

# IMPACT OF TRANSFER TIME FROM EMERGENCY DEPARTMENT TO INTENSIVE CARE UNIT ON PATIENT MORTALITY :

## A QUALITY-BASED RETROSPECTIVE COHORT STUDY

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### INTRODUCTION AND BACKGROUND

Critical care actions that are time-sensitive may have a major impact on patients clinical outcomes. Patients who are transferred to critical care unit after prolonged stay in emergency department may have a risk of mortality and prolonged length of stay in the intensive care unit. A critically unwell patient needs to be seen right away for aggressive resuscitation in the emergency department (ED) and then definite care in the ICU.

Absolutely ,ensuring patient safety and maintaining the quality of patient care are paramount in healthcare. Timely and well-coordinated transfer of patients play a crucial role in achieving these goals by ensuring that patients receive the appropriate level of care without unnecessary delays or complications.

### AIM/OBJECTIVE:

The aim of the study was to find the incidence of delayed transfer from ED to ICU and to identify the factors contributing to the time taken for transfer of patients from the ED to ICU along with the comparison of mortality among the immediately transferred and delayed group of patients.

We also seek to establish a potential strategy to minimize the same for better patient care and to improve the quality of care provided by our institution. A prospective study will be conducted after implementing a A peripheral retrieval system of ICU physician and respiratory therapist will be assisting the ED team in patient resuscitation and co-ordinative system for patient transfer will be created for regulating the patient transfer from ED to ICU .

### METHODS & TOOLS USED

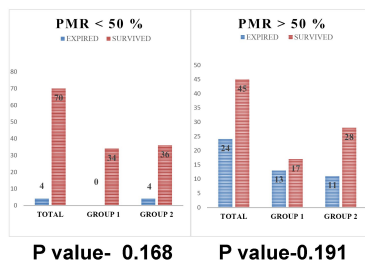
A retrospective study was conducted with 4 months data collected for all the patients who are shifted from ED to ICU .patient demographics ,APACHE II score, Charlsons Comorbidity Index, immediate clinical deterioration of the patient in ICU (drop in GCS,20 % variation hemodynamic parameters, drop in oxygen saturation, increase in the dose of inotrope or addition of another inotrope and need for securing the airway from the time of ICU admission decision will be considered as immediate clinical deterioration of the patient),time taken for patient to reach in ICU after ED decided on patients ICU requirment were collected .The factors contributing to time taken for patient transfer were categorized as patient-related factors (consent, expense, requirement of investigation/intervention), administrative factors (medicolegal certification, eligibility for free treatment), ICU-related factors (non availability of bed,non availability of manpower, cleaning and disinfection), and factors related to ED (interventions and investigations, non-availability of manpower/trolley/equipment, etc.). A time of 60 minutes( 1hr) was considered as a delay in patient transfer according to our clinical settings. Based on the data collected, the patients were divided into two groups -Group 1 :considered as immediate transfer who were transferred with in one hour and group 2 is patients transferred after more than one hour. Statistical analysis was done using IBM SPSS version 20.00(Chicago USA). A p value of <0.05 was considered to be statistically significant.

### RESULTS

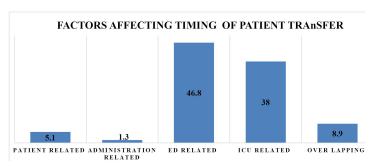
The incidence of patients who could not be transfere immediately from ED to ICU was 52.2 % and the most frequent cause of delayed transfer was issues related to emergency departemnt (46.8%) followed by ICU related factors (38%).

We couldnt find any statistically significant difference in any of the parameters among the two gropus of patients that while analysis including patient demographics,LOS,duration of mechanical ventilation and mortality.

Out of 143 patients who were admitted in ICU 74 had a PMR of <50% and 69 had > 50% in which there were no significant difference in mortality was observed among two groups.



According to the results the reason for time taken in ED was attributed to interventions and investigation which included imagings, intubation,thrombolysis etc, major factor contributing to time taken for patient transfer related to ICU was non availability of staffed bed.



### DISCUSSIONS

According to the results even though there were incidence of delay in patient transfer from ED to ICU,the time taken for transfer was not associated with worsening in clinical outcome of the patient. The reason for delay was frequently associated with interventions and investigation at ED,which means the emergency departement is doing their best in patient resuscitation with their resources.

However this might not be always possible as ED over crowding is emerging as a major health care threat in many hospitals and also the increasing need of staffed beds in intensive care units exceeds their availability in most of the hospitals in our country. So it is important to maintain the smooth flow of patient transfer from ED to ICU for definitive and individualized care in ICU.Inorder to avoid any workflow obstruction and to provide a better patient care a peripheral team of icu physician along with a respiratory therapist and an effective coordinative system to regulate the patient transfer will be a promizing strategy.

### CONCLUSION

The incidence of delayed transfer was found to be 52.2% and it was mainly associated with interventions in ED and non availability of bed in ICU. However the time taken for patient transfer was not associated with worsening in clinical outcome of the patient ,which means that patient specific care can be provided in the Emergency Department as well.

### LIMITATIONS

- The study was conducted in a tertiary care hopsital with the datas collecte d for a period of four months.it might not be applicable to other hospital settings other than our's.
- The time taken for pateint transfer which was considered as delay was one hour in the study. The results may vary when the time range is changed.