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IMPORTANCE OF AWARENESS AND KNOWLEDGE OF MANAGING POISONING PATIENTS IN THE HOSPITAL EMERGENCY DEPARTMENT BY THE ON DUTY PHYSICIANS FOR THE EMPLOYMENT OF DEFINITIVE INTERVENTIONAL TECHNIQUES

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Abstract:

Objective: *The comparison of rate of hospitalization and the requirement assessment for physicians in Emergency Department to have awareness and knowledge about the poisoning cases definitive treatment was the objective of this research.*

Methods: *In our retrospective research we assessed a total of 589 cases which were adult patients hospitalized in the Emergency Department of Mayo Hospital, Lahore in the timeframe of January, 2016 to December 2016 with the incidence of poisoning. We compared the hospitalization rates and epidemiological data among the patients having generally better medical condition, which were requiring simple intervention methods and shortly discharged from the emergency of the hospital after supervision; whereas, poor condition patients were hospitalized for a longer time duration. Data analysis was made through SPSS.*

Results: *In the total 589 cases, 256 cases were of good medical state (43.4%); whereas, 333 cases (56.5%) were in a bad medical state. Good medical condition cases were 244 in number (95.3%) and they were managed in the Emergency Department, after necessary treatment they were discharged from the hospital; whereas, 295 patients (88.6%) of poor medical state were also discharged. A total of fifty patients (8.4%) were hospitalized and complete medical intervention and treatment was extended to them till the time of complete recovery.*

Conclusion: *All the cases of the poisoning who were admitted in the hospital the treatment of the good and nearly poor was made in the emergency department; whereas, fifty cases were hospitalized and discharged after complete recovery. The good general medical condition was regularized with the help of definite interventions by the physicians.*

Keywords: *Poisoning, Emergency department and Hospitalization.*

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INTRODUCTION:

The increased beds capacity is required with the increased duty physicians in the emergency medical department of the hospitals of Pakistan. Accumulation of the patients of various illnesses in the emergency ward is a burning issue of the present time. This incidence leads to overcrowded emergencies and same has been observed in many other countries [1, 2].

In the light of the data of Health Ministry number of the cases is increasing day by day; whereas, an increase in the bedding capacity has not been taken in view in the growing need [3]. As we reviewed the growing need of the assessment time and poisoning cases it was observed that the same ratio is also disturbed in Pakistan as in the other countries [4].

New arrangements are required to meet the situation in the emergency departments. Despite the beds capacity enhancement in the hospitals, sometimes there is a shortage of the emergency physicians for the finalization of the timely and definite intervention. In the poisoning cases few need intensive care and few are discharged after short hospital stay. Clinical toxicologist is also required for the management of such cases. The treatment of the poisoning patients is supervised by the anesthesiologists along with internal medicine physicians. Resultantly, awareness and knowledge is required by the emergency physicians for a definitive therapy and treatment.

The comparison of rate of hospitalization and the requirement assessment for physicians in Emergency Department to have awareness and knowledge about the poisoning cases definitive treatment was the objective of this research.

PATIENTS AND METHOD:

In our retrospective research we assessed a total of 589 cases which were adult patients hospitalized in the Emergency Department of Mayo Hospital, Lahore in the timeframe of January, 2016 to December 2017 with the incidence of poisoning. We compared the hospitalization rates and epidemiological data among the patients having generally better medical condition, which were requiring simple intervention methods and shortly discharged from the emergency of the hospital after supervision; whereas, poor condition patients were hospitalized for a longer time duration. Research included total 722 cases. These cases of poisoning were diagnosed in the guidelines of the International Code of Disease (ICD). Drugs, Carbon monoxide (CO) poisoning, ethanol, insecticides poisoning, pesticides and patients of substance abuse were made a part of the research. In the cases of poisoning through the agents of food were not included in the research, these conditions are included in the category of gastrointestinal issues. Insect bite cases were also not included in this research. Incomplete information was observed in 126 cases or on the other hand these cases were inaccessible, remaining sample of the research was 596 cases. Gender and age including clinical information, such as involvement of the drug and substance, vital symptoms were also noticed during 1st physical assessment, GCS (Glasgow Coma Scale), analysis of the arterial blood gas, level of carboxy hemoglobin (COHb) and information about the admitted department were recorded through clinical records.

The poor and good medical categories were made out of the total sample population in the light of documented characteristics and features. Quick discharge was observed in good and nearly porr condition cases and further detailed medical treatment was extended to the severe cases in the supervision of the physicians during stay at the hospital.

In the stable symptoms patients were considered in the category of good with a GCS score as 15; no acidosis was observed in the analysis of the arterial blood gas and level of serum COHb was noticed under fifteen percent. There were 7 patients who were initially good but their condition deteriorated as the assessment was followed during their stay in the emergency department, these seven cases were also removed from the research sample, remaining size of the sample was 589 patients.

Continuous variable has been shown in mean ± SD. Presentation of the categorical variables was made in the shape of percentage and frequencies. Analysis of the data was made through SPSS.

RESULTS:

A total of 249 CO poisoning cases (42.3%); 26 cases of ethanol poisoning (4.4%); 1 case of opioids (0.2%); 5 cases of insecticide and pesticide poisoning (0.8%) and 308 cases of drug poisoning (52.2%) were documented in our research as shown in Table – I. Factor of mean age was observed as (31.7 ± 12.7) years and 430 cases (73.0%) were women.

During admission, in the 41 cases (7.0%) score of GCS was 14 or below 14; 45 cases were hypertensive (7.6%) (mean arterial pressure was observed below 70 mm / Hg); 7 cases were hypertensive (1.2%) (mean arterial pressure was observed above 110 mm / Hg); whereas, three cases (0.5%) were not monitored

for initially for blood pressure. Pulse rate in 8 cases (1.4%) had bradycardia (heart rate was observed below 60 bpm); 110 cases (18.7%) had tachycardia (heart rate above 100 bpm) and one patient (0.2%) was not monitored for heart rate. In the analysis of the arterial blood gas 317 cases reflected that 62 cases had acidosis (19.6%) (Ph below 7.40). The level of serum COHb in 99 patients (39.8%) out of 249 patients were diagnosed with CO poisoning (< 15%); whereas, it was also observed equal or more than 15% in 150 patients (60.2%).

Table – I: List of drugs causing poisoning.

Drugs	Frequency	Percentage
Antidepressants	92	15.6
NSAID (excluded aspirin)	56	9.5
Antibiotics	51	8.7
Paracetamol	36	6.1
Benzodiazepine	34	5.8
Antipsychotics	26	4.4
Antihistaminic	25	4.2
Antiepileptic	20	3.4
GIS related drugs	20	3.4
Antigribal	17	2.9
Aspirin	11	1.9
Antihypertensive	6	1
Oral contraceptive drugs	5	0.8
Alcohol	26	5.4
Pesticide and insecticide	5	0.8
Opioids	1	0.2
Others	103	17.5

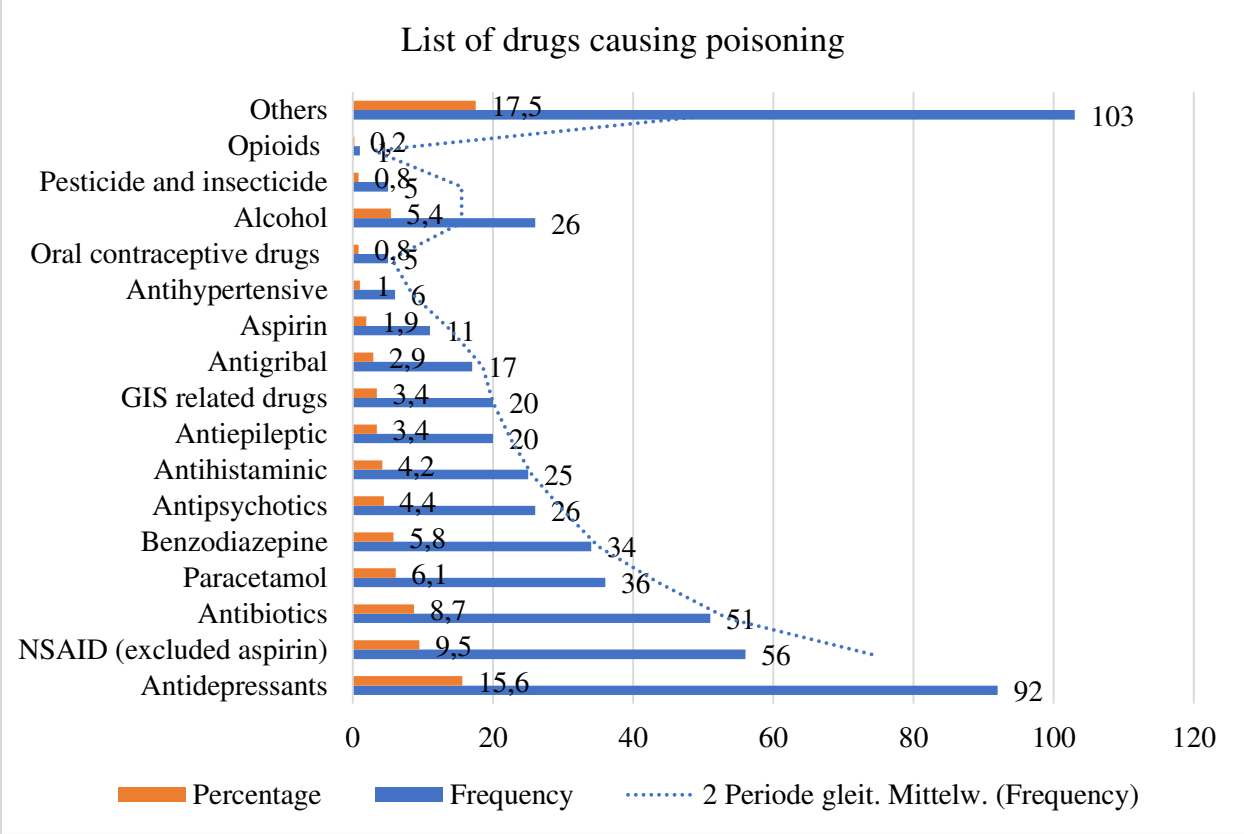

Table – II: Treatment in ED and hospitalization rate.

Details	Patients Treated in ED		Patients Treated in AICU		Patients treated in Internal Medicine ICU		Other		Total	
	N	%	N	%	N	%	N	%	N	%
Patients categorized in good general condition	244	41.4	6	1	0	0	6	1	256	43.4
Patients categorized in poor general condition	295	50	25	4.2	10	1.6	3	0.5	333	56.5
Total number of patients	539	91.5	31	5.2	10	1.6	9	1.5	589	100

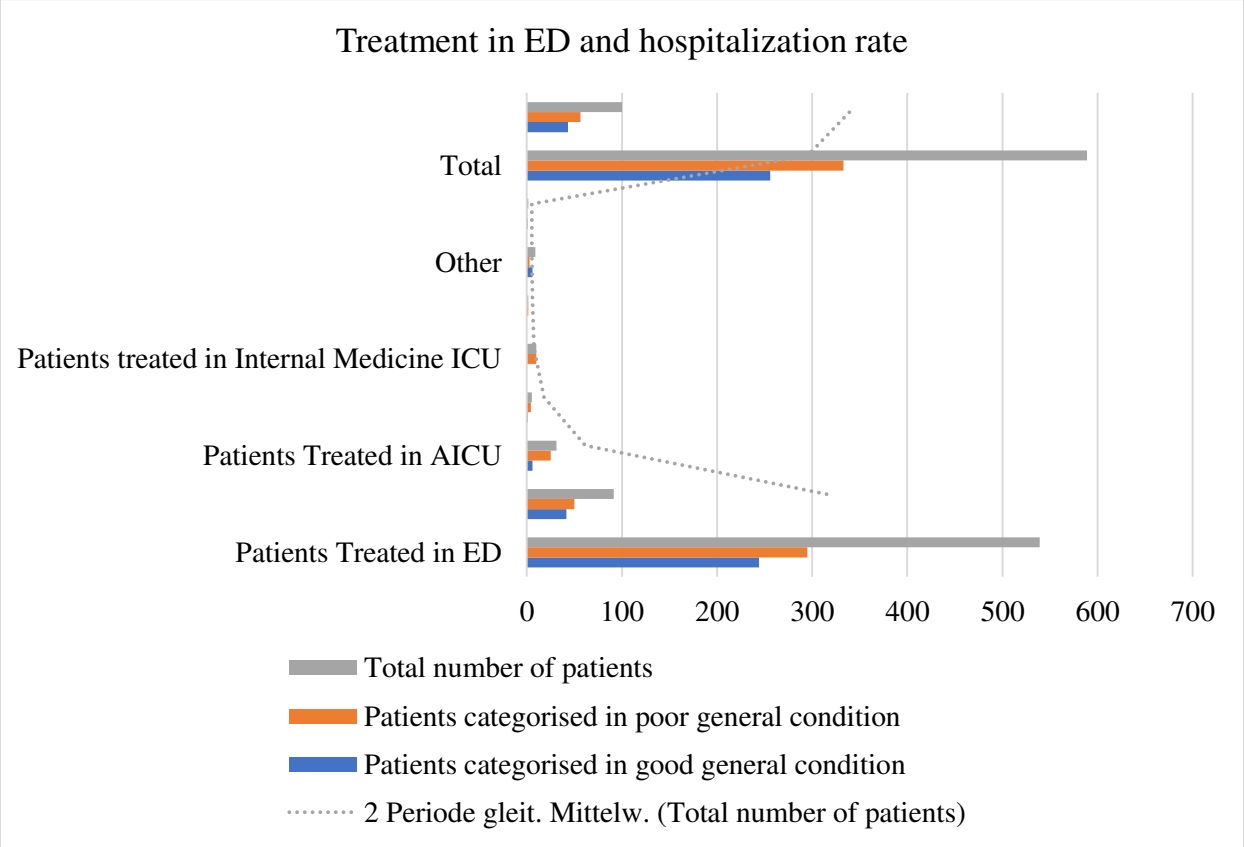

Table – III: Follow-up period

Follow-up period	Patients treated in ED				Patients hospitalized in AICU, Internal Medicine ICU and Other Services				Total	
	Patients categorized in good general condition		Patients categorized in poor general condition		Patients categorized in good general condition		Patients categorized in poor general condition			
	N	%	N	%	N	%	N	%	N	%
Less than 24 hours	161	27.3	168	28.5	0	0	0	0	329	55.8
24 – 47 hours	69	11.7	89	15.1	7	1.1	3	0.5	168	28.5
48 – 71 hours	7	1.1	13	2.2	3	0.5	12	2	35	5.9
72 – 95 hours	4	0.6	11	1.8	1	0.1	16	2.7	32	5.4
96 hours or more	3	0.5	14	2.3	1	0.1	7	1.1	25	4.2
Total	244		295		12		38		589	

Patient's categorization in the light of the vital signs and laboratory outcomes also reflected that 256 cases (43.4%) presented "good" medical state; whereas, 333 cases (56.5%) presented "poor" medical state. In the sample population, 31 patients (5.3%) were hospitalized in the ICU and managed with anesthesia; 10 cases (1.7%) were treated in the Internal Medicine ICU and 9 cases were treated in various other departments (1.5%). All the patients who continued follow-up in the emergency department were documented separately in Table – II and III.

DISCUSSION:

An increase in the attendance of the emergency cases and prolonged wait time for non-critical patients is causing the dissatisfaction of the patients add in the compromised treatment quality [5, 6]. The basic reason behind the increased emergency in the adult cases is because of the health insurance registration, non-urgent cases in the emergency department and elderly non-admissions in the emergency department [6, 7]. The bedding capacity failure of any hospital is an issue for the administration in the increasing hospital admission cases, which ultimately blocks the patient's transfer from emergency department to the related wards and makes the emergency overcrowded [1, 3, 6].

An important group of the emergency patients are poisoning cases which are managed in the emergency of any hospital and in the related ICUs [8]. Twelve cases were observed with poisoning (4.7%) and they presented stable medical state at the time of hospital presentation. In these cases seven were brought to hospital and subsequently admitted because of the tricyclic anti-depressant poisoning; whereas, five cases were of carbon monoxide poisoning.

Emergency department managed to treat the good state cases successfully with the consultation of duty specialties, as there was a scarcity of the bedding so the patients were kept in the emergency department. Emergency physicians treated all the cases of the critical ill patients. There were thirty-eight cases who were transferred from emergency to other departments after initial management and they were hospitalized because of their poor medical state, these cases roughly stayed for twenty-four hours in the emergency department.

The issue of overcrowded emergency department lies in the scarcity of the accumulation in the related departments, resultantly the patients are accommodated in the emergency department. Longer stay at the emergency makes the situation worse for the emergency department staff and duty physicians. This issue is at large in the big cities with an exception of few hospitals. Delayed transfer to the appropriate ward is the major factor behind the treatment of the poisoning cases at the hospital emergency department [9, 10]. Relevant specialties were always consulted for the management of the critical cases, but knowledge about the poisoning progression and development in the patients is mandatory for the associated monitoring, investigations and definitive interventional treatments because there are chances that few of the cases will be entirely dealt in the hospital emergencies. For the achievement of the better results it is the need of the hour that training is to be imparted as a strength of the physicians about the poisoning cases management in the emergency department by the on-duty physicians.

CONCLUSION:

All the cases of the poisoning who were admitted in the hospital the treatment of the good and nearly poor was made in the emergency department; whereas, fifty cases were hospitalized and discharged after complete recovery. The good general medical condition was regularized with the help of definite interventions by the physicians.

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