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Epidemiology of the poisoning in children admitted to emergency unit at Al-Diwaniah teaching hospital of pediatrics

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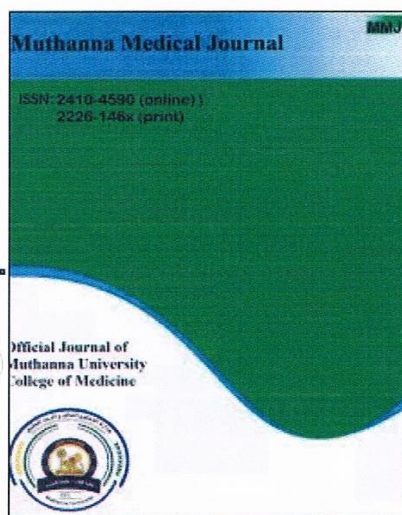
Research Article

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Abstract

Poisoning in any medical centre 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 try to do procedure to prepare kerosene heater stove or for light (lantern). Only very few cases is 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 centre to triage poisonings, prepare service accurate and timely advice to health personnel and caregiver should be available in each governorate.

Keywords: Poisoning, Causes, Hospital outcome, Aldiwaniah, Iraq

INTRODUCTIONS

The poisoning in any medical emergency unit is considered as one of the most common medical emergencies in any pediatrics. About 80% of all cases of poisoning in children occur in preschool age group; therefore, it is most common in younger ages. Emergency poisoning in children constitute about less than three percent of all pediatric emergency admissions [1] The poisoning in infants and younger children, it is mainly accidental but in older children and adolescent, it is usually intentional [2].

Poisoning pattern may variable over time. Also, it is not similar in different regions. [2 , 3] therefore , surveillance specific for each country is necessary 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

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health problem in the world , resulting in a large number of hospitalizations in emergency ward [1] .

There is a variable socioeconomic and cultural situations in different areas cause various types of poisoning with different poisonous materials. 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 exposed to the ingestion of poisons, especially liquids small dirty objects, because they are very inquisitive, put the agents in their mouths..
2. Adolescents problems is usually with peer group pressure can lead them to misuse alcohol or illicit drugs, leading to a fatality rate higher than in younger children.
3. Very small young child are more prone to emergency poisoning conditions as their little size and less well-developed physiology, especially as toxic substance relates to dose per kilogram of bodyweight.
4. boys have increase rates of poisoning than girls in all areas.
5. Emergency poisoning conditions mostly are 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 drugs such as antidepressants, narcotics, analgesics medications. [6] The household materials such as bleach, disinfectants, detergents, cleaning agents, cosmetics, , kerosene materials ,pesticides including insecticides, rodenticides and herbicides, poisoning plants and animal or insect bit.

Management include maintain 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 cleaning has a limited role in treatment of some slow release preparations

- Gastric 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.

AIM OF STUDY

To evaluate acute poisoning in children below 15 years old admitted to emergency unit

MATERIALS AND METHODS

In this study, we included all the infants and children who were admitted to emergency unit of maternity and pediatric teaching Hospital at Aldiwaniah from January 2013 through December 2014 We excluded patients older than 15 years those with bites or stings . Diagnosis of emergency poisoning conditions based on full history mainly and clinical medical examinations ; the information about each case should be recorded in standardized manner . The occurrence of childhood poisoning was described by questionnaire include age of the patient and gender of the patient, way of exposure, obvious signs and 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, organophosphorous materials ,kerosene poisonous oil , hydrocarbon and other agents , herbal materials, CO toxicity , insecticides put at home or used by farmer , mushroom or food poisoning and finally alcohols poisoning which is very rare in our society .

RESULTS & DISCUSSION

Total number of admitted patients during the study period was 586 predominance of male gender was seen in patients younger than 15 years {figure 1} . Hydrocarbons substances were the most common poisonous materials leading to hospitalization at our hospital{figure- 2} .We had the highest frequency of admissions in winter and cold seasons. 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 most common period used in heating in our region .{figure _ 1}o

The most commonly used drugs were: analgesics mainly(paracetamol)medications (35 %) cardiovascular medications (10%), anticonvulsants drugs (12%) and antihistamines medications(3%). The acetaminophen (43%) were the most frequently used analgesics. Lastly hypoglycemic drug represent 2% and contraceptive pills also represent only 2%.

Our findings suggest that kerosene poisonous materials is the most common cause of emergency problems regarding poisoning followed by food poisoning then organophosphorus and drugs respectively as shown by above statistical percent ; analgesics mostly the paracetamol were the main pharmaceutical drugs causing poisoning.

In contrary to our findings, in some studies other substances like all type of opium, alcohol are the dominant poisonous substances in westerian countries 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 centenary 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 were equal .

In our study of (five hundred eighty six) intoxicated patients three hundred fifty six (60.75%) were males and two hundred thirty (93.25%) were females . Most (71%) of the children were under 5 years (10% below 1year and 61% were between 1 to 5 years) and 26 % were between 5 and 10 years. Children between ten and fiveteen 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 an frequency of poisoning throughout the year

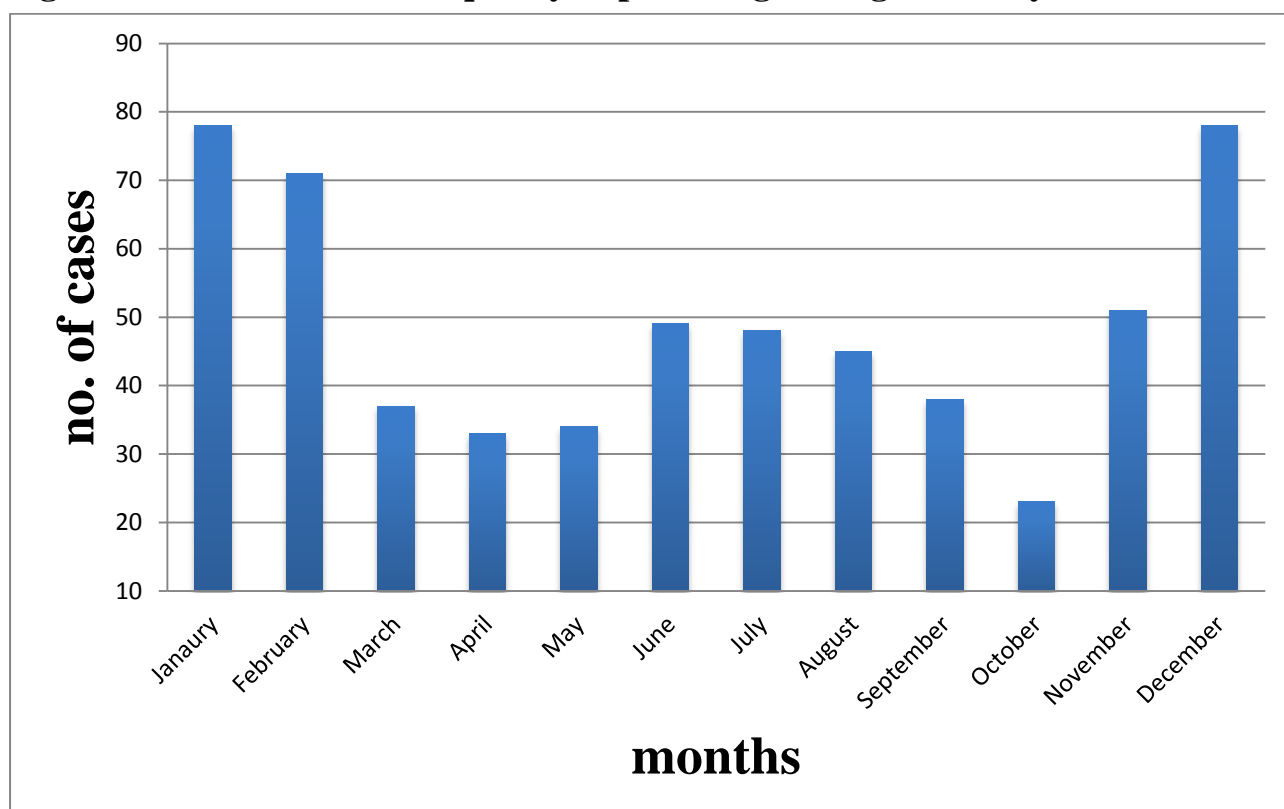
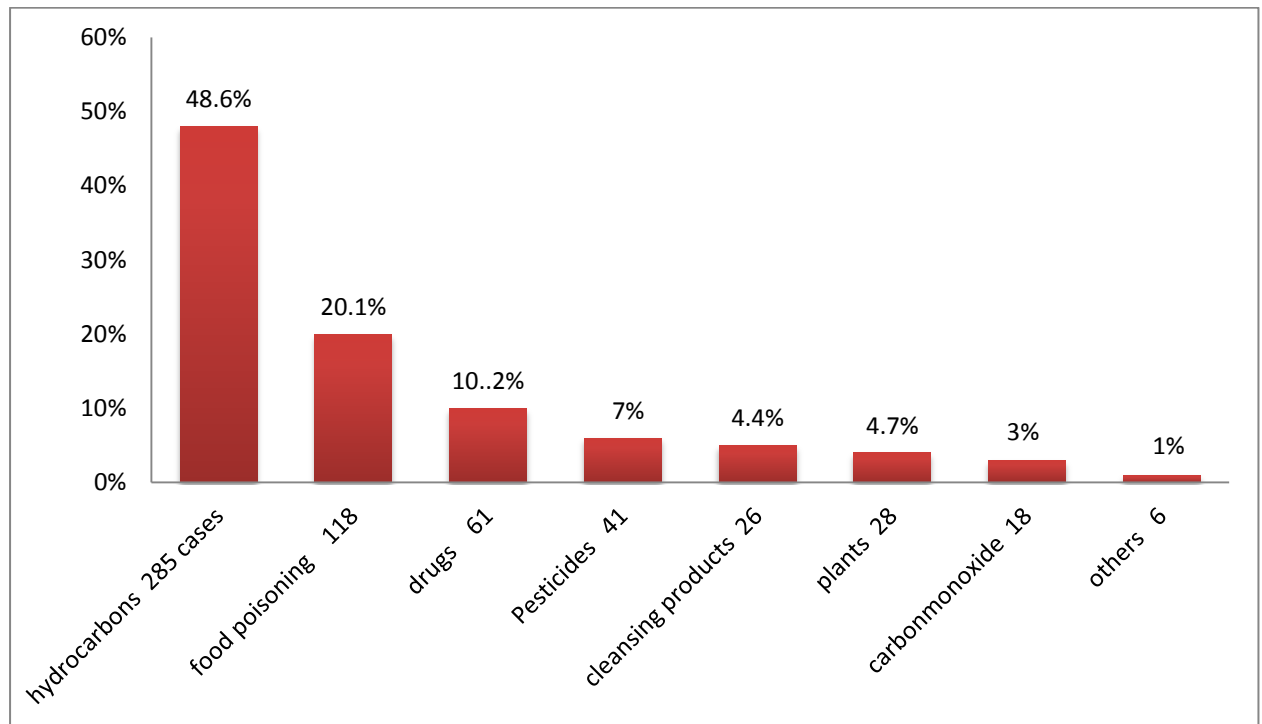


Figure -2 The main causes of poisoning.



Regarding the hospital outcome of our patient, most of the intoxicated patients was with good prognosis, (75%) cases were discharged between 6 to 24 hours. About twenty percent discharge after 24 hours (78%) patients were discharged with full recovery, (21%) were discharged on their responsibility and only one patient died as a result of intoxicated with hydrocarbons poisoning.

CONCLUSION AND RECOMMENDATIONS :

In our society accidental kerosene poisoning, which is the most common cause of the intoxicated patient admitted to the emergency unit, occurs when the patient tries to do a procedure to prepare a 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 life in this region exists with alcohol and heroin and other addictive substances.

We recommend to remove all the poisoning agents as soon as possible from the areas easily reached 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, a poison control centre to triage poisonings, provide accurate and timely advice to health personnel and caregivers should be available in each governorate.

الخلاصة :

يعتبر التسمم في أي مركز طبي باعتبارها واحدة من حالات الطوارئ الطبية الأكثر شيوعاً في الأطفال: معلومات أساسية. حوالي 80% من جميع حالات التسمم في الأطفال تحدث في الأعمار أقل من خمس سنوات. وبالتالي، فإنه هو الأكثر شيوعاً في سن أصغر. التسمم الحاد لدى الأطفال يشكلون حوالي أقل من ثلاثة في المئة من مجموع المقبولين في حالات الطوارئ للأطفال.

الهدف من الدراسة: تقييم التسمم الحاد لدى الأطفال أقل من 15 سنة اعترف حدة الطوارئ. المواد والطرق: تشخيص التسمم الحاد تقوم أساساً على التاريخ المعلومات. وقد وصفت وقوع التسمم الطفولة التي الاستبيان تشمل العمر وجنس الطفل، وطريقة التعرض، وعلامات وأعراض على عرض لغرفة الطوارئ ومادة تشارك في التسمم، والمدة بين التعرض والقبول نحن الحصول على المعلومات الديموغرافية للمرضى اعترف بسبب التسمم والإقامة والوضع الاجتماعي والاقتصادي وجود أو عدم وجود محاولات الانتحار. وكان عدد من المرضى الذين يتم إدخالهم خلال فترة الدراسة كان ينظر 586 غلبة الذكور عن التمييز بين الجنسين في المرضى الذين تقل أعمارهم عن 15 سنة: النتائج والمناقشة. وكانت الهيدروكربونات كانت المواد السامة الأكثر شيوعاً التي تؤدي إلى دخول المستشفى. ونحن على أعلى تردد القبول في فصل الشتاء. وكان أكبر عدد من الحالات السامة في يناير كانون الثاني وكانون الأول 79 حالة وأدنى معدل لوحظ 23 حالة في اكتوبر تشرين الأول. هناك اتجاه متزايداً في نسبة التسمم الكيروسين من ديسمبر إلى فبراير. معدل محاولة الانتحار منخفض جداً في دراستنا 6 حالات فقط هذه النتيجة هي يكون للدراسات سحب أخرى، وهذه هي شيوعاً في المراهقين أيضاً ذات الصلة لطبيعة البيئة الاجتماعية والتعلم في كل مجال.

الخلاصة والتوصيات: لدينا في التسمم العرضي المجتمع الكيروسين، الذي السبب الأكثر شيوعاً للمريض في حالة سكر المقبولين في وحدة الطوارئ، تحدث عندما يكون المريض في محاولة للقيام بالإجراء لإعداد موقد سخان الكيروسين أو للضوء (فانوس). إلا حالات قليلة جداً تتعلق الهجوم الانتحاري في دراستنا، ونحن نوصي لإزالة كافة وكيل تسمم في أقرب وقت ممكن من المناطق تصل بسهولة من قبل الطفل (إزالة النباتات السامة والتخلص من مصادر الوقود مثل الكيروسين).

مراقبة السموم مركز لفرز حالات التسمم، وإعداد خدمة المشورة دقيقة وفي الوقت المناسب لموظفي الصحة ويجب أن تكون الرعاية متوفرة في كل المحافظات.

الكلمات الرئيسية: التسمم والأسباب والنتائج المستشفى، الديوانية - العراق.

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