

## Poisoning Survey of Referred Children to Afzalipour Hospital in Kerman in 2009-2010

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### ABSTRACT:

**Introduction:** In all Poisoned prevalence in children is about 70% which 90% out of them are preventable. Poisoning is different in children because of its relation to geographical region, culture, economic and socioeconomic. This study was designed to find the epidemiology of poisoning in children who referred to emergency center of Afzalipour hospital in Kerman in 2009-2010.

**Method:** This descriptive cross sectional study was done from 20<sup>th</sup> of March 2009 to 20<sup>th</sup> march 2010. The population was all children who referred to Afzalipour emergency section by clinicians. The tools of data collection were a questionnaire with variables such as time, sex, age, location, education of parents and the toxic agent. The data analyzed by statistical software Minitab.

**Results:** Age of the referred patient was from one month to 13 years old, and 299 of them live in city and 98 in countryside. The season had significant effect on poisoning and the most of cases were referred in winter ( $p < 0.001$ ). Also educated parents who had at least bachelor had less cases in comparison with others and it was significant ( $p < 0.001$ ). The causes of poisoning were medicine (34.7%), narcotic agent (26.7%), food poisoning (14.9%), stinging (10.3%), petroleum and its products (6.5%), hygienic materials (4.8%) and finally insecticide (1.5%). Prevalence in 1-3 years old was more than the other age groups.

**Conclusion:** In this study prevalence of narcotic agent and medicine had a high level which is preventable, so it is necessary that media have program related to these subject.

**Keywords:** Children , Epidemiology , Kerman , Poisoning

### INTRODUCTION

Nowadays growth of city population, industrialization and machinery life causes that families and their children have easy to drugs, chemical substances, cosmetics, insecticides and fast foods which have increased the poisons in the world.

According to results published by WHO poisons is the fifth of death in children after traffic accident drawing, burning and falling down from heights. Children who die from poisoning are 45000 every year (1). Poisoning in children is by accident and because of their curiosity, wrong storage of medicine and chemical substance at home (2).

In a study which was done in the center of children emergency in United States showed that 429.2 out of 100000 were poisoned and 70% of the had less than one

year old (3). In another research which was done in Slovene along five years, they showed the most poisoned children were under 3 years old (4). In a 3 years, study in Karachi of Pakistan they founded out that the prevalence in boys were more than girls and most of them poisoned by petroleum and its substances (5). In a study in Ankara 63.4% of poisoned children were under 5 years old (6). Also in a research in Shiraz south of Iran the prevalence of poisoning in 1-3 years old group was more than the others and the most material of poisoning were medicine, chemical substance and narcotics (7). In another study in Kermanshah west of Iran the prevalence in boys was more than girls and poisoning by medicine had the highest rate (8). Since knowing of the causes of poisoning in children can lead to find ways for preventing and we

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did not have any research in this field in Kerman south east of Iran, so we designed this research for this necessary.

## MATERIALS AND METHODS

This cross sectional descriptive study was done from 20<sup>th</sup> of March 2009 to 20<sup>th</sup> march of 2010. Main population was children who referred to Afzalipoor Hospital Emergency by specialist, and sampling method was census.

Demographical characteristic of poisoned children entered in a questionnaire with variables, time, sex, age, location, parent's education, and type of poisoning substances including food and drink, drugs, petroleum substances, bits, toxics and insecticide, and narcotics, which each group also divided to subgroups. After the data collection, the statistical software Minitab applied to analyzing the data.

## RESULT

Out of 36091 children who treated in emergency of Afzalipoor Hospital 397 were poisoned, it means that the prevalence of poisoning were 1%. Among the poisoned children boys were 219(55.2%) and girls 178 (44.8%). Most of the children who poisoned were between 1-3 years old with relative frequency 41.3%. The causes of poisoning

in this study were as follows respectively: Medicine 138(34.7%), Narcotics 108(26.71%), Foods 59(14.9%), Bites 41(10.3%), Petroleum and substances 26(6.5%), Cosmetics 19(4.8%), Toxics and Insecticides 6(1.5%).

It is an important point that out of 138 children who poisoned by medicine 112(81%), also out of 108 children who poisoned by narcotics 71(65.8%), were in group age 1-5 years old. In group age of less than one year old 27(62.2%) individual were poisoned by narcotics and the rest of this age group poisoned by medicine. Most of poisoned by food had more than 5 years old(59.3%). In spite of medicine, cosmetics and narcotics, which most of them were in age group 1-3 years old.

In poisoning by toxics, insecticides and bites most of the poisoned were in age group 3-5 years old (table 1). In this study we found out that 299(75.3%) live in the city and 98(24.7%) live in rural areas, also poisoning by petroleum and narcotics in rural areas were more than children who live in the city (Table 2). In all type of poisoning the fathers of children graduated from high school (Diploma) or greater other than narcotic that most of them 86 out of 108 (80%) were under diploma which was significant ( $p < 0.001$ ) (Table 3).

**Table 1:** Distribution of type of poisoning in children who referred to Afzalipoor Hospital by age

Age	< 1 year		1-3		3-5		> 5 years		total	
	N	P	N	P	N	P	N	P	N	P
Food	1	1.7	8	13.6	15	25.4	35	59.3	59	100
Medicine	8	5.8	73	52.8	39	28.3	18	13.1	138	100
Petroleum substance	2	7.7	16	61.5	7	26.9	1	3.8	26	100
Healthy substance	0	0	14	73.7	3	15.8	2	10.5	19	100
Toxics	0	0	2	3.3	4	66.7	0	0	6	100
Narcotics	27	25	45	41.4	26	24.1	10	9.2	108	100
Bites	1	2.4	6	14.6	18	43.9	16	39.2	41	100
Total	39	9.8	164	41.3	112	28.2	82	20.6	397	100

$$p < 0.001 \quad \chi^2 = 140.861$$

**Table 2:** Type of poisoning in children who referred to Afzalipoor hospital by Location

Type Location	Food		Medicine		Petroleum substance		Bites		Healthy substance		Toxics		Narcotics		Total	
City	57	96.6 %	126	91.35%	18	30.7%	34	82.9%	18	94.7%	5	83.3%	51	47.2%	299	75.3
rural	2	3.4%	12	8.7%	26	69.2%	7	17.1%	1	5.3%	1	16.7%	57	52.8%	98	24.7

$$P < 0.000 \quad \chi^2 = 112.304$$

**Table 3:** Type of poisoning in children who referred to Afzalipoor hospital by Father's education

Father education Type	Diploma & less than Diploma	Technician	Bachelor and higher	Total
Food	5	18	36	59
Medicine	26	64	48	138
Petroleum substance	15	11	0	26
Bites	7	15	19	41
Healthy substance	4	9	6	19
Toxic	1	3	2	6
Narcotic	86	22	0	108
Total	144	142	111	397

$$\chi^2 = 170.667 \quad p < 0.001$$

Also in poisoning children their mother have diploma or less than diploma which was statistically significant ( $p < 0.001$ ) (Table 4). Seasons also showed a significant different with poisoning and most of children (34%) were poisoned in winter ( $p < 0.001$ ) (Table 5). In poisoning by narcotics most of children (72.2%) poisoned by opium and methadone (19.5%) (Table 6). Approvingly toxicity by insecticides and prisoners mouse and ant poisoned was (66.7%) and by pesticides (33.3%). In healthy materials, bleach was the most and in bites, the bee bites was the most (53.6%), the bits Scorpio (39%), the bits Snack (7.4%). In poisoning by medicine 75% of parents did not know the name of medicine. In food and drinking poisoning by food was 52.5% and by candies was 23.7%.

**Table 4:** Type of poisoning in children who refer to Afzalipoor hospital by mother education

Mother education Type	Diploma Less than Diploma	Technician	Bachelor and higher	Total
Food	5	22	28	59
Medicine	64	46	28	138
Petroleum substance	19	6	1	26
bites	13	14	14	41
Healthy substance	10	5	4	19
Toxic	2	4	0	6
Narcotic	100	7	1	108
Total	217	104	76	397

$$p < 0.001 \quad \chi^2 = 132.02$$

**Table 5:** Distribution of poisoning in Afzalipoor hospital by season

Season	Number	percent
Spring	86	21
Summer	79	20
Autumn	98	25
Winter	134	34
Total	397	100

**Table 6:** Frequency Distribution of type narcotic in children who referred to Afzalipoor hospital

Type narcotic	Number	percent
Cigarette	3	2.8
Tobacco	2	1.8
Opium	78	72.2
Methadone	21	19.5
Others	4	3.7

## DISCUSSION

Respecting to the result of this study prevalence of poisoning was one percent but in a research in India it was 2.65%(9). In another study in Kashan 1.03% (10) and in United States by Rodger it was 0.43% (3). In the research 69.5% of poisoned was in 1-5 years old and boy were more than girls which was the same was studies in Slovene (4), Karachi (5), Ankara (6), Nepal (7) and America (3,12). In our opinion the causes of this problem could be curiosity of boys and lack of attention of parents.

The results that researchers found out is the same was studies in America (3), Kashan (10), Turkey (6,13,14), Saudi Arabia (15) and Tabriz (16) that may be of easy to available for children. Opium and Methadone was the most narcotics where poisoned in this study. In a five year study in America by the preventable disease control should that using of opium and medicine like methadone has and increasing trend (17).

Also in a research I Rasht north of Iran the prevalence of poisoning by opium 9.3% (18) and in Ahvaz south of Iran 11.9% (19), and 25% of this poisoned children were under 1 year old and most of them were in village. One of the reasons could be that people were the narcotics as pain reliever, anti-coughing and anti diarrhea.

But antes of the poisoned in city by medicine is because of easy available of medicine and other poisoned materials. The winter had the most frequencies which are the same as the study in Italy (20), and the cause could be the keeping of poisoning materials at home because of cold weather. But in other studies in Shiraz (7) and in Kermanshah (8) show that the most poisoned children were in summer.

## CONCLUSION

In respect to the results of this research and high prevalence of poisoning, it need that the responsible centers do have classes for parents especially in the field that how to keep medicine, opium and chemical materials at home. Besides they give comments to them the problem which will be because by giving opium to neonates. In this manner the media can have the main role.

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