

Pattern of Acute Poisoning Cases Admitted to Menoufia Poisoning and Addiction Control Center: A Prospective Study

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Abstract

Introduction: Poisoning is a growing public concern and real potential threat to the Egyptian community. Acute poisoning is a common medical emergency encountered in practice. The knowledge profile of poisoning cases encountered in a particular area is useful to prepare health care professionals to handle these emergencies efficiently

Aim of the study is to highlight the pattern of acute poisoning cases in poisoning and control center of Menoufia University hospital in order to take appropriate management of these cases.

Subjects and methods: a hospital based prospective study carried out on 653 acute poisoning cases admitted to Poisoning and Addiction Control Center at Menoufia University Hospital during the period from the 1st of March to the end of June 2015. Information was obtained from direct interview with patients, their relatives and the attending medical staff at the center after management of the patient as well as from the health records. Personal data, circumstances, type of poisonous substance and outcome were collected.

Results: Overall, 653 poison exposure cases were recorded. Children under 7 years old were involved in 40.1% of cases. In 84.4% of cases, the poisoning was accidental. Attempted suicide was definitely more common in females (83.3%) and the more prevalent age group was from 15-25 years (59.8%). Substances most frequently involved were insecticides (30.4%), drugs (25.4%) especially tramadol and corrosives (11.2%). Most cases (83.0%) improved. Twenty fatalities were mainly from zinc and aluminum phosphide poisoning.

Conclusions and recommendations: Poisoning is more prevalent in children and young adolescents by volatiles, insecticides and drugs this necessitates keeping of poisonous substances out reach of children, restriction in free sale of the poisonous substances. Also, promotion of Poison Information Centers along with public awareness could be suggested to decrease the incidence and mortality of poisoning cases.

Introduction

Poisoning exposure is an increasingly public concern due to the progressive flooding of chemicals, pharmaceuticals and natural toxins in the international markets and people agglomerations. Factors enhancing this poisoning epidemic expansion are multiple and complex in any country. Poison Control Centre (PCC) is witnessing a continuously changing poisoning pattern closely reflecting the changing industry, economy, and social configurations. The wide availability of chemicals and medications has led to increased exposure of humans to potential poisons. An unavoidable result has been an increase in the number of poisonings – a leading cause of injury-related fatalities (Clark, 2004).

Poison is a substance that causes damage or injury to the body and endangers one's life due to its

exposure by means of ingestion, inhalation or contact (Thomas *et al.*, 2000). In general accidental poisoning is more common in children and suicidal poisoning is more common in young adults (Das, 2007).

World Health Organization (WHO) estimated 0.3 million people die every year due to various poisonous agents (Thundiyil *et al.*, 2008). Acute pesticide poisoning is one of the most common causes of intentional deaths worldwide. High doses of analgesics, tranquillizers, and anti-depressants are the commonly used agents for intentional poisoning in industrialized countries (Konradsen *et al.*, 2007).

Pattern of poisoning in a region depends on various factors which include availability and access to the poison, socio-economic status of an individual, cultural and religious influences, etc. (Gargi and

Templar, 2008). It is important to know the nature, severity and outcome of acute poisoning cases in order to take up appropriate planning, prevention and management techniques (Ramesha et al., 2009).

Aim of the study

This study aimed to highlight the pattern of acute poisoning cases admitted to Poisoning and Addiction Control Center in Menoufia University Hospital in order to take appropriate management of these cases and reduce morbidity and mortality.

Subjects and methods

This is a hospital based prospective study carried out in Poisoning and Addiction Control Center in Menoufia University Hospital during the period from the 1st of March 2015 to the end of June 2015. Menoufia University Hospital is a tertiary care hospital that is giving service to any poisoning case in the Menoufia governorate over 24 hours a day.

An informed consent was taken from the cases or their relatives to be included in this study. All collected personal information was treated confidentially. Also, The Menoufia Faculty of Medicine Committee for Medical Research Ethics had reviewed and formally approved the study before it began.

In addition to medical records, information was obtained from direct interview with patients, their relatives and the attending medical staff at the center after management of the patient. Information obtained from interview were used to support and complete the data obtained mainly from the medical reports.

A total of 653 acute poisoning cases were admitted to the center during the period of the study. Personal data as age, sex, residence and occupation were collected. Circumstances of poisoning like manner, place of poisoning, route of intake and time elapsed from exposure to hospital arrival was studied. Data regarding type of poisonous substance, chemical type and outcome were also collected.

Data was tabulated and statistically analysed by SPSS Version 11 on an IBM compatible computer. Descriptive statistics as percentage (%) was used. Analytic statistics: Chi-square test (χ^2) was carried out to study the association between two qualitative variables, with a P-value < 0.05 considered to be statistically significant).

Results

A total of 653 cases were admitted to Poisoning and Addiction Control Center at Menoufia University Hospital during the period of the study. Males were predominated than females (50.2% versus 49.8%). The commonest age group was that less than 7 years (40.1%) followed by the age group from 7-< 15 years and the least one was the age > 40 years. Cases derived from urban areas (53.6%) were more than those from the rural ones (46.4%). Laborers were the commonest occupation (29.6%) followed by students (24.2%) and farmers (14.9%) as shown in table (1).

Accidental poisoning was more prevalent than suicidal ones (84.4% versus 15.6%). There was no homicidal cases admitted during the period of the study. Cases consumed poisons outside home constituted (52.8%). Oral route was the most prevalent route (87.0%). Forty percent of cases derived to the hospital after 2-4 hours after intake of poisons followed by those derived in less than 2 hours (30.0%) as shown in table (2).

Suicidal cases (102 cases, 15.6%) were mostly female (83.3%), The most common age group was from 15-25 years (59.8%), followed by the pubertal age from 7-< 15 years. Residents from urban areas attempted suicides more than cases from rural areas (55.9 versus 44.1%). Drugs were the commonest substance in suicidal cases (52.9%) followed by insecticides (33.3%) then aluminum and zinc phosphides (13.8%) as shown in table (3).

As regards types of poisoning, insecticides (organophosphates and carbamates) were the commonest type of poisonings (30.4%) followed by drugs (25.4%), volatiles (13.3%), corrosives (11.2%) and snake bites (6.4%). Poisoning with carbon monoxide and ethanol were the least prevalent types (1.1% and 0.9%; respectively) as shown in table (4).

Among drugs poisoning (166 cases; 25.4%), tramadol was the commonest used drug (28.3%) followed by benzodiazepine (10.8%), theophyllin (7.2%), neuroleptics (7.2%) and paracetamol (6.7%) as shown in table (5).

On studying the association between types of poisoning with age, there were statistically significant differences between the different age group where volatiles were the most prevalent type in poisoned cases < 7 years (26.0%) followed by insecticides (24.0%) and corrosives (23.7%). Otherwise, insecticides were the most prevalent type in the age group from 7-< 15 years (36.3%) followed by drugs (34.1%). On the other hand, poisoning with drugs were more prevalent in the age group from 15-25 years (31.0%) followed by insecticides (27.1%). Moreover, insecticides were more prevalent in the age group from 25-40 years and the age group > 40 years (40.9% and 44.4%; respectively) as shown in table (6).

There was a statistically significant difference as regards type of poisoning with gender (P= 0.000) where, insecticides were the prevalent type of poisonings in males (31.4%) followed by drugs (18.3%) and volatiles (16.5%). Otherwise, drugs were the prevalent type in females (32.6%) followed by insecticides (29.2%) and volatiles (10.2%) as shown in table (7).

Most of poisoning cases admitted to Poisoning and Addiction Control Center at Menoufia University Hospital improved (83%). Twenty cases (3%) died. Most of dead cases (60%) were due to poisoning with zinc and aluminum phosphide while, 25% were due to organophosphates insecticides. Snake bites constituted (10%) of dead cases. Only (5%) were due to tramadol as shown in table (8).

Table (1): Demographic data of acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015

Personal data	Poisoning cases (n=653)	
	No	%
Gender:		
• Males	328	50.2
• Female	325	49.8
Age (years):		
• < 7	262	40.1
• 7-<15	182	27.9
• 15-<25	129	19.8
• 25-40	44	6.7
• >40	36	5.5
Residence:		
• Rural	303	46.4
• Urban	350	53.6
Occupation:		
• Laborers	193	29.6
• Students	158	24.2
• Farmers	97	14.9
• House wife	58	8.9
• Drivers	49	7.4
• Other*	98	15.0

* Others: preschool children, retired, unemployed.

Table (2): Frequency distribution of toxin data of acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015.

Items	Poisoning cases (n=653)	
	No	%
Manner of poisoning:		
• Accidental	551	84.4
• Suicidal	102	15.6
Place of poisoning:		
• Home	308	47.2
• Outside home	345	52.8
Route of intake:		
• Oral	568	87.0
• Inhalation	21	3.2
• Dermal	14	2.2
• Trans-dermal (Bite/ sting)	50	7.6
Time elapsed from exposure to hospital arrival (hours):		
• <2	198	30.3
• 2-4	261	40.0
• >4	194	29.7

Table (3): Characteristics of suicidal poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015

Characteristics	suicidal poisoning cases (n=102)	
	No	%
Gender:		
• Males	17	16.7
• Female	85	83.3
Age (years):		
• < 7	0	0.0
• 7-<15	28	27.5
• 15-<25	61	59.8
• 25-40	8	7.8
• >40	5	4.9
Place of poisoning:		
• Home	102	100.0
Residence:		
• Rural	45	44.1
• Urban	57	55.9
Types of poisoning:		
• Insecticides (organophosphates and carbamates)	34	33.3
• Drugs	54	52.9
• Zinc and aluminum phosphide)	14	13.8
Route of in intake:		
• Oral	102	100.0

Table (4): Frequency distribution of types of poisons in acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015

Types of poisons	cases (n=653)	
	No	%
Insecticides (organophosphates and carbamates)	198	30.4
Corrosives	73	11.2
Volatiles	87	13.3
Drugs	166	25.4
Ethanol	6	0.9
Zinc and aluminum phosphide	36	5.5
Carbon Monoxide (Co)	7	1.1
Snake bite	42	6.4
Scorpion sting	8	1.2
Food poisoning	30	4.6

Table (5): Frequency distribution of types of drugs intake in acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015

Drugs intake	cases (n=166)	
	No	%
Tramadol	47	28.3
benzodiazepine	18	10.8
Trihexpenidyl Hcl (Parkinol)	4	2.4
Carbamazepine	8	4.8
Theophylline	12	7.2
Neuroleptics	12	7.2
TCA*	6	3.6
Paracetamol	11	6.7
Digitalis	4	2.4
Anti-histaminic (H ₁)	3	1.8
Oral hypoglycemic	10	6.1
Others**	31	18.7

*TCA: Tricyclic antidepressant, ** Others: Salbutamol, diuretics, metoclopramide.

Table (6): Chi- Square statistical analysis of types of poisons in acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015 regarding age group.

Types of poisons	Age group (years)										χ^2	P
	< 7 (n=262)		7-<15 (n=182)		15-<25 (n=129)		25-40 (n=44)		>40 (n=36)			
	No	%	No	%	No	%	No	%	No	%		
Insecticides	63	24.0	66	36.3	35	27.1	18	40.9	16	44.4	222.28	0.000
Corrosives	62	23.7	6	3.3	3	2.3	1	2.3	1	2.8		
Volatiles	68	26.0	5	2.7	11	8.5	2	4.5	1	2.8		
Drugs	47	17.9	62	34.1	40	31.0	13	29.5	4	11.1		
Ethanol	3	1.1	2	1.1	0	0.0	1	2.3	0	0.0		
Zinc and aluminum phosphide	3	1.1	15	8.2	14	10.8	3	6.8	1	2.8		
Co	0	0.0	5	2.7	1	0.8	1	2.3	0	0.0		
Snake bite	1	0.4	14	7.7	13	10.1	5	11.4	9	25.0		
Scorpion sting	3	1.1	1	0.5	3	2.3	0	0.0	1	2.8		
Food poisoning	12	4.6	6	3.3	9	7.0	0	0.0	3	8.3		

Table (7): Types of poisons in poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015 regarding gender.

Types of poisons	Gender				χ^2	P
	Males (n=328)		Females (n= 325)			
	No	%	No	%		
Insecticides	103	31.4	95	29.2	34.94	0.000
Corrosives	42	12.8	31	9.5		
Volatiles	54	16.5	33	10.2		
Drugs	60	18.3	106	32.6		
Ethanol	5	1.5	1	0.3		
Zinc and aluminum phosphide	11	3.4	25	7.7		
Co	5	1.5	2	0.6		
Snake bite	28	8.5	14	4.3		
Scorpion sting	3	0.9	5	1.5		
Food poisoning	17	5.2	13	4.0		

Table (8): Frequency of outcome of acute poisoning cases admitted to Menoufia Poisoning and Addiction Control Center from 1st March to the end of June 2015

Outcome	Poisoning cases (n=653)	
	No	%
• Improved	542	83
• Discharged against medical advice	91	14
• Died	20	3
• <u>Dead cases (n=20)</u>		
- Zinc and aluminum phosphide	12	60
- Organophosphates	5	25
- Snake bite	2	10
- Tramadol	1	5

Discussion

Acute poisoning is a medical emergency. It is important to know the nature, severity and outcome of acute poisoning cases in order to take up appropriate planning, prevention and management techniques. In the present study, a total of 653 cases were admitted to Menoufia poisoning and addiction control center over the period of the study. Males were slightly more prevalent than females (50.2% versus 49.8%). This result coincides with the study of Kumer et al. (2010) who found that males

were affected by poisoning more than females (52.15%). They concluded that the high incidence of poisoning in males may be because of the high exposure to stress and strain and also because occupational poisoning occurs due to inappropriate handling (e.g., spraying with high concentration).

In the contrary of these results, two Turkish studies reported that among poisoning cases the female:

male ratio varied between 1.7 and 3.0 (Goksu et al., 2002; Baydin et al., 2005)

In the present study, the poisoned cases aged < 7 years were predominate (40.1%) followed by those aged from 7- < 15 years (27.9%). Poisoning is mostly observed in children belonging to this age group, since they are active and curious and have the tendency to put everything in their mouths (Ozdogan et al., 2008). This also explains the predominance of accidental cases over suicidal ones in this study (84.4% versus 15.6%).

Compared to other countries whether of Arabic or western culture revealed that the greater majority of poisoning cases usually lie in the age group below 5 years of age. The annual report of the American Association of Poison Control Centers in 2010 revealed that children under the age of 5 make up to 51 % of all poison exposures (Alvin et al., 2011). The Saudi Arabia Report of acute chemical poisoning during the first six months of year 2004 revealed that the highest proportion of acute poisoning was observed among children \leq 5 years of age (Moazzam et al., 2004). Also, our results coincided with several studies in Turkey which reported that 51–73% of all poisoning cases were observed in children of 5 years of age (Andiran and Sarikayalar, 2004; Bicer et al., 2007; Mutlu et al., 2010).

In comparison, El Masry and Tawfik (2013) revealed that 62.8% of poison exposures were at the age 15-40 years while 23.9% of poison exposures were children under 7 years. The lowest incidence of poisoning was at age group 7 - < 15years (6.1%) and over 40 years (7.2%) . Also, in some studies (Ramesha et al., 2009; Mahabalshetty et al., 2013; Patil and Peddawad, 2014) the age group 21-30 years was found the most vulnerable. They explained this result by that the active and productive life style of this age group.

Laborers followed by students were the commonest occupations among poisoning cases in the present study as these groups are more vulnerable groups and easily exposed to the poisonous agents. Poverty, inadequate income were responsible for higher incidence of poisoning among laborers. Failure in the exams or inability to cope up the high expectation from parents and teachers has increased the incidence of poisoning among students (Vinay et al., 2008).

Accidental cases were predominate (84.4%) than suicidal ones (15.6%) This could be due to the religious morals in Islam and Christiani that ban self-destruction and deliberate self-killing. More than half of suicidal cases present among cases aged from 15-25 years (59.8%) . This result was in accordance with the annual report of the American Association of Poison Control Centers in 2010 where only 14.7 % of poisoning was intentional (Alvin et al., 2011). In contrast, El Masry and Tawfik (2013) found that attempted suicide (49%) exceeded accidental (42.7%) poisoning exposure. The predominated age group in their study was from 15-40 years (69%) and 73% of the attempted suicide was females.

Moreover, suicidal cases were mostly females (83.3%.) and drugs were the most prevalent type of poisoning (52.9%). These results were in accordance with Goksu et al. (2002) who found that most attempted suicide poisoning cases were among teenagers and young adults, females significantly outnumber males and drugs were commonly the type of intentional poisoning.

Oral route was the most common route of poisoning in our study (87.0%) as the largest number of cases was children under 7 years. This result also decreased the possibility of occupational and environmental toxicity. This result agreed with El Masry and Tawfik (2013) who revealed that the oral route was the most common route of poisoning (94.9%) as well with results of other studies in Saudi Arabia (Moazzam et al., 2004) and those issued in the annual report of the American Association of Poison Control Centres in 2010 (79.5%) (Alvin et al., 2011).

Insecticides (organophosphates and carbamates) followed by drugs were the prevalent poisonous types consumed in the present study (30.4% and 25.4%; respectively). Menoufia is a governorate, where agriculture is the prime profession for majority of people in rural areas and pest control is one of the most common problems faced by the farmers in agriculture. In order to eradicate the weeds and pests farmers procure and keep pesticides at their houses. Because of easy availability of the pesticides people are tend to use them for intentional poisoning. Otherwise, El Masry and Tawfik (2013) reported that pharmaceuticals were responsible for 46.7% of poisoning cases referred to the Poison Control Centre in Ain Shams University Hospitals, while organophosphate and carbamate insecticides constituted 11% of the cases. This differences could be due to most cases refereed to Ain Shams University Hospitals were coming from urban areas in Cairo, Giza and Kalioubeya.

The results of this study were in agreements with Jesslin et al. (2010) who reported that pesticides contributed for the maximum poisoning cases (39.5%) and associated with high mortality rate followed by drugs 21.8% and household products 7.6%. On the other hand, Kavalci et al (2012) in Turkey found that pesticides were the fourth most common toxic agent after pharmaceutical agents, Co intoxication and alcohol.

Among drug intake in poisonous cases in this study, (166 cases, 25.4%), the common types of poisons were tramadol (28.3%), benzodiazepines (10.8%), neuroleptics (7.2%), theophyllin (7.2%) and paracetamol (6.7%). Tramadol abuse has been heavily demonstrated in the Egyptian community in the last years that made it easily accessible and readily provided at cheap cost despite of it being scheduled (Fawzi, 2011). The previous results coincided with El Masry and Tawfik (2013) who found that tramadol was the most frequently involved drug in poisoning cases (responsible for 7.4% of the total poisoning cases), followed by theophylline (4.2%), antibiotics (3.7%), analgesic (NSAIDs) (3.6%), paracetamol (2.9%) and benzodiazepine. This alarming

figure raise the attention to apply new recommendations concerning drug of abuse screening list and issue several warnings in media that were given much concern by the health and drugs of abuse authorities.

In Comparisons with other countries, benzodiazepines were the most commonly ingested agents among medicinal drug poisonings in Norway and Iran (Hovda et al., 2008; Islambulchilar et al., 2009).

Moreover, paracetamol and other analgesics (NSAIDs) the most available drugs at homes, were reported by Hegazy et al. (2012) as the most common causes of drug related poisonings in Makka region Saudi Arabia. Also, paracetamol is the most common drug ingested in overdose in the United Kingdom (50% of acute poisoning related hospital presentations) and causes about 150–200 deaths / year through acute liver failure (Wallace et al., 2002)

Exposure to animal stings and bites were of relatively low percentage in the present study (6.4% for snake bites and 1.2% for scorpion stings). However, El Masry and Tawfik (2013) reported lower prevalence (2.2%) as Menoufia is mainly a rural community.

As regards types of poisoning in relation to age in this study. There was statistically significant differences as volatiles are the most common type in poisoned cases < 7 years (26.0%) followed by insecticides (24.0%) and corrosives (23.7%). This can be attributed to the particular behaviour of that age group as curiosity, oral identification, discrimination inability and taste and smell immaturity. Also, insecticides were the commonest type in age group from 7-< 15 years. This result agreed with Azab et al. (2015) who found that the most common non-pharmaceutical agents were pesticides in adolescents. Moreover, poisoning with drugs were more prevalent in the age group from 15-25 years (31.0%). Similarly, Mauri et al. (2005) reported that the incidence of drug self-poisoning attempts peaks at the age of 15–25 years.

Insecticides were the commonest type of poisonings in males (31.4%) while drugs were the commonest in females (32.6%) in the present study. This result was in agreement with Kavalci et al. (2012) who found a statistically significant difference between either gender in drug and organophosphates intoxication where drugs were predominated in females and organophosphates were predominated in males.

As regards the outcome of cases in this study, most cases improved (83%) and only (3%) of the cases died. In contrast, El Masry and Tawfik (2013) recorded a lower mortality rate (0.3%); their report included non-attending, trivial therapeutic accidents and information-seeking cases reported through telephone calls and not only symptomizing referred poisoning cases, making the comparison unacceptable. In comparisons, Shadnia (2007) found that mortality rate in Tehran 2003 was 1.3% in the study conducted in the Islamic Republic of Iran. Another report from Saudi Arabia, 1999–2003 revealed a mortality rate of 2.2% (Moazzam et al., 2004). In

contrast, the annual report of the American Association of Poison Control Centers in 2010 revealed that out of 2,384,825 cases, they had 1730 deaths (0.07%) (Alvin et al., 2011).

Among dead cases (60%) were due to poisoning with aluminum and zinc phosphide followed by organophosphate insecticides. Wahab et al. (2009) reported that the mortality rate from aluminum phosphide poisoning is highly variable, ranging from 37 to 100%, and can reach more than 60% even in experienced and well-equipped hospitals. The severity of poisoning from aluminum phosphide depends on the type of compound consumed. Fresh and active compounds (tablets) commonly affect the heart, lungs, gastrointestinal tract and kidneys, causing severe metabolic acidosis and high mortality. Broken or granular forms of tablets cause mild hypotension and ECG changes, mild metabolic acidosis and low mortality as the activity of the compound is less. The powder form of tablets is inactive, and causes no systemic effects and no mortality (Yatendra et al., 2014).

This study was limited to short duration of study but, the number of cases were enough to illustrate the pattern of acute poisoning cases. Future study with longer duration is recommended.

conclusions and recommendations: Poisoning is more prevalent in children and young adolescents by volatiles, insecticides and drugs this necessitates keeping of poisonous substances out of reach of children and restriction in free sale of the poisons. Also, promotion of Poison Information Centers along with public awareness could be suggested to decrease the incidence and mortality of poisoning cases.

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الملخص العربي

نمط حالات التسمم الحاد التي أدخلت بمركز علاج السموم و الإدمان بالمنوفية: دراسة مستقبلية

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مقدمة: يعد التسمم مشكلة صحية متنامية و خطر حقيقي يهدد المجتمع المصري، و يعتبر التسمم الحاد من أكثر حالات الطوارئ في المجال الطبي و تفيد المعلومات الخاصة بحالات التسمم في منطقة ما في تهيئة الأطباء المعالجين في التعامل بكفاءة مع هذه الحالات
الهدف من الدراسة: يتمثل الهدف الرئيسي من هذه الدراسة في إلقاء الضوء على نمط حالات التسمم الحادة الواردة إلى مركز علاج السموم و الإدمان بمستشفى جامعة المنوفية

الأشخاص و طرق البحث: أجريت الدراسة على ٦٥٣ حالة من حالات التسمم الحادة التي أدخلت مركز السموم خلال الفترة من أول مارس حتى نهاية يونيو ٢٠١٥ و قد تم تجميع البيانات من المرضى أو ذويهم و كذلك الأطباء المعالجين بعد تقديم العلاج، بالإضافة إلى البيانات الموجودة في ملفات المرضى. و قد شملت البيانات المعلومات الشخصية و معلومات عن الظروف المحيطة بالتسمم و نوع السموم و كذلك مخرجات التدخل الطبي لهذه الحالات.

النتائج: كان من بين ٦٥٣ حالة تسمم حاد وردت لمركز السموم حوالي ٤٠,١% من الأطفال الأقل من ٧ سنوات. و مثلت حالات التسمم العرضي معظم الحالات (٨٤,٤%). أما حالات الانتحار فكان معظمها من الإناث (83.3%) و من الذين تتراوح أعمارهم من ١٥-٢٥ سنة (٥٩,٨%). و كان التسمم بالمبيدات الحشرية هو أكثر أنواع التسمم شيوعاً (٣٠,٤%) يليه التسمم بالعقاقير الطبية (٢٥,٤%) ثم التسمم بالمواد الآكالة (١١,٢%). وقد تم تحسن معظم الحالات (٨٣,٠%) و توفيت عشرون حالة و كان التسمم بمادة فوسفيد الزنك أو فوسفيد الألومنيوم هي أكثر أسباب الوفيات.

الاستنتاجات و التوصيات: معظم حالات التسمم كانت من الأطفال و المراهقين بسبب تناول المواد الطيارة و المبيدات الحشرية و كذلك العقاقير الطبية. لذا ينصح بحفظ هذه المواد الخطرة في أماكن بعيدة عن متناول أيدي الأطفال كذلك تقييد بيع المواد السامة و دعم مركز معلومات السموم مع توعية العامة بالتعامل مع الحالات للتقليل من مخاطر و وفيات التسمم.

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