Effect of Implementing Nursing guidelines regarding Drug overdose poisoning among Critically ill patient`s outcomes

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Abstract

Background: Drug overdose poisoning is a common cause admission at medical emergency unite. With chief complaint resulting many complications as central nervous system, hypothermia, respiratory depression, hypotension. **Aim of the study**: This study was carried out to evaluate the effect of Implementing Nursing guidelines regarding drug overdose poisoning among critically ill patients at Medical Emergency Unite at Assiut University Hospitals. **Subjects and Methods: Research design:** a quasi-experimental design. **Setting**: Medical emergency unite at Assiut University Hospitals and the study started from July 2016 till July 2018. **Subjects**: A convenience sample of 60 adults' critically ill patients diagnosed with drug overdose poisoning. The patients were assigned into two equal groups (control and study group).**Tools:** two tools were utilized to collect data, Tool I*:* Patient's assessment questioner that consists of three parts: part one: assessment of the Patients profile, part two: drug overdose data questioner, part three: biomedical data and level of conscious. Tool II: patients outcomes questioner that consist of part one: Laboratory tests findings, part two: hospital stay and progress part three: complications of poisoning) **Methods**: The research done from first day of admission for twenty four hours and every shift during this phase the patients received the nursing guidelines, this was done by comparing the results of outcomes for the both groups by using tool two. **Results:** (34%-26.7%) from age groups (30-40) years in the both groups. The highest percentage of the two groups (36.7% and 50%) were males. There was hypotension in control group with means of (95±11.37- 59.2±6.47) respectively. But in study group, normal with mean (99.9±10.28- 65.63±5.86) respectively. There were highly statistical significant differences between both groups with p value = (0.005**). (36.3 -30%) in the both groups had experienced metabolic acidosis **Conclusion**: The study group who implemented nursing guidelines was found to experience lesser complications than control group. **Recommendations:** Developing management and apply clinical practice guidelines for optimal patient care with drug overdose poisoning.

Keywords: Nursing guidelines, Drug overdose poisoning, Critically ill patients, and patient`s outcomes.

Introduction:

Drug overdose poisoning in critically ill patients can lead to injury or death. Poisoning is a common cause admission at emergency unite and intensive care unite (ICU) . chief complaint resulting in thousands of hospital admissions worldwide. can present in many signs and symptoms associated with poisoning include: CNS depression, hypothermia, respiratory depression, hypotension, delirium, dysrhythmias and multisystem organ failure. [(1)] Acute poisoning, depending on the type and amount of drug overdose, Poisoning can be categorized into intentional and accidental. Many cases of intentional poisoning are associated with a high degree of morbidity and mortality. To reduce hospital morbidity and mortality among patients in the emergency department, early diagnosis, rapid assessment and treatment by the physicians and professional nurses on duty. Depending on the severity of symptoms, the patients were discharged after management in the emergency department or admitted to the ICU. [(2)]

Early management for critically ill patients gastrointestinal decontamination was gastric lavage with activated charcoal is widely used in the emergency room to treat many types of toxicities. The agent is preventing absorption of many toxic drugs and other poisons. Healthcare workers in the emergency room including emergency nurses and physicians need to know when and how to use activated charcoal for the best results.

The key feature about use of activated charcoal is that it must be used within 1-2 hours of the drug poisoning to be of benefit. [3] Nevertheless, if absorption has been delayed or gastrointestinal motility is impaired, activated charcoal may reduce the final amount absorbed. Activated charcoal often is given in an insufficient dose according to the poison center's experience; the 0.5 to 1 g/kg body weight is recommended. [4] Multiple-dose activated charcoal (MDAC) is used when at least 2 sequential doses, and often several more, of activated charcoal, are given that believed to prevent ongoing absorption of drug remaining within the GI tract and enhance elimination. Critically care nurses should be aware for early complications for drug overdose poisoning and implement nursing guidelines to prevent complications to evaluate patient`s outcomes [5]

Nursing management of an opioid overdose should encompass support for the patient's airway, breathing, and circulation. In patients with apnea or a respiratory rate <12 breaths per minute, the airway should be opened via the jaw-thrust or chin-lift technique, followed by oxygenation and ventilation with a bag-valve mask or endotracheal intubation, if needed. If breathing and mental status do not improve, gastric lavage should be inserted [6]**.** It is documented that using a well developed, valid nursing guidelines will help ensure that the care nurses give the most up-to-date standardization of the patient management through the use of protocols and guidelines is increasingly being adopted as a means to assess, monitor and improve quality of care. Critical care nurses play an important role in dealing with drug overdose poisoning patients. She must cooperate with other health professionals to develop system and quality improvement processes which are effective in terms of providing quality, and cost effective management for critically ill patients. Therefore, this study was conducted to evaluate the effect of implementing nursing guidelines among drug overdose critically ill patients in emergency unite. [7]

Significance of the Study: Incidence of drug over dose poisoning death in United State of America were 100.000 patients in 2018. [3] The number of opioid poisoning deaths has increased. In 2019, there were 303 opioid overdose deaths. This represents a 63% increase in the number of people who died [6]**.** The incidences of patients with drug overdose in Assuit University Hospital were 38 cases in 2017 and 59 cases in 2018 (hospital record).

Aim of the study:

The aim of the study was carried out to evaluate the effect of nursing guidelines regarding drug overdose poisoning among critically ill patients at Medical Emergency Unite at Assiut University Hospitals.

Hypothesis:

The study group who implement nursing guidelines drug overdose poisoning was less complications than control group and improve patient`s outcomes.

Subjects and Methods:

Research design:

A quasi experimental research design was adopted to conduct this study.

Study Setting:

This study was carried out in the medical emergency unite. Assuit Main University Hospital

Study subject:

The convenient sample of this study was comprised of 60 adult patients including both sex, their age ranged from 20-60 years old, admitted to the medical emergency unit. They were selected by convenience to two equal groups control and study group (30 in each).

Tools for data collection:

In order to fulfill the objectives of the study two tools were used to collect necessary data:

Tool I: "**Patient's assessment questioner**"

This tool was developed by researchers based on the review of related literature related literature (Alinejad, Omid and Scot) [1-11-12] .This tool was consisted of four parts

Part one: - Assessment of the Patients profile, as patient's code, age, sex, past medical history, date of admission, and hospital stay.

- Part two: Drug over dose poisoning questioner. This part was consisting of duration of poisoning, type of drug over dose, method of decontamination, amount of poisoning.
- Part three: Vital sings and intake and output chart and level of conscious. This part was consist of temperature, breath
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- rate, heart rate, blood pressure, intake & output chart medications and level of consciousness with scale (A P V U)

Scoring system:

- scale (A V P U) to evaluate level of consciousness (3-15)
- (15) Alert
- (7-14) Verbally response
- (5 –13) Physically response
- (3 - 6) Unresponsive

Tool II: **"Patients outcomes sheet"**

This tool was developed by the researcher based on extensive review of related literatures (Alinejad, Omid, and Scot) [1-11-12] to assess the development of poisoning complications to evaluate the effect of nursing guidelines, it comprised two parts:

Part one: "Laboratory tests findings**":** This part refers to data related to the results of the laboratory testes as blood picture, renal function tests, liver enzymes, arterial blood gases. Electrolytes (sodium , potassium) coagulation profile as partial thromboplastin time (PTT), prothrambin time (PT), ECG reading,

Part two: hospital stays and progress level

Part three "Complications of poisoning chart": This part included the complications of drug over dose poisoning as (renal impairment, liver enzyme elevated, metabolic acidosis, metabolic alkalosis, contacted with machine and dysrhythmias.

Content Validity and Reliability:

Content validity for Tool (I) and (II) was established by jury of five experts' professors from Nursing Education Department. Accordingly necessary modifications were done. The Reliability was done on the tools of poisoning sheet by Cronbach`s Alpha 0.89.

Field work:

Started from July 2016 till July 2018 on three phases assessment phase, implementing phase and evaluation phase. The data were collected from the first day of admission after stabilization of the patient's condition and for twenty four hours , every shift then the data were recorded in the tools. Data were collected on three phases.

Assessment Phase for the control group:

During this phase the researcher assess patient's profile data, partin tool one, that include Patients profile by using Part II in tool one, also assessment of drug over dose poisoning sheet. And part III in tool one vital sings and intake &output chart and level of conscious , and assessment of nursing performance of check lists for gastric lavage and rectal enema for the control group by using part IV in tool one.

Assessment phase was conducted by the following: The researcher introduced herself for the patients, patient's family and nursing staff and explained the purpose of the study. The patients profile was collected from the patient or from nurses if the patient was comatose, and recorded in the tool one

Evaluation of patients in the control group: Data for this group were collected from 30 patients who met the predetermine criteria in the control group who received the routine unit care, using tool two part I (laboratories investigations), part II complications of drug over dose poisoning. After that the laboratory investigations of the patients as blood picture, renal function tests, liver enzymes, arterial blood gases (PH, Hco3, CO2 and PaO2). Electrolytes (sodium , potassium) coagulation profile as partial thromboplastin time (PTT), prothrombin time (PT). This laboratory tests were done routinely, this recorded once every morning first day.

Drug over dose poisoning guidelines Implementation phase:

During this phase, the developed drug over dose poisoning nursing guidelines.[3-22] were implemented for the study group which consisted of 30 patients the following steps were followed during its implementation

Implementation phase for the study group (G2):

This phase was begun from first day of admission for twenty four hours and every shift during this phase the patients received the nursing guidelines Initial approach includes assessment of airway, breathing, circulation; Important information includes time, identification, and amount of medication.The gastrointestinal decontamination method of choice in most cases is activated charcoal within 1 hour of ingestion and every four hours (multiple dose activated charcoal).Bathing

every 4 hours to eliminations the excessive sweets of poisoning. Other methods of gastrointestinal decontamination whole-bowel irrigation. Basic symptom management includes Trendelenburg position and fluid resuscitation for hypotension, warming measures for hypothermia, and cooling measures for hyperthermia. Monitor laboratory testes to assess electrolytes and liver and renal function.

This nursing guidelines for drug over dose poisoning were performed by the researcher with assistance of the internship students that involved in the providing direct patient's care. The outcome of using drug over dose poisoning nursing guidelines: To evaluate the effect of the nursing guidelines drug overdose poisoning for the study groups, by using tool two was used part one: laboratory tests and part two: hospital stay and progress level, part three: complications of poisoning. As previously done for the control group.

Evaluation phase:

This phase was done to evaluate the effect of the nursing guidelines drug overdose poisoning , this was done by comparing the results of outcomes of the both groups (control and study groups) by using tool two part one and two.

Pilot study:

Pilot study was conducted on 5 patients who met the predetermined selection criteria to test the applicability of the tools. Appropriate study modifications were done prior to data collection for the actual study.

Administration and Ethical consideration:

Permission to conduct the study was obtained from the responsible authorities of medical emergency unite, Assuit university hospital after explanation of the aim of the study. Meetings were held with the head of Medical emergency nursing Department to clarify the purpose of the study and to gain the cooperation and support during data collection. Development of the tools after reviewing the related literature was done**.**Informed consent was obtained from each patient or from the responsible person for the unconscious patients. Data Anonymity and confidentiality were considered.

Statistical Analysis:

Analysis of quantitative data:

The collected data were coded and analyzed by using the Statistical Package for Social Sciences (SPSS) software version 20. Data was tabulated and presented using various of tests: frequency, calculation of the mean, standard deviation, Pearson chi square, t tests were used in the analysis, chi-square and p values exact probability test was used to study the significance of the difference between proportions. The cutoff point for statistical significance was $P \leq 0.05$.

Analysis of Qualitative Data**:**

The collected qualitative data were transcribed verbatim (word for word) in order to capture the exact words, phrases voiced by the participants. Proofread (read through for errors) in order to check the accuracy of all transcripts against the audiotape were done. Sensitive information as the accidental use of an individual's name during the discussions was replaced by appropriate participant ID. Findings together with pertinent quotations were then organized according to the discussed topics. After that, the main categories covering the objective behind the research were formulated and clustered into themes. These themes provided the major heading for the results. Finally, trustworthiness and quality of the qualitative data were ensured by adopting triangulation, member checking, peer debriefing, inquiry audit and thick description strategies.

Results:

Table (1): Characteristics of the studied groups, shows that, the most of age groups (30-40) years of the control group and study group was found to be (36.7%). Concerning the gender, the highest percentage of the two groups (36.7% and 50%) were males while(63.4% and 50%) in the both groups were female. Regarding medical history of the control group and study group was found to be (76.7%- 43.3%) respectively no medical history. And (16.7-56.7)% were diabetes mellitus. Concerning the type of poisoning the highest percentage of the two groups (80% – 40%) were opioid poisoning in the both groups respectively and (20%-60%) were paracetamol poisoning. Regarding amount of poisoning of the both groups was found to be (50%- 53%) respectively were more than ten tablets of drugs.

Concerning the methods of decontamination the highest percentage of the both groups (100% - 0 %) were single dose of activated charcoal and the both groups (0%- 100%) were multiple dose of activated charcoal

Table (2): **vital signs,** regarding body temperature. There was no statistical significant differences between both groups all through 24 hours. The mean &standard deviation of respiratory rate in the both groups were (12.23±2.97- 11.73±2.42) respectively. Also the most patient in control group was (70%) irregular breathing and no significant statistical differences between the two groups .systolic and and diastolic blood pressure in control group had decreased with means of (95±11.37- 59.2±6.47) respectively. But in study group, normal systolic and diastolic blood pressure with mean (99.9±10.28- 65.63±5.86) respectively. 90% in control group was hypotension while in study group was 22%. There were highly statistical significant differences between both groups with p value = (0.005**).

Table (3): Intake and output and level of conscious, shows that,(43.3- 56.7 %) from e both groups respectively had negative balance of fluid in 24 hours. There were no statistical significant difference between the both groups. Concerning the level of conscious was found that (30 -16.6%) in the both groups respectively had unresponsiveness. There were statistical significant difference between the both groups with p value 0.001.

Table (4): Demonstrates blood picture was anemia (66.7- 60 %) in the both groups respectively. There was no statistical significant difference between groups. Regarding PH was found that decrease means acidosis (36% -30 %) in both groups respectively. There was no statistical significant difference between groups and increase PH (alkalosis) was (63.3 - 40%) in the both groups respectively. There was no statistical significant difference between groups. Also table shows PaO2 was found that 13.3 -16.6) had hypoxia, also CO2 was (30- 40 %) in the both groups respectively. There was no statistical significant difference between groups. Concerning HCO3 was found (43.3 -40 %) in the both groups respectively. There was no statistical significant difference between group.

Table (5): shows that BUN was (66.7- 60 %) in the both groups respectively. There was no statistical significant difference between groups. Regarding creatinine was found that increase (66.6 -53.3 %) in the both groups respectively. There was no statistical significant difference between groups. Also table shows PT was found that (60 -50%) high , also PTT was (66- 53.3 %) in the both groups respectively. There was no statistical significant difference between groups. Concerning sodium was found hypernatremia (63.3 -60 %) in the both groups respectively. There was no statistical significant difference between groups. also potassium was high (63.3- 66.6 %) in the both groups respectively. There was no statistical significant difference between groups Concerning glucose was hypoglycemia (56.6 – 50%) in the both groups respectively. There was no statistical significant difference between groups. Finally liver enzymes were found that increase with (70- 66.6)% in the both groups respectively. There was no statistical significant difference between groups. Regarding heart r

Table (6): Shows that, (66.6% and 53.3%) in control and study groups respectively had experienced renal impairment . There was no significant statistical difference between the studied groups. (6.6 -3.3 %) in the both groups respectively had connected with machine. There was no significant statistical difference between the studied groups. (46.5- 33.3 %) in the both groups respectively had cardiac dysrhythmias. There was no significant statistical difference between the studied groups. (70 -66.6%) in the both groups had increase in liver enzymes. There was no significant statistical difference between the studied groups.(36.3 -30%) in the both groups had experienced metabolic acidosis (60 – 50%) in the both groups had experienced metabolic alkalosis. There was high significant statistical difference between the both group with p value 0.012. Regarding fluid and electrolytes disturbances were (63.3- 20%) in the both groups respectively There was high significant statistical difference between the both group with p value0.001.

Figure (1): revealed that, 43.3% and 22% in the both groups respectively were improved. While in both groups had not improved respectively by (50%and 20%). There was high significant statistical difference between the studied groups with p value 0.046.

Table (7): revealed that, 52.5% and 27.5% in the both groups respectively were stay in hospital from (2 -4) days. While in both groups had stay in hospital (4- 6) days respectively by (37.5%and 13%). There was high significant statistical difference between the studied groups with p value 0.018.

(8)Table: shows that, correlation between socio-demographic patient data and patients outcomes (progress level) There was high significant statistical difference between the studied groups with p value 0.001*in relation to amount of poisoning and progress in the both groups**.** While age, sex, medical history and type of drug poisoning. There were no significant statistical difference between the studied groups

Discussion:

Drug overdose might happen accidentally for a variety of reasons, such as taking a regular dose after tolerance has lowered, taking a stronger dose than the body is accustomed to, or combining substances of abuse. While some people do overdose intentionally, the majority of overdoses are unintended. Overdose is a medical emergency, and prompt medical attention can help prevent lasting health consequences or death or lasting health consequences. **(Thomasen)[13]**

The present study presented that the majority of both groups were in age group 30 to less than 40 years with mean and standard deviation of age (31.9±10 and 38.6±13). This can be attributed to the higher exposure of younger male for stressful situations and cause suicide with overdose analgesics as morphine or paracetamol. This is disagreement with **Cody [7]** reported that patients between the ages of 19 and 59 have the highest overdose rates. Considering the age and sex breakdown of overdose events in British Center , over the most recent year of data, over less than fifty percent of all patients are in 19-39 year old males and an additional almost less than thirty percent are in males 40-59 years. Some differences exist between the health authorities in the distribute on of overdose poisoning by age and sex which can be explored in this interactive report.

Regarding the gender the current study revealed that the majority of the sample were men this agreement with **Moradi [10]** who reported that drug overdose rates among men are much higher than in women, and drive the severe rates seen in BC; nonetheless, rates in women are also considered unacceptably high. In general, trends over are similar between men and women. However overdose poisoning rates in women gradually increase. Concerning the type of poisoning the current study revealed that the majority of the sample were opioid poisoning in the both groups respectively and less than fifty percent were paracetamol poisoning. This can be attributed to the most effective and efficient analgesics in home are opioid drugs and many people can use without doctor prescription. This is at the same line with **Scot [12]** who reported that poisonings opioid overdose patients admission on emergency medical unites about 153 patients in 2019.

Regarding the vital signs in drug overdose, the findings of current study revealed that the majority of the both groups had normal range of temperature. This finding attributed to the all patients had taken analgesic and antipyretic medications that cause decrease in body temperature to normal ranges. There was no statistical significant differences between the both groups. This disagreement with **Golden [8]** who told that the patients with drug overdose suffer with cold clammy skin. Concerning respiration, the present study reported that the majority of the both group experienced tachypnea & irregular pattern with mean & St. D (12.23±2.97-11.73±2.42) respectively in the both groups with no There was no statistical significant differences between the both groups. This agreement with **Burton [2]** who told that the most clinical signs in patients with drug overdose was tachypnea and shallow breathing and air hunger due to excessive vomiting and effect of drug overdose. In my opinion this due to

excessive vomiting related to irritation of stomach from drug poisoning

Regarding heart rate, the present study told that increase in heart rate in G1and G2 with mean and standard deviation was (102.87±16.9- 100.27±14.4) respectively. There were no statistical significant differences between both groups. This is agreement with **Omid** **(11)** who told that clinical manifestations of drug overdose poisoning experienced with tachycardia and irregular heart rate. Concerning blood pressure, the current study revealed that the majority of the sample in the both groups was hypotension and There were highly statistical significant differences between both groups with p value (0.005**). This is result attributed to effect of drug poison and excessive vomiting. This results at the same line with **Burton** **(2)** who reported that the most of patients with drug overdose have sever hypotension. This related to side effect of drug poisoning on hemodynamic of patients.

Concerning the level of consciousness, the present study reported that thirty hundred percent of the sample have confusion and decrease level of consciousness and there were statistical significant difference between the both groups with p value 0.001. This results agreement with **Parthvi** (4) who reported that the most of patients with drug overdose have confusion and decrease level of consciousness.

This findings due to effect of drug poisoning on central nervous system and depend on amount of drug overdose. Concerning laboratory tests, the present study revealed that the majority of sample in both groups were anemia. There was no statistical significant difference between groups. Regarding PH, the current study reported that thirty hundred percent was found that (acidosis). There was no statistical significant difference between groups even the majority of the sample in both groups were metabolic alkalosis with no statistical significant difference between groups. This results agreement with **Butron** **(2)** who told that the most of patients with opioid overdose were metabolic alkalosis.

Regarding PaO2, the present study revealed that less than thirty percent of sample in both groups were hypoxia with no statistical significant difference between groups. This results disagreement with **Park** **(6)** who reported that opioids poisoning can cause hypoxia, delay in treatment of toxicity may cause brain hypoxia and also death. This results attributed to effect of drug poisoning on respiratory center in brain and cause hypoxia and respiratory depression.

Concerning renal function test, the current study demonstrate that the majority of the sample in the both groups were increase in blood urea nitrogen & creatinine with no statistical significant difference between groups. This attributed to negative effect of drug over dose on the renal function due to excretions the drug in the urine. This results on the same line with **Yaylacı** **(3)** who told that the drug over dose effect of renal function and increase serum creatinine and may cause renal failure. This result due to the drug poisoning was excreted in renal tubules and may lead to renal failure in some cases especially when large dose.

Concerning sodium and potassium the current study demonstrate that the majority of the sample in the both groups were hypernatremia & hypomagnesaemia in the both groups. There was no statistical significant difference between groups. This is attributed to dehydration due to excessive vomiting. This results agreement with **Moradi** **(10)** who reported that Hypernatremia was noted in 53 patients, and hypermagnesemia was noted in 27 patients. These electrolyte disturbances were not believed to have caused the symptoms of respiratory depression or the decreased levels of consciousness noted in several of the patients with these abnormalities.

Regarding complications of drug overdose, the present study reported that the majority of the study sample in the both groups had experienced renal impairment. There was no significant statistical difference between the studied groups. This results on the same line with **Yaylacı** **(3)** who told that the drug over dose effect of renal function and increase serum creatinine and may cause renal failure. Concerning cardiac dysrhythmias**,** the current study revealed that less thirty hundred percent was cardiac dysrhythmias in the control group with no significant statistical difference between the

studied groups**.** This results agreement with **Scot** [(12)] who reported that the most patients drug overdose were cardiac disturbances due to effect of drugs on the heart and some cases experienced cardiac arrest.

Regarding liver impairment, the present study demonstrated that the majority of the study sample were increase in liver enzymes in the both groups with no significant statistical difference between the studied groups. This results due to the drug overdose metabolism in liver and cause liver impairment. This is results agreement with **Moradi** [(10)] who told that the most organ can affect with drug overdose is liver due to metabolism in it. This result attributed to the drug poisoning was metabolism in liver and cause liver enzeme elevated and lead to liver toxicity Concerning acid base disturbances the present study demonstrated that the majority of the study sample were metabolic alkalosis due to excessive vomiting related to gastric lavage. This results agreement with **Chiew** [(5)] who told that the most of patients with opioid overdose were metabolic alkalosis.

Regarding the progress of cases, the present study demonstrated that the majority of the study sample were improve in study group with was significant statistical difference between the studied groups with p value 0.046. Concerning died patients**,** the present study demonstrated that the in the both groups and ten hundred percent. This results disagreement with **Omid** [(11)] who reported that American drug overdose epidemic has important consequences for international comparisons of life expectancy. While the United State is not alone in experiencing increases in drug overdose mortality, the magnitude of the differences in levels of drug overdose mortality is staggering.

Drug overdose mortality is now 3.5 times higher on average in the US than other high-income countries. It is over 27 times higher than in Italy and Japan, which have the lowest drug overdose death rates, and 60 percent higher than in Finland and Sweden. Another point of view reported by **Joseph** [(9)] In Iran, the majority of poisonings are intentional and occur mainly in the age range of 21–30 years. In this country, the mortality rate from poisoning is 8 per 1000 individuals in the general hospitalization wards and 109 per 1000 people in the intensive care unit (ICU). According to the World Health Organization (WHO), suicide and chemical substances account for nearly one million deaths annually worldwide with drug overdose as a major cause. Timely diagnosis of poisoning and appropriate treatment is vital to prevent morbidity and mortality. **Golden** [(8)] reported that to reduce hospital morbidity and mortality, early diagnosis and rapid treatment in emergency department and intensive care unite are critical for the poisoned patient. Despite this need, few studies in Iran have addressed the patterns of poisoning in the patients hospitalized in the ICU. With a deeper understanding of poisoning in Iran, more effective education and management plans can lead to more efficient recognition and management of these patients, eventually reducing morbidity and mortality associated with this potentially deadly chief complaint. This result due to early nursing care and resuscitation for admitted patients in emergency department cause less mortality.

Conclusion

Based on the findings of the present study, it can be concluded that critically ill patients (study group) who implementing nursing guidelines were less complication than control groups. Patient mortality rate and hospital stay in study groups were less the control group and improve outcomes

Recommendations

In the light of the above, the following recommendations are suggested:-

- Establishing a nursing care standardized protocol for drug overdose poisoning in emergency unites
- Early recognize and diagnosis the types of drug overdose and rapid nursing management.

Table (1):- Characteristics of the studied groups in relation to age, sex and poisoning data (Control& Study)

Items	Control(n=30)		Study(n=30)		Total(n=60)	
	No	%	No	%	No	%
Age						
20-30 years	13	43.3	8	26.7	21	35.0
31- 40 years	11	36.7	11	36.7	22	36.7
41-50 years	6	20.0	11	36.7	17	28.3
Mean &St.D	41.9±10.0		38.6±13.7		0.292	
Sex						
Male	11	36.7	15	50.0	26	43.3
Female	19	63.3	15	50.0	34	56.7
Past medical history						
No	23	76.7	13	43.3	36	60.0
D.M	5	16.7	17	56.7	22	36.7
COPD	1	3.3	0	0.0	1	1.7
Asthmatic	1	3.3	0	0.0	1	1.7
Type of poisoning						
-Opioid	14	46.6	12	40.0	36	60.0
-paracetamol	16	53.3	18	60.0	24	40.0
Onset of poisoning						
1hrs	23	76.7	13	43.3	36	60.0
2hrs	7	23.3	17	56.7	24	40.0
Amount of poisoning						
<10 tablets	12	40.0	16	53.3	28	46.7
10 tab	15	50.0	14	46.7	29	48.3
> 10 tab	3	10.0	0	0.0	3	5.0

Table (2):- Comparison between the both groups(Control, Study) According to vital signs

Vital signs	Control(n=30)		Study(n=30)		P. value
	No.	%	No.	%	
1-Temperature					
Mean &St.D Temp	37.8±0.4		37.5±0.1		0.112
Normal	26	86.7	22	73.3	0.223
High	1	3.3	5	16.7	
Low	3	10.0	3	10.0	
2.Mean breath rate	12.23±2.97		11.73±2.42		0.477
3.heart rate					
Mean HR	102.87±16.98		100.27±14.47		0.558
Regular	9	30.0	15	50.0	0.114
Irregular	21	70.0	15	50.0	
4.Blood pressure					
Mean Bl.p systole	95±11.37		99.9±10.28		0.696
Mean Bl.p diastole	59.2±6.47		65.63±5.86		0.723
Normal	3	10	8	26.6	0.005**
High	0	0.0	0	100	
Low	27	90	22	73.3	

- Chi-square test, ** Significant difference at p. value<0.005 - independent t-test

Table(3):- Comparison between the both groups control and study according to intake and output chart and level of conscious

Items	Control(n=30)		Study(n=30)		P. value
	No.	%	No.	%	
1.Intake & output chart					
-ve balance	13	43.3	17	56.7	0.302
+ve balance	17	56.7	13	43.3	
2.level of conscious(AVPU)					
- (15) Alert	11	36.6	8	26.6	0.001**
- (7-14) Verbally response	4	13.3	16	53.3	
- (5 –13) Physically response	6	20	1	3.3	
- (3 - 6) Unresponsive	9	30	5	16.6	

- Chi-square test, ** Significant difference at p. value<0.01

Table(4):- Comparison between the studied groups in relation to the mean and standard deviation of laboratory investigations between studies groups (Control and Study)

Items	Control(n=30)		Study(n=30)		P. value
	No	%	No	%	
Blood picture					
-Normal	10	33.3	12	40.0	0.592
-Anemia	20	66.7	18	60.0	
Arterial blood gases					
Ph					
Normal	0	0.0	9	30.0	0.005**
High	19	63.3	12	40	
Low	11	36.0	9	30	
paO2					
Normal	21	70	24	80	0.754
Low	9	30	6	20	
paCo2					
Normal	18	60	17	56.6	0.793
High	2	6.6	1	3.3	
Low	10	30	12	40	
Hco3					
Normal	12	40.0	16	53.3	0.387
high	13	43.3	12	40.0	
low	5	16.7	2	6.7	

- Chi-square test, ** Significant difference at p. value<0.01

Table (5): Comparison between the studied groups in relation to the mean and standard deviation of laboratory investigations between studies groups (Control, Study)

Investigations	Control(n=30)		Study(n=30)		P. value
	No	%	No	%	
Renal function tests					
BUN					
High	20	66.0	18	60	0.592
Normal	10	33.3	12	40	
Createnine					
High	20	66.7	16	53.3	0.292
Normal	10	33.3	14	46.7	
Coagulation profile					
PT					
High	18	60.0	15	50.0	0.436
Normal	12	40.0	15	50.0	
PTT					
High	20	66.7	16	53.3	0.292
Normal	10	33.3	14	46.7	
Electrolytes					
Sodium					
High	19	63.3	18	60.0	0.791
Normal	11	36.7	12	40.0	
Potassium					
High	19	63.3	20	66.7	0.787
Low	11	36.7	10	33.3	
Normal	0	0.0			
Glucose					
normal	10	33.3	13	43.3	0.699
hypo	17	56.7	15	50.0	
Hyper	3	10.0	2	6.7	
liver enzemes					
High	21	70.0	20	66.7	0.781
Normal	9	30.0	10	30.3	
	14	46.7	10	33.3	

Table (6):- Comparison between the both groups (control and study) in relation to presence complications poisoning pre and post nursing guidelines.

Complications	Control(n=30)		Study(n=30)		P. value
	No.	%	No.	%	
Renal impairment	20	66.6	16	53.3	0.292
Connected with M.V	2	6.6	1	3.3	0.706
Cardiac dysrhythmias	14	46.7	10	33.3	0.00
liver enzymes disturbances	21	70.0	20	66.7	0.781
M.. Acidosis	11	36.0	9	30	0.254
M.alkalosis	19	63.3	12	40	0.021*
Fluid &electrolytes disorder	19	63.3	6	20	0.001**

** Significant difference at p. value<0.01

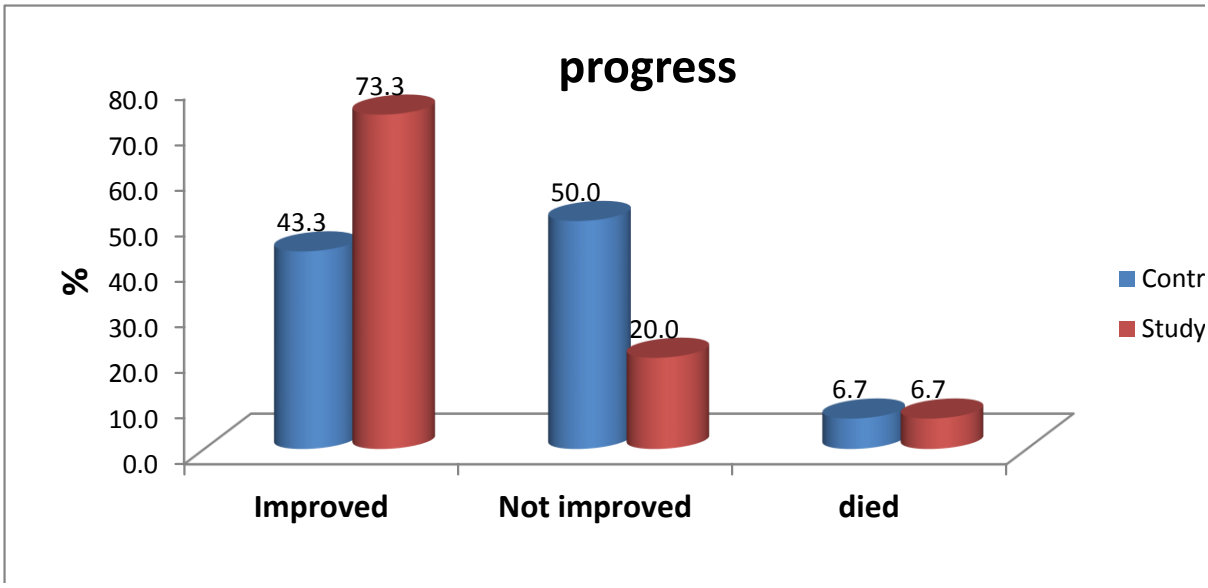

Figure (1): Percentages distributions to progress of patient`s condition between the control and study groups

Table (7): Comparison between the two groups in relation to the length of hospital stay.

Items	control group (no= 30)		study group (no= 30)		P-value
	No	%	No	%	
Hospital stay: (days)					
< 2	5	16.6	2	5.0	0.018*
2 - < 4	21	52.5	10	27.5	
4 - < 6	12	37.5	13	35.0	
≥ 6	2	6.6	5	32.5	

Chi-square test * Statistical significant difference (P < 0.05)

Table (8):- Correlations patient`s outcomes (progress level) and socio-demographic and medical patient data in the both groups

	Control						P. value	Study						P. value
	Improved (No=13)		Not improved (No=15)		Died (No=2)			Improved (No=22)		Not improved (No=6)		Died (No=2)		
Items	**No**	**%**	**No**	**%**	**No**	**%**		**No**	**%**	**No**	**%**	**No**	**%**	
1.Age														
18<30 years	4	30.8	8	53.3	1	50.0	0.648	4	18.2	3	50.0	1	50.0	0.413
30- 40 years	5	38.5	5	33.3	1	50.0		9	40.9	1	16.7	1	50.0	
40-50 years	4	30.8	2	13.3	0	0.0		9	40.9	2	33.3	0	0.0	
2.Sex														
Male	5	38.5	6	40.0	0	0.0	0.536	12	54.5	3	50.0	0	0.0	0.336
Female	8	61.5	9	60.0	2	100.0		10	45.5	3	50.0	2	100.0	
3.Past medical history														
No	9	69.2	13	86.7	1	50.0	0.604	8	36.4	4	66.7	1	50.0	0.406
D.M	2	15.4	2	13.3	1	50.0		14	63.6	2	33.3	1	50.0	
COPD	1	7.7	0	0.0	0	0.0		0	0.0	0	0.0	0	0.0	
Asthmatic	1	7.7	0	0.0	0	0.0		0	0.0	0	0.0	0	0.0	
4.Onset of poisoning														
1hrs	12	92.3	9	60.0	2	100.0	0.095	9	40.9	3	50.0	1	50.0	0.906
2hrs	1	7.7	6	40.0	0	0.0		13	59.1	3	50.0	1	50.0	
5.Amount of poisoning														
<10 tablets	6	46.2	5	33.3	1	50.0	0.001*	12	54.5	2	33.3	2	100.0	0.001*
10 tab	7	53.8	7	46.7	1	50.0		10	45.5	4	66.7	0	0.0	
> 10 tab	0	0.0	3	20.0	0	0.0		0	0.0	0	0.0	0	0.0	

- Fisher Exact test

* Statistical significant difference (P < 0.05)

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