CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3235354

Available online at: http://www.iajps.com *Research Article*

A STUDY ON THE VARIATION OF SEASON ON ACUTE POISONING AMONG CHILDREN

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Article Received: March 2019 **Accepted:** April 2019 **Published:** May 2019

Abstract:

Objective: *The most frequent emergency in the unit of children is AP (Acute Poisoning). This was a retroactive research work to determine the variation of season on AP among children in the pediatric ward of Allied Hospital, Faisalabad.*

Methodology: *The research work carried out in Allied Hospital, Faisalabad from March 2017 to January 2019. We studied the patients to determine the variations of seasons and other remaining other epidemiological as well as other clinical factors. There were total 193 patients in this research work and we divided the patients into 4 groups. The occurrence and kind of the acute poisoning were under observation in the seasons of winter, summer, rain & spring.*

Results: *There were total one hundred and ninety-three (4.70%) patients suffering from the acute poisoning and they got admission in the hospital for treatment were the part of this research work. Total 55.40% (n: 107) patients were male & remaining 44.60% (n: 86) patients were female. The most vulnerable affected group of age was consisting the patients from one to three years of age. The most frequent utilized ingredient was kerosene. The patients of acute poisoning were very common in the season of summer. Total rate of mortality was 4.70%.*

Conclusion: *The results of this research work concluded that poisoning was much frequent in the season of summer and the most common utilized ingredient was kerosene. This was because of the presence of the kerosene & in the durations of months of summer, children with thirst took this ingredient which was available in hidden places sometimes in bottles of drinks or in the bottles of mineral water. This is very necessary for parents to keep these ingredients away from the reach of children and in hidden containers.*

Keywords:*Variation, Acute Poisoning, Children, Morbidity, Occurrence, Observation, Acute, Mineral, Ingredient, Kerosene.*

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Please cite this article in press Sara Akram et al., ***A Study on the Variation of Season on Acute Poisoning among Children.,*** *Indo Am. J. P. Sci, 2019; 06(05).*

INTRODUCTION:

The poisoning in the children is a major health issue in children and it is a serious matter of concern for authorities of heath care field and this problem is accountable for high rate of morbidity as well as mortality [1]. The exposure to toxic materials is very common reason of this illness in most of the countries [2]. In the whole world, there is a report of 3 million cases of AP and more than 2, 20,000 deaths due to the exposure to pesticides every year [3-5]. The exposure to many pesticides and other chemicals of industry in profession, exposure to products in house accidently and poisoning because of venomous animal, plants with toxicity and food with contamination are the main contributors of high rate of mortality and morbidity [6]. The poisoning pattern varies from regions to region in the single country.

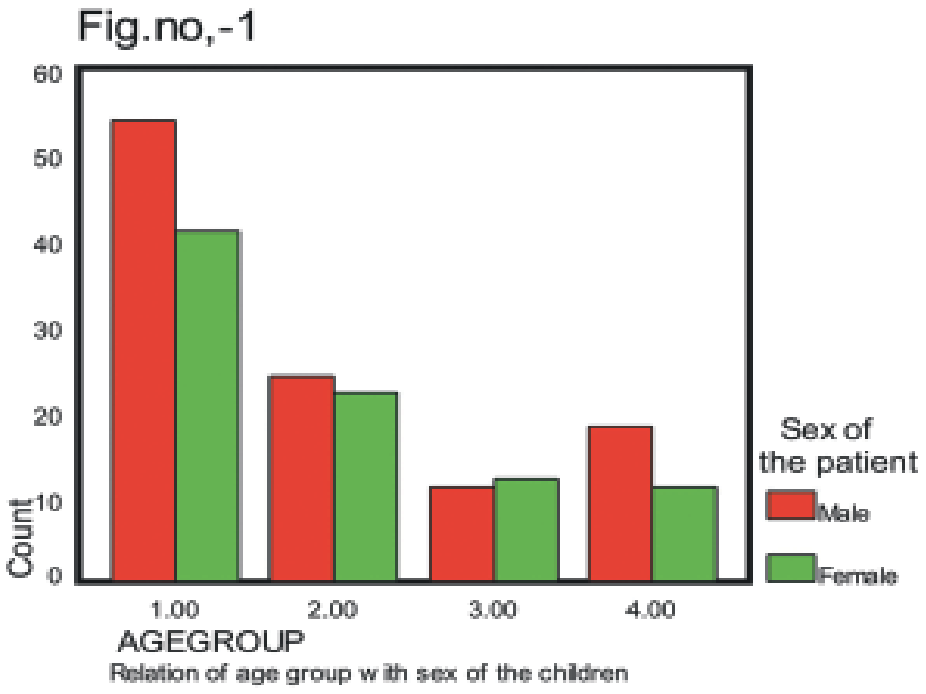
The poising because of copper sulphate was the most common type of poisoning for suicide among young population as described by Nazmul Ahasan and his colleagues [7]. In most of the countries which are under development as Pakistan, India & Bangladesh the products for the mitigation of insects and other substances held in houses are very frequent reasons of this problem [8]. This retroactive research work conducted to see the poisoning among children in accordance with age groups, discrimination of gender and variation of season on its occurrence.

METHODOLOGY:

This retroactive research work conducted in the children ward of Allied Hospital, Faisalabad. The records of the children who suffered from AP from March 2017 to January 2019 included in this research study. The range of age of patients was 1-12 years. We divided the children into 4 groups of age i.e. Group-1, Group-2, Group-3, Group-4 with range of age from 1 to 3, 4 to 6, 7 to 9 and 10 to 12 years correspondingly. We carried out the distinction of male & female & variation of season on poisoning. The categorization of four seasons carried out as summer, winter, spring and season of rain. We allotted three months of complete year for every mentioned season. We also observed the incidence of poisoning kind with respect to the prevailing season. All the patients who got admission in the hospital were under examination and we calculated the rate of this complication of AP among them. Computer was in use for the record of collected information and SPPS V.10 was in use for the statistical analysis gathered information in collaboration with Chi Square test.

RESULT:

There were total one hundred and ninety-three (4.70%) patients of AP who got admission in the pediatric ward of Nishter Hospital. Lahore. The total amount of children in that period was more than four thousand who got admission in the same ward for the treatment of various diseases. The rate of mortality was 4.70% (n: 9). There were total 55.40% (n: 107) male patients and 44.60% (n: 46) patients were female. Male patients outnumbered the female patients. Figure-1 displays the various distributions of age and genders.



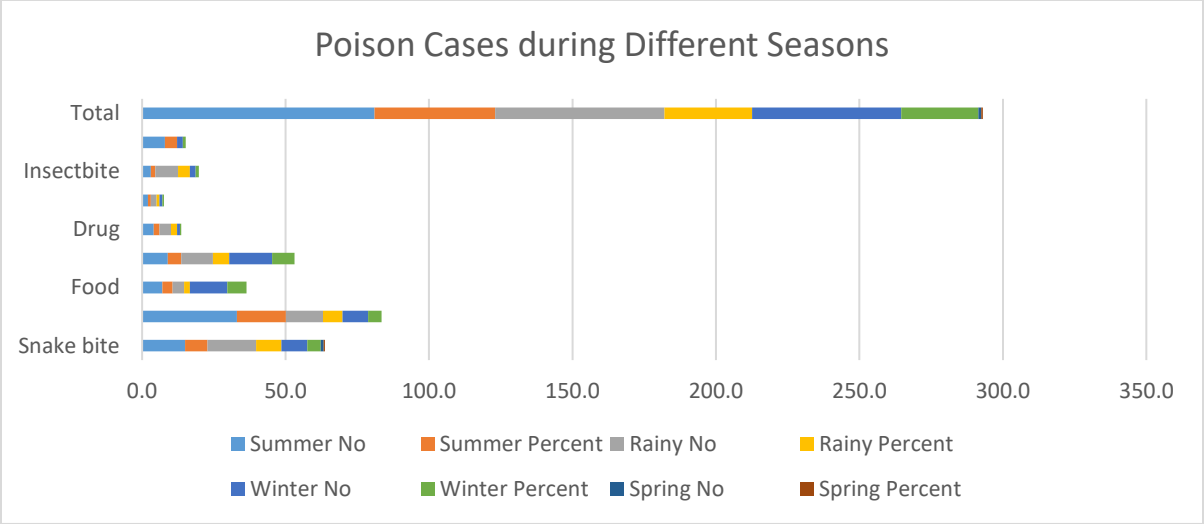
Relation of age group with sex of the children

The division of the patients carried out in 4 groups. Group-1 consisted patients from 1 to 3 years, Group-2 = from 4 to 6 year of age, Group-3 = from 7 to 9 years and Group-4 = from 10 to 12 years of patients. The group with the most vulnerable patients was Group-1. The occurrence of this complication in this group was 49.20% with the dominancy of the male patients.

The poisoning because of kerosene was available with the greatest rate in 28.50% (n: 55) patients whereas the least occurrence was because of poisoning due to copper sulphate poisoning with 2.60% (n: 5) patients. Most of the bites from snakes in this research work were non-venomous. We found only 14.40% (n: 6) cases among total forty-two as venomous. There was an association between the different kinds of the poison and group of age of patients. The occurrence of this complication was much high in the season of summer and it was at its lowest frequency in the month of spring. In current research work, we discovered that the most vital agents of this complication among children was kerosene in the Group- 1. Table-1 shows the variations of season with the poisoning kind among children. We found a strong association between poisoning occurrence and seasons.

Table-I: Poison Related to Different Seasons (n-193)

Season	Summer		Rainy		Winter		Spring	
	No	Percent	No	Percent	No	Percent	No	Percent
Snake bite	15.0	7.770	17.0	8.800	9.0	4.660	1.0	0.510
Kerosene	33.0	17.090	13.0	6.730	9.0	4.660	-	-
Food	7.0	3.620	4.0	2.070	13.0	6.730	-	-
Organophosphorus poisoning(OPC)	9.0	4.660	11.0	5.690	15.0	7.770	-	-
Drug	4.0	2.070	4.0	2.070	1.0	0.510	-	-
Copper sulphate	2.0	1.030	2.0	1.030	1.0	0.510	-	-
Insect bite	3.0	1.550	8.0	4.140	2.0	1.030	-	-
Unknown	8.0	4.140	-	-	2.0	1.030	-	-
Total	81.0	42.000	59.0	30.600	52.0	26.900	1.0	0.510



DISCUSSION:

AP is very frequent and immediate medical issue in almost all the countries of the whole world [9]. In current research work, 4.70% patients got admission in pediatric ward because of this very complication. This rater was very high as compared to the frequency described by Matityahu L as .90% [10]. This disparity was the outcome of the easy exposure to the toxic

ingredient in our societies. The rate of mortality was 4.70% which is very low as compared to the research works of Rauf Ahmad, who stated the rate of mortality as 15.0% [11]. This lower mortality rate was the outcome of exposure to less toxic material accidently by children. Most of the patients suffering from this complication were male and in the age group of less than 3 years of age. This outcome was similar to the results of abdollahi [12].

The high rate in the males was because of the high activity in that age and deficiency of the proper supervision of the parents. The most frequent poison as used by children was kerosene in this research work. Cosmetics & other agents of cleaning were the ingredients most commonly involved in poisoning of children in the research work of Litovotz Tl [13]. We observed the kerosene as the most common ingredient in our study, this is because of utilization of this ingredient for cooking and lightening homes. Usually this kerosene oil has its place in plastic bottles of cold drinks or mineral water. Children under the age 3 years normally think that the material in the bottles is water and they have no idea about kerosene. The most vulnerable season for AP among children was summer and in that period kerosene was the most used ingredient among children.

We found a strong relation between season of summer and kerosene. Matityahu in his research work observed high rate of poisoning in the seasons of summer and winter in comparison with other seasons [10]. Usually children use kerosene in the summer unintentionally when they feel themselves thirsty in that hot season which placed in the bottles of drinking materials. We saw the bite of snake in the children having age of ten to twelve years very high in the season of rain. This unintentional poisoning among children are due to the easy access to toxic materials in the house.

CONCLUSION:

This complication rate is very high among children is very high. This is very necessary for parents to keep such ingredients in the special containers and away from reach of children for the prevention of this disease especially in the season of summer which attracts the children of small age in the season of summer.

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