

Epidemiology of the poisoning in children admitted to emergency unit at Al-Diwaniah teaching hospital of pediatricsAbdulaziz Wannas Abd^{1*}, Mahmood Jasim Mohammed**Abstract**

Poisoning in any medical center is considered as one of the most common medical emergencies in children. Acute poisoning in children constitute about less than three percent of all pediatric emergency admissions. The aim of study; to evaluate acute poisoning in children below 15-year-old admitted to emergency unit. Hydrocarbons were the most common poisonous substances leading to hospitalization; we had the highest frequency of admissions in winter. Further, the highest number of poisonous cases was in January and December 79 case and lowest rate 23 case was observed in October; there is an increasing trend in proportion of kerosene poisoning from December to February. The rate of suicidal attempt is very low in our study only 6 cases this result is contrary to other two studies, these are common in adolescent also related to the nature of social environment and learning in each area. In our society accidental kerosene poisoning, which the most common cause of the intoxicated patient admitted to the emergency unit, occur when the patient tries to do procedure to prepare kerosene heater stove or for light (lantern). Only very few cases are related to suicidal attack in our study, we recommend to remove all the poisoning agent as soon as possible from the areas easily reach by the child (removal of poisonous plants and removal of fuel sources like kerosene). Poison control center to triage poisonings, prepare service accurate and timely advice to health personnel and caregiver should be available in each governorate.

Key words: Poisoning, Causes, Hospital outcome, Aldiwaniah, Iraq*Corresponding Author: abdulazizwannas@yahoo.com¹Department of pediatrics, Al-Hussain hospital, Diwanya

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<http://creativecommons.org/licenses/by/2.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. Copyright © 2016 SF.**Introduction**

Poisoning in any medical center is considered as one of the most common medical emergencies in children. About 80% of all cases of poisoning in children occur in ages less than five years; therefore, it is most common in younger ages. Acute poisoning in children constitute about less than three percent of all pediatric emergency admissions [1]. Poisoning in infants and younger children, it is mainly accidental but in older children, it is usually

intentional. Poisoning pattern may change over time. Also, it is not similar in different countries [2, 3]. Therefore, surveillance specific for each region is vital to determine the extent of these problem and the preventive way which need to be taken despite various preventive measures, poisoning in children still remains an important public health problem in the world, resulting in a large number of hospitalizations in emergency ward [1].

There is an important difference in socioeconomic and cultural situations in different areas cause various types of poisoning with different poisonous agents. These differences vary from different countries and between different region of the same country. In the past all the article about poisoning indicated that a variety of socioeconomic factors and other demographic elements effect the acute accidental poisoning in children [3, 4]. Factors such as family size, socioeconomic condition, child care and place of storing poison are important.

Risk factors:

1. Child below five years are susceptible to the ingestion of poisons, especially liquids, because they are very inquisitive, put the agents in their mouths and are not know the consequences.
2. Adolescents, are more aware of the result of their actions but peer group pressure can lead them to misuse alcohol or illicit drugs, leading to a fatality rate higher than in younger children.
3. Very young child is more prone to poisoning because of their smaller size and less well-developed physiology, especially as toxic substance relates to dose per kilogram of bodyweight.
4. Male have higher rates of poisoning than female in all areas.
5. Fatal and non-fatal poisonings are mostly being related to low to mid socioeconomic status.
6. The risk factor may be related to the poisoning agent, toxic substance, nature, season, weather and environment [5].

Most common agents involved in childhood poisoning including the drugs like such as paracetamol, cough/cold remedies, vitamins and iron tablets, antihistamines and anti-inflammatory drugs. The other medications such as antidepressants, narcotics, analgesics and illicit drugs [6]. The house hold materials such as bleach, disinfectants, detergents, cleaning agents, cosmetics, vinegar, kerosene or oil poisoning, pesticides including insecticides, rodenticides and herbicides, poisoning plants and animal or insect bit.

Management include airway and breathing and circulation, removal of poison and activated Charcoal has a very limited role in treatment and should not be used without consultation with a toxicologist [7]. Whole Bowel Irrigation has a limited role in treatment of some slow release preparations

- Stomach wash has a very limited role in treatment and should not be used without consultation.
- Certain types of antidotes may be available and serum drug levels may help in treatment decisions.

The aim of study is to evaluate acute poisoning in children below 15 years old admitted to emergency unit.

Methods

In this prospective study, we included all the infants and children who were admitted to emergency unit of maternity and pediatric teaching Hospital at Al-diwaniah from January 2013 through December 2014 We excluded patients older than 15 years those with bites or stings. Diagnosis of acute poisoning based on history the information about each case was recorded in standardized forms. The occurrence of childhood poisoning was described by questionnaire include age and sex of the child, way of exposure, signs and symptoms at presentation to the emergency room and substance involved in the poisoning, duration between exposure and admission; we obtained demographic information of the patients admitted due to poisoning and residence, socioeconomic status and presence or absence of suicidal attempts. Additionally, we determined different causes of poisoning including drugs, household compounds, organophosphorus materials, hydrocarbons agents, herbal medicines, carbon monoxide poisoning, insecticides put at home or used by farmer, mushroom or food poisoning and lastly alcohols poisoning.

Results

Total number of admitted patients during the study period was 586 predominance of male was seen regarding gender in patients younger than 15 years. Hydrocarbons were the most common poisonous substances leading to hospitalization (figure 2). We had the highest frequency of admissions in winter. The highest number of poisonous cases was in January and December 79 case and lowest rate 23 case was observed in October; there is an increasing trend in proportion of kerosene poisoning from December to February (figure1).

The most frequently used drugs were: analgesics (35 % cardiovascular drugs (10%), anticonvulsants (12%) and antihistamines (3%)). Also, and acetaminophen (43%) were the most frequently used analgesics. Hypoglycemic drug 2% contraceptive pills 2%.

Our findings suggest that kerosene is the most common poisonous agents followed by food poisoning then organophosphorus and drug respectively; analgesics were the main pharmaceutical drugs causing poisoning.

In contrary to our findings, in some studies other substances like opium, alcohol are the dominant poisonous substances this is usually related to the culture of these societies and religious habit of these area easy reach to the poisonous substances or difference in the age groups studied [8, 9].

The rate of suicidal attempt is very low in our study only 6 cases this result is contrary to other two studies, these are common in adolescent also related to the nature of social environment and learning in each area [10, 11]. Were the rate of accidental and intentional poisoning being equal.

In our study of (586) intoxicated patients 356 (60.75%) were males and 230 (39.25%) females. Most (71%) of the children were under 5 years (10% below 1 year and 61% were between 1 to 5 years) and 26% were between 5 and 10 years. Children between 10 and 15 years of age accounted for only 2.4% of poisoning (table-1). Ingestion was the main route of exposure and then (94%), inhalation (5 %), and ingestion with inhalation together in (1%).

Table 1.

Sex distribution of the intoxicated patients

Age	Total no & percent.	Male	Female
<1year	60 (10.2%)	32 (53.4%)	28 (46.6%)
1-5years	360 (61.4%)	214 (59.5%)	146 (40.5%)
5-10 years	152 (26%)	100 (65.8%)	52 (34.2%)
10-15 years	14 (2.4%)	10 (71.4%)	4 (28.6%)
Total	586 case	356 (60.75%)	230 (39.25%)

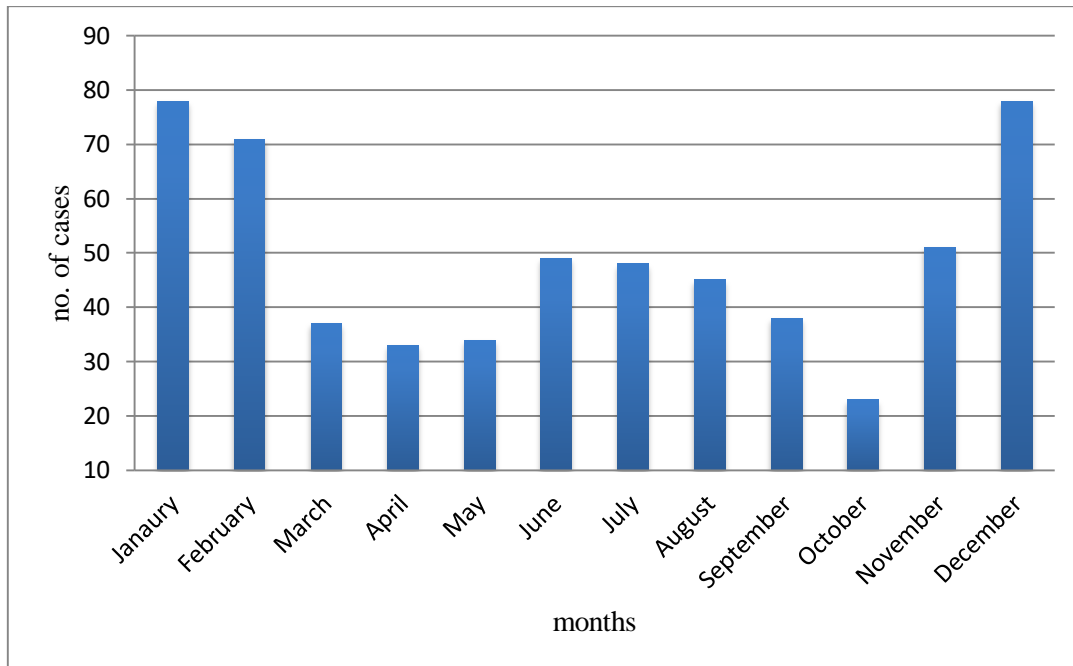


Figure 1.
Distribution and frequency of poisoning throughout the year

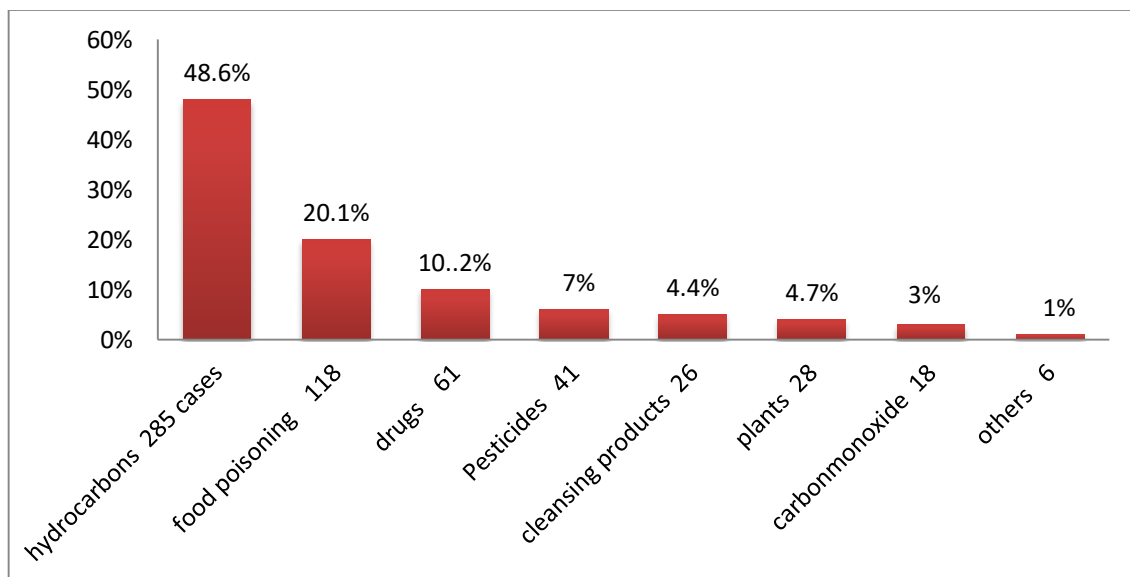


Figure 2.
The main causes of poisoning.

Reading the hospital outcome of our patient, (75%) cases were discharged between 6 to 24 hours. (20 %) discharge after 24 hours (78%) patients were discharged with full recovery, (21%) were discharged on their responsibility and 1 patients died as a result of intoxicated with hydrocarbons poisoning.

Conclusion and recommendations

In our society accidental kerosene poisoning, which the most common cause of the intoxicated patient admitted to the emergency unit, occur when the patient tries to do procedure to prepare kerosene heater stove or for light (lantern). Only very few cases are related to suicidal attack in our study, unlike the western countries in which a big problem in adolescent live in this region with alcohol and heroin and other addict substances.

We recommend to remove all the poisoning agent as soon as possible from the areas easily reach by the child (removal of poisonous plants and removal of fuel sources like kerosene).

And change the poisoning agents with other of less toxicity (e.g. replacing aspirin with paracetamol) and decreasing toxicity of poisoning substance by packaging in non-lethal concentrations or doses. Lastly poison control center to triage poisonings, prepare service accurate and timely advice to health personnel and caregiver should be available in each governorate.

Competing interests

The author declares that there is no conflict of interest.

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