components of Blood Transfusion Notes	Percentage of compliance	Category
1.	Time of Order	29.16	C
2.	Name & signature	41.66	C
3.	Transfusion chart	91.67	A
4.	Transfusion start time	83.33	A
5.	Transfusion finish time	25	C
6.	Entry of blood unit details on case sheet	20.83	C

Despite being a mandate compliance of blood transfusion notes was found to be 44.79% with parameters like time of order for blood, transfusion finish time and entry of blood units details on case sheet was found to be below 30%.

g) Percentage of Compliance of different components in Nurses Records (Overall compliance-65.55%)

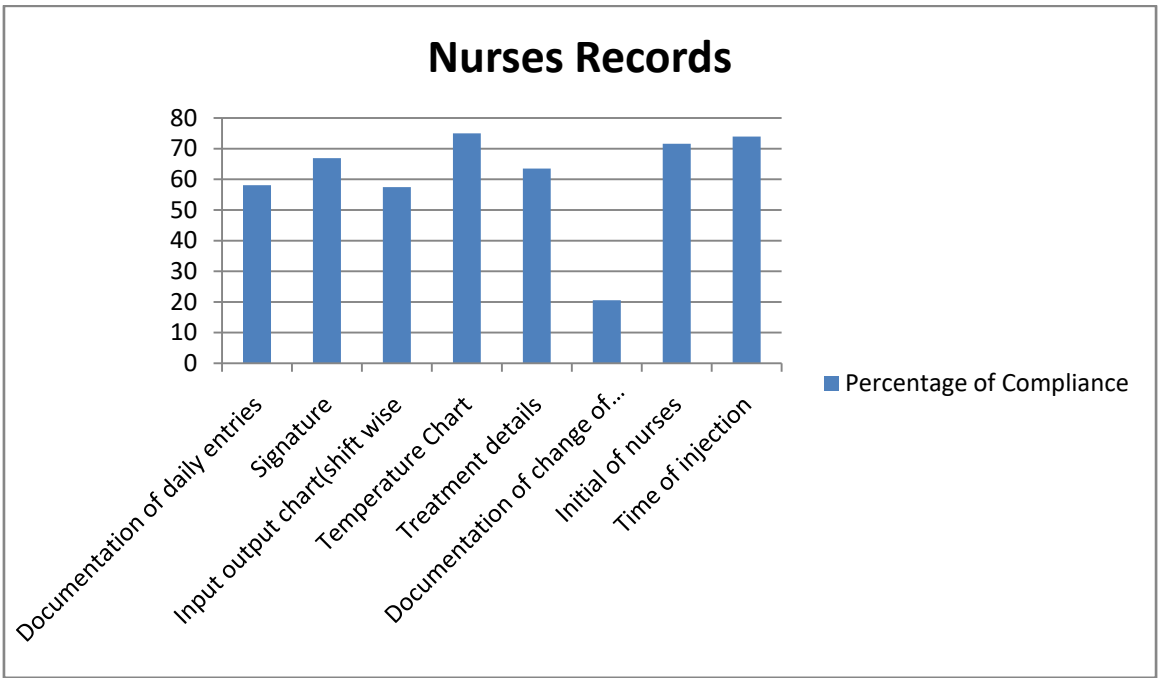

Figure 5: Percentage of Compliance of different components in Nurses Records

Nurses records are an important indicator to the type of nursing care provided to the patient. The same is all the more important admitted as Priority 1 .The nurses record were checked on 8 parameters, of which none of the results belong to category A. Only documentation of change of medication with a compliance of 20.54 fell into category C. The remaining 6 parameters were found to be compliance of 58.10 % to 75 % which belong to category B.

h) Percentage of Compliance of different components in Discharge/Transfer Notes (Overall Complaince-41.26)(Table 4)

Table 5: Percentage of Compliance of different components in Discharge /Transfer Notes

Sr. No.	Components of Discharge/Transfer Notes	Percentage of compliance	Category
1.	Details of patient	37.30	C
2.	D.O.A	48.09	C
3.	D.O.Discharge/transfer	35.71	C
4.	Documentation of Diagnosis	39.68	C
5.	Condition at the time	37.30	C
6.	Investigation details	30.95	C
7.	Treatment details	34.92	C
8.	Follow up advice	66.66	C
9.	Emergency contact(for discharged pt)	25	C

Discharge /Transfer Notes had the least overall compliance of 41.26% with all its 9 parameters belonging to category C. The least compliant was emergency contact (25%).

i) Percentage of Compliance of different components in Death Notes (Overall compliance-92.5%)

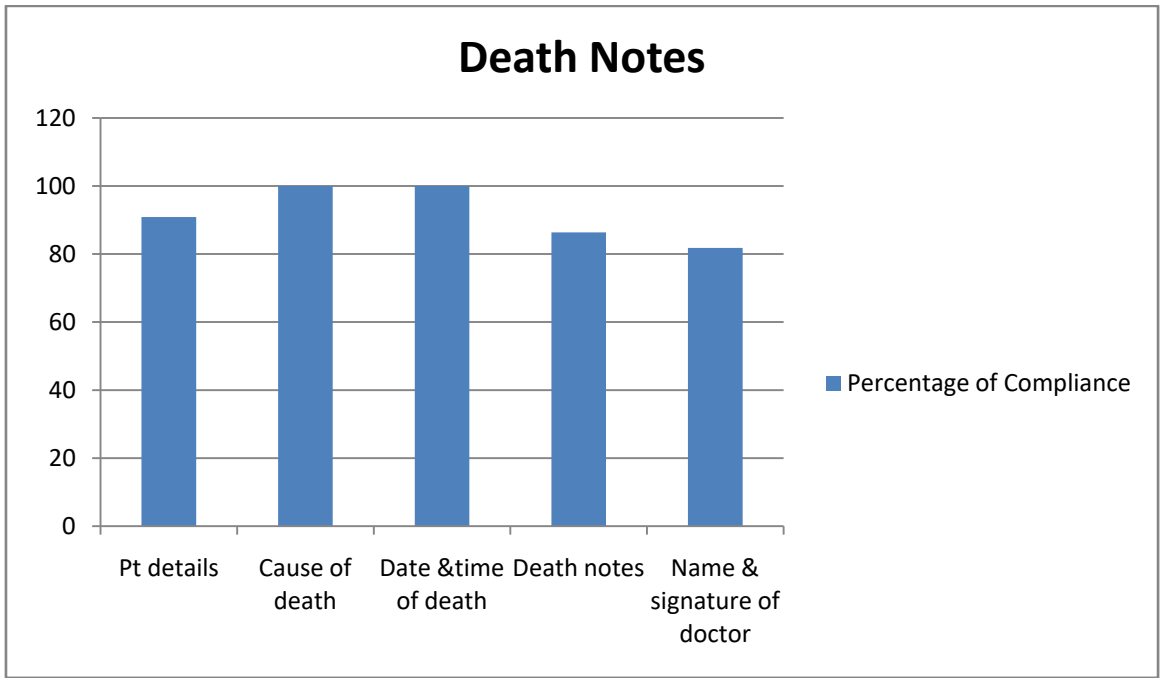

Figure 6: Percentage of Compliance of different components in Death Notes

All the components of Death Notes assessed were found to be 80% compliant and hence component belonged to category A with an overall compliance of 92.5%

V. Discussion

Medical records are an integral part of clinical care provided in a hospital. They provide essential information regarding the type of care, outcome of care provided and forms basis of evidence for future improvement. They cover a wide range of material including handwritten notes, computerised records, correspondence between health professionals, laboratory reports, imaging reports, videos and printouts from monitoring equipment [6,7]

This study is a record based retrospective study in which medical records of patients admitted in Priority 1 area of Medical emergency were assessed for their completeness using an audit tool. This study was similar to the study conducted at Charlotte Maxeke Johannesburg Academic Hospital [8] which was a cross-sectional review of patient files to examine the completeness of emergency department (ED) records taken by doctors, both before and after the introduction of a new record form.[8] The above mentioned study was an interventional study in comparison to which is descriptive in nature.

In present study it was noted that patient details were almost complete (93%) in record of primary assessment, while the completeness only 27.08%. in the patient progress notes. The inference of the above findings could be due to the fact that the pt details are captured in a computerised format in primary aseessment, while patient details were manually entered in the progress notes. This finding has also been corroborated by a study conducted by McInnes DK et al on general practitioner' use of computers for prescribing and electronic health records [9].

The average score of record of history and examination in our study was 65.87% which was better than similar study conducted at Department of Medicine, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar (49%) and study carried out at Charlotte Maxeke Johannesburg Academic Hospital [8] (10%).This could be due to the fact that the study population in our study was limited to Priority 1 cases in comparison to the study population of the quoted studies which were patients admitted in Deptt of Medicine and patients admitted in the entire ED respectively.

With regard to documentation of diagnosis, compliance was 20.13% in primary assessment and 52.17 %.in Emergency Room. This differed from study conducted at Department of Medicine, Postgraduate Medical Institute, Lady Reading Hospital [10] (24%).

The documentation of plan of care was found to have a compliance of 75% complete which is similar to study conducted at Department of Medicine,

Postgraduate Medical Institute, Lady Reading Hospital (78%).[10]

The nurses' record documentation indicated a compliance of 60.88% in Documenting Input/output chart, 75% in Temperature chart documentation and 20.54% in documentation of change of medication on Nurses record. This issue was also raised by Mann and Williams (2003) who in their work found that a lack of standardization acted as a significant barrier to effective documentation and record-keeping within nursing. Findings from the focus groups suggest that if documentation was simplified to follow a standard format, nurses would be more likely to complete it. O'Conner et al (2007) also found this to be the case.[11, 12]

The completeness of discharge /transfer notes was recorded as 38.4 % .The low compliance score is due to the non availability of structured format for transfer notes while the same for discharge summary is on a structured format. The completeness of records assessed in the current study was however higher than that carried out in Menelik II Referral Hospital, Addis Ababa, Ethiopia with a score of 16.2% and in a study conducted at Chitwan Medical College Teaching Hospital, Nepal the score was recorded as 26%.

The study revealed that the completeness of death records was found to be 91.81% and this can be attributed to electronic death record in comparison to the study conducted at Chitwan Medical College Teaching Hospital, Nepal where admission and discharge record had quite a satisfactory performance rate observed (81.7%).

VI. Conclusion

Documentation gives an insight into the care being provided to the patients and could be instrumental in predicting the outcomes of care in any healthcare organiosation. Despite the importance of documentation being highlighted at various legal and medical forums time and again, it's importance is yet to be completely understood by the health care providers which is evident by the fact that medical records are not compliant even in tertiary care settings. As aptly quoted by Dr. James Gould "Electronic Health Records are the wave of the future", it is felt that with digitisation and a structured format, compliance could be improved up to a large extent. Digitisation yet remains a distant dream in a resource constrained setting where there is a constant demand supply mismatch similar to the one where the study was conducted. It is felt that having a structured format for medical records in general and of the Emergency Department in particular will go a long way in ensuring adequacy of care provided and completion of medical records in a timely manner.

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