

## **SUICIDAL ATTEMPTS AMONG CHILDREN AND TEENAGERS IN EGYPT**

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### **Abstract:**

**INTRODUCTION:** Suicide represents an important public health concern in many developed and developing countries. Suicide has become one of the most common causes of death among the young and adolescent population. It represents a crucial issue that society should make every possible effort to solve. **AIM OF THE WORK:** To provide an overview about the incidence of suicidal attempts among a representative sample of children and adolescents attending NECTR. **METHODOLOGY:** During a period of 6 months, 2350 suicidal attempts were reported to the National Egyptian Center of Toxicological and Environmental Research (NECTR), 457 (19.4%) of whom were children and adolescents. The patient's gender, clinical state, the type and amount of the toxic substance used, management, outcome and the associated psychosocial factors were evaluated. **RESULTS:** Suicidal attempts were more common in females, the commonest age was from 15 to 18 years old. The majority of patients were from Giza governorate, the commonest types of poisons used were pesticides owing to their easy availability and lower price. Causes were quarrel within the family, bad treatment at work, failure in love, and psychic troubles. Most of the cases were admitted to the centre, they received appropriate treatment according to their condition and most of them improved. **CONCLUSIONS:** Early diagnosis, treatment and prevention are crucial in reducing the burden of poisoning-related injury in any country. Societies, families, and the medical community should also make every possible effort to face this serious problem, which has an important social and economical cost. The present data may not give an exact picture of the incidence of poisoning in Egypt, but represent a trend in our country. The poison information centers play a vital role in providing information, highlighting the factors behind such attempts and provide statistical analysis for proper assessment and intervention.

**Key words:** children and adolescents-suicidal attempts- poisoning- risk factors-prevention.

**Introduction:**

Suicide represents an important public health concern in many developed and developing countries. It is estimated that for every completed suicide, there are between eight and 25 suicide attempts, and the rate of suicide attempts may be increasing (Brickman and Mintz, 2003). The burden of suicide mortality has shifted increasingly towards younger aged individuals in the last half-century (Lubell et al., 2007). Methods of self-harm include drug overdose, self-poisoning, self-cutting, burning, hanging or jumping from high places (Greydanus and Shek, 2009).

The World Health Organization (WHO) defines children as those aged less than 10 years and adolescents as those aged between 10 and 18 years, respectively (Vougiouklakis et al., 2009). The prevalence of suicide in this age group has been determined to be two or three times higher than the overall prevalence (Arslan et al., 2007). A finding that deserves the attention of the world's pediatricians (Greydanus and Calles, 2007; Greydanus et al., 2007).

It is hard to imagine the anguish experienced by the parents, relatives, and friends of a child who has taken his or her own life. In the past, suicide in young children has been largely denied

and ignored. However, this is no longer possible, as accumulating evidence supports the existence of suicidal thoughts and actions in preadolescent children (Kloos et al., 2007). Although there are few deaths from suicide before adolescence, suicidal ideation was associated with a 1.5 times greater likelihood of making a suicide attempt by age 19 in a large urban cohort (Ialongo et al., 2004).

Egypt is central to the Arab world, which, despite its wealth and its natural and human resources, has fared poorly in many aspects of development. Important problems include illiteracy (especially among women), lack of job opportunities (especially for young people) and slow economic growth because of loss of traditional economies, low productivity, and lack of innovation and competitiveness (Okasha, 2004).

Egyptian people accounts for about 78,860,000; Egyptian children under 5 years (9447 thousand) and those under 18 years (31527 thousand) constitute 12% and 28% of the total population, respectively (Unicef-Egypt-statistics, 2008). Thus, almost 40% of the Egyptian population are under 18 years old raising the importance of studying suicide attempts among this age group.

Pritchard and Amanullah in 2007 stated that suicide rates in Islamic countries varied widely and the high rates of undetermined deaths, may be a repository for hiding culturally unacceptable suicides as suicide is expressly condemned in the Qur'an.

Feelings of hopelessness and the intention to kill oneself are not common among Muslims, for whom losing hope in relief by God and self-inflicted death are blasphemous and punishable in the afterlife. However, rates of suicide attempts (parasuicide), which are more likely to be intended to elicit care, have no significant associations with religiousness among Arabs. Although the wish to die is not uncommon among people with depression in Arab cultures, it usually remains at the level of wishing that God would terminate their life, and does not progress to the wish to kill themselves (Fakhr el Islam, 2000).

Several epidemiological studies in various countries e.g. India, United Kingdom, USA and Australia, have shown rising trends in suicide by youth (Lalwani et al., 2004).

In France, suicide is the second cause of mortality (800 to 900 deaths per year) among 15 to 24 year-olds (Badeyan et al., 2001). In China there is increased suicidal attempt among junior and senior high school students (Xing et al., 2010).

In the USA, suicide is reported to be the second-leading cause of death among college students. Approximately 1100 college students die by suicide each year. Risk factors for persistent suicide ideation included low social support, childhood or adolescent exposure to domestic violence, maternal depression, and high self-reported depressive symptoms (Wilcox et al., 2010).

One of the important risk factor that emerged over the last few years in the United States was childhood neglect and abuse that has increased from 92% to almost 94% (Nejtek et al., 2010).

#### **Aim of the study:**

This study provides an overview about the incidence of suicidal attempts among teenagers attending the National Egyptian Centre of Environmental and Toxicological Research (NECTR), as well as the associated psychosocial risk factors.

#### **Methodology and Results:**

The sample was representative of children and teenagers attending NECTR from January through June 2009. During this period a total number of 3,752 patients attended NECTR for different causes; of whom 2,350 cases were suicidal attempts representing 62.6% of the total cases. From these cases 457 were children and teenagers (from 5 to 18 years old) representing 19.4%

of cases. Male to female ratio was (1:5), males represented 16.4% of cases while females represented 83.6%.

Oral route was the route of intake of the poison in all cases.

Table (1) shows the distribution of cases by age group, 3 cases (0.7%) were under 10 years old, 6 cases (1.3%) were from 10 to 12 years old, 74 cases (16.2%) were from 12 to 15 years old and 373 cases (81.8%) were from 15 to 18 years old.

As regards residence, the majority of patients were from Giza governorate (57.3%), followed by Cairo governorate (33.5%) then miscellaneous governorates represented 9.2%.

Figure (1) shows the distribution of cases per month, the highest rate was recorded in June (25.2%) followed by February (20.8%), May (15.8%), January (14.9%), April (12.7) and lastly March (10.7%). Females showed the higher prevalence in every month throughout the 6 months.

Table (2) illustrates the commonest types of poisons used; pesticides recorded the highest percentage (19.3%), followed by varieties of unidentified drugs (17.5%) (patients were unable to specify the nature of the drug taken), then collection of mixed drugs (15.8%) (patients attempted suicide

using more than one drug), drugs affecting central nervous system (11.1%), analgesics (7.7%), antiasthmatic drugs (6.1%), antidiabetic drugs (4.4%), others (3.9%) (include miscellaneous group of drugs such as appetite suppressants, intestinal antiseptics, muscle relaxants, hormones, antispasmodics...etc) , antiarrhythmic drugs (3.3%), antihistaminics and antibiotics each (2.6%), household products such as hydrocarbons and corrosives (2%) then vitamins (1.1%) respectively. Substances of abuse, which represented 2.6 % of cases, appeared to be more common in males than females, they used a derivative of opiates (tramadol), cannabinoid, mixed types then lastly alcohol intake.

On investigating the cause of suicidal attempts among the studied group, results shown on table (3) revealed that 23.6 % of cases, attempted suicide due to quarrel within the family, 14.9% due to bad treatment at work, 11.6 % due to depression, 12.7 % due to failure in love, 10.7 % were not specified, 11.4% due to psychic troubles, 6.8% due to quarrel with husband and 5.7% due to failure in exams and 2.6% were addict. Females showed predominance in all causes except addiction which predominates in males.

As regards occupation, table (4) shows that 35.9% of patients were bachelors and

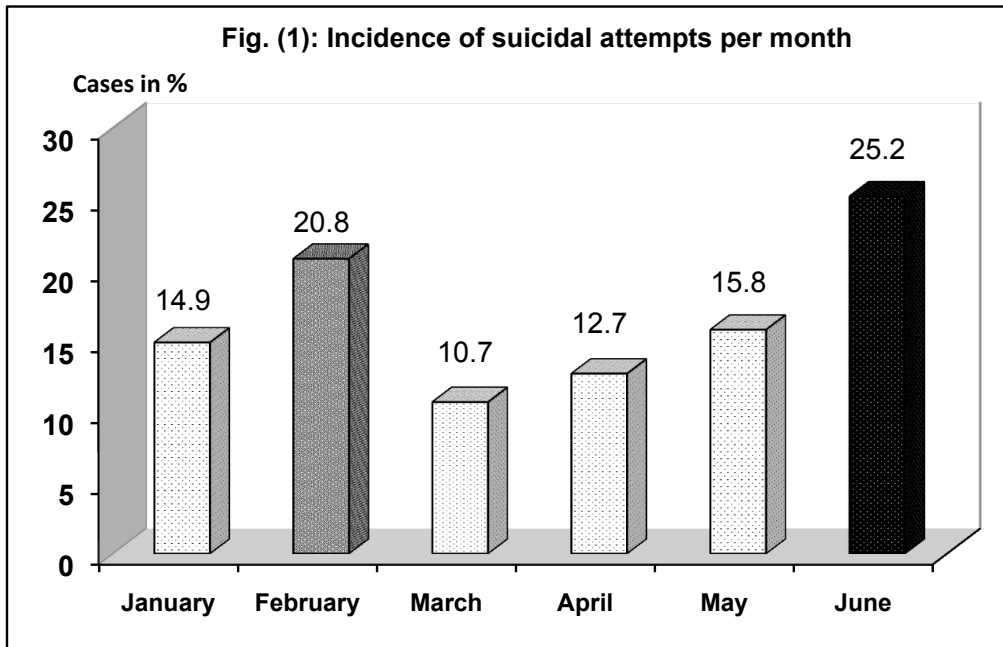
unemployed, 32.2% were student, 23% were employed and 9% were housewives.

The results of outcome after admission of poisoned patients, revealed that 43.8%

improved, 29.1% discontinued treatment due to several causes, 14.9% were referred to other sections in the hospital and 12.2% received outpatient treatment only with no recorded cases of death.

**Table (1):** Age distribution within the studied group

Age (years)	Number	%
5 - <10	3	0.7
10 - <12	6	1.3
12 - <15	74	16.2
15 -18	373	81.8



**Table (2):** Distribution of products used

<b>Group</b>	<b>Type</b>	<b>Number</b>	<b>%</b>
<b>Pesticides</b>	<b>Organophosphorus</b>	53	11.6 %
	<b>Zinc Phosphide</b>	35	7.7 %
<b>Analgesics</b>	<b>Paracetamol</b>	10	2.2 %
	<b>NSAI*</b>	19	4.2 %
	<b>ASA**</b>	6	1.3 %
<b>Drugs affecting CNS</b>	<b>Sedative hypnotic group</b>	11	2.4 %
	<b>Antiepileptics</b>	18	3.9 %
	<b>Antidepressants</b>	16	3.5 %
	<b>Antipsychotics</b>	6	1.3 %
<b>Antidiabetics</b>		20	4.4 %
<b>Antiasthmatics</b>		28	6.1 %
<b>Antihistaminics</b>		12	2.6 %
<b>Antiarrhythmics</b>		15	3.3 %
<b>Antibiotics</b>		12	2.6 %
<b>House hold products</b>		9	2.0 %
<b>Vitamins</b>		5	1.1 %
<b>Mixed drugs</b>		72	15.8 %
<b>Unidentified</b>		80	17.5 %
<b>Others</b>		18	3.9 %
<b>Drugs of abuse</b>	<b>Tramadol</b>	4	2.6 %
	<b>Cannabinoid</b>	3	
	<b>Mixed Tramadol &amp; Cannabinoid</b>	3	
	<b>Alcohol</b>	2	

\* = Non steroidal anti-inflammatory drugs

\*\* = Acetyl salicylic acid

**Table (3):** Causes of suicidal attempts within the studied group

Cause of suicide	Number	%
Addiction	12	2.6
To threaten the family	108	23.6
Depression	53	11.6
Failure in exam	26	5.7
Failure in love	58	12.7
Psychic troubles	52	11.4
Quarrel with husband	31	6.8
Bad treatment at work	68	14.9
Not specified	49	10.7

**Table (4):** Occupation within the studied group

Occupation	Number	%
Employed	105	23.0
Housewives	41	9.0
Bachelors	164	35.9
Student	147	32.2

### **Discussion:**

To our knowledge, this is one of the first studies that try to investigate suicidal attempts in age group younger than 9 and up to 18 years old in Egypt.

Because of the limited information available on this topic, the article includes other theoretical conceptualizations of suicide that may enhance our thinking about suicide in teenagers.

Several factors may have contributed to the limited research on suicidal behavior in teenagers. First it seems to be an emerging problem in our country as it is uncommon to face this attitude among this age group.

Second, it would be difficult to the majority of parents to report and ask for psychological assessment of their children as it seems to be shameful especially in rural areas and most of urban areas; and also due to decreased or absence of awareness about the importance of dealing with psychological problems similar to our attitude concerning the organic diseases.

Third, most suicide research has historically focused on adults, with more recent attention to adolescents, but much less attention to children and teenagers, likely because the base rates for children and teenagers relative to other age groups are quite low.

Suicide rates and methods vary from country to country and between different regions of the same country, and even in the same region, depending on various variables (Stojkoski and Grozeva, 2005).

An old Egyptian study stated that the crude rate of suicide attempts recorded in Cairo was 38.5 per 100,000. There was a high percentage in the age group 15–44 years, with no major difference between the genders. Single patients represented 53% of the total, with students showing the highest risk (40%). Depressive illnesses, hysterical reactions and adjustment disorders (in that order of frequency) were the main causes of the attempt. Overdose by tablet ingestion was the most commonly used method (80%). Official government reports are misleading and do not represent the true rate; assuming that one in ten suicide attempts ends with actual suicide (Okasha & Lotaief, 1979).

Another study done in 1981–1982 showed that the majority of suicide attempters were young women belonging to large, overcrowded families. They showed a higher tendency to be single, illiterate and unemployed than the corresponding age group in the general population. Drug overdose was the method most commonly used. The majority made their attempt at home when there was somebody



nearby, and 31% had made previous non serious attempts. Affective, adjustment and personality disorders were the most common diagnoses encountered (Okasha et al, 1986).

Recently, a study was done by Gad El Hak and her colleagues in 2009 in the city of Port Said, Egypt. They did a retrospective evaluation of suicide cases from the criminal investigation reports during the period from 1998 to 2004. Data of reports (autopsy and full toxicology screening which was done in every case) were evaluated. Results showed that there were 80 cases of suicide, 54 of them (67.5%) involved males. Age distribution showed a predominance in the age range 20–30 years. Methods of suicide included; rodenticide intake in 25% of cases, drowning in 18.75%, burns in 16.25%, firearm injuries in 13.75%, jumping from height in 10%, drug intake in 8.75% and hanging in 7.5%.

The results of our study show predominance of suicidal attempts among females; female to male ratio was (5:1), males represented 16.4% of cases while females represented 83.6% . This is similar to the study done by Hawton and colleagues in 2002 which revealed higher incidence in females. In contrast, the study done by Pompili and colleagues in 2009 aiming to characterize the trends in the suicide rates

of adolescents aged 15–19 years over a 30-year period in Italy; demonstrated that there were regional differences in the trends in adolescent suicide rates by sex; and that males were 2.1 times more likely than females to kill themselves. Also, the study of Dervic and colleagues in 2006 showed higher incidence in males (male: female ratio of 3.1:1).

There is a body of literature examining the cultural meanings of suicidal behavior that may help explain these gender differences. For example, studies of American college students suggested that nonfatal suicide attempts are viewed as more “feminine” and less potent, and that they were interpreted as a cry for help, a behavior that is more expected of women (Linehan 1973; Suter 1976). Other surveys identified the perception of female suicide as wrong, foolish, weak and less permissible than male suicide (Canetto, 1997). Adolescents are quite sensitive and responsive to cultural messages, even more so than adults, given that they are in the midst of defining their identities. Thus, the influence of “gender-appropriate” suicidal behavior may be significant and requires further evaluation (Pompili et al., 2009).

As regards age group affected, table 1 shows that 3 cases (0.7%) were under 10 years old, 6 cases (1.3%) were from 10 to

12 years old, 74 cases (16.2%) were from 12 to 15 years old and 373 cases (81.8%) were from 15-18 years old. This indicates higher prevalence with increasing age group, a finding that raises important questions about the underlying stressful factors that make a child less than 12 years old perform such action. This appeared to be due to transient stressful events and a trial to mimic TV movies or friends' stories about similar actions; a finding that should give red alerts for further investigations. Similar finding was detected by the study of Wyman and colleagues in 2009, which revealed that 8.6% among 349 urban children of 6-9 years old suffering aggressive disruptive behavior had suicidal ideation thoughts.

Also a retrospective analysis was carried out by Lalwani and colleagues in 2004; examining 222 cases of suicidal deaths pertaining to age group of 10-18 years, revealed that 123 (55.4%) were girls (female : male 1.24:1). Commonest age group involved was 15-18 years in both sexes, and that poisoning was the second method used (37.4% in girls, 49.5% in boys).

In contrast, Søndergaard and colleagues in 2006 found that suicide was extremely rare in children younger than 14 years and that suicide rate increased with age among adolescents, and was higher among boys than among girls.

As regards residence, most of our patients were from Giza governorate (57.3%), followed by Cairo governorate (33.5%) then miscellaneous governorates represented 9.2%. This is related to abundance of population in Giza governorate, most of whom live in rural areas and suffer many problems; the most important being unemployment, early marriage of young girls and illiteracy, in addition to other social and financial problems.

As regards monthly distribution of suicides, figure (1) shows that the highest rate was recorded in June (25.2%) followed by February (20.8%) then May (15.8%), January (14.9%), April (12.7) and lastly March (10.7%); showing a summer peak that was related to the results of the final exams in schools; also environmental factors could play an important role.

Table (2) illustrates the commonest type of poisons used; pesticides recorded the highest percentage (19.3%) because they are very cheap and easy to obtain (sold in pharmacy, supermarkets), followed by varieties of unidentified drugs (17.5%), then collection of mixed drugs (15.8%), drugs affecting central nervous system (11.1%), analgesics (7.7%), antiasthmatic drugs (6.1%), antidiabetic drugs (4.4%), others (miscellaneous group) (3.9%),

antiarrhythmic drugs (3.3%), antihistaminics and antibiotics (2.6%) each, household products such as hydrocarbons and corrosives (2%) and vitamins (1.1%), respectively.

The majority of patients used different kinds of drugs; this could be explained partly by the impulsivity of the attempt, the children just grasping anything easily available. It might also mean that they wanted to harm rather than kill themselves by ingesting the potentially poisonous substances.

The choice of the poison in nearly 80% of patients is based on easy availability whether due to easy access at home or by buying from the nearest source (pharmacy or supermarket); in a few cases, the poison was chosen because it was considered either harmless or lethal. Easy access to various therapeutic drugs, in particular over the counter products, is of relevance.

What method is selected may also depend on the person's knowledge and experience; additionally, in some instances the symbolic meaning of the act or its cultural significance may also influence the choice of method (Ruzicka and Choi, 1999).

There was little premeditation: the majority ingested the poison less than

30 minutes after deciding to self-harm often after an argument. Patients had little knowledge about treatment options or lethality of the poison chosen. We found no difference in reasons for choice of poison between people ingesting different poisons, despite marked differences in toxicity.

Patients attempting suicide with antidepressants accounted for about 3.5% of cases, added to this were a certain percentage from the unidentified group of drugs. Some studies examined the relation between the use of antidepressants and the incidence of suicidal attempts as that of Søndergaard and colleagues in 2006. The authors studied the association between treatment with selective serotonin reuptake inhibitors (SSRIs) and suicide in children and adolescents in a nationwide Danish pharmaco-epidemiological register; including all persons aged 10–17 years treated with antidepressants during the period 1995–1999 ( $n = 2,569$ ). They found that the use of SSRIs among children and adolescents increased substantially during the study period with non-significant increase in suicide rate. However, the study of Schneeweiss and colleagues in 2010 reported increased suicidality risk for children and adolescents beginning use of antidepressants.

Substances of abuse which were used by 2.6 % of cases, included derivatives of opiates (tramadol), cannabinoid, or mixed types then lastly alcohol. This figure is not comparable with other studies as Hawton and colleagues in 2002 recorded increased prevalence of alcohol intake among the studied group which was also evident in the study of Mahadevan and colleagues in 2010.

Evans and colleagues in 2005 conducted a systematic review of the international literature to determine the link between abuse and suicidal phenomena occurring during childhood and adolescence. Results revealed that adolescents who had been physically or sexually abused were significantly more likely to experience suicidal thoughts and behaviors than other adolescents.

Most of other studies explored the prevalence of substances of abuse in areas where predominance of abuse was different from our country being affected by different cultural and religious believes. In contrast, our study was limited to data concerning cases attending NECTR; it doesn't give a full picture about the prevalence of abuse in our country.

On investigating the cause of suicidal attempts among the studied group, results

shown on table (3) revealed that 23.6% of cases attempted suicide due to a quarrel within the family considering death an end or a means, most often, to escape an intolerable situation; 14.9% were due to bad treatment at work; most of them escaped learning or were obliged to work due to poverty; 11.6% were due to depression; 12.7 % were due to failure in love; 10.7 % didn't specify the cause; 11.4% were due to psychic troubles; 6.8% quarreled with their husband and 5.7% failed in exams with great fear of possible punishment by parents.

Females had higher prevalence in all causes except addiction which predominated in males. Unfortunately all causes fall under the circumstances of thoughts and believes that are activated in response to any life event one perceives as notable. A finding that was explained by Beck in 1996 who used the term "automatic thoughts" for those thoughts that seem to occur spontaneously (without effort or planning) in response to stressful events. Automatic thoughts, while not inherently negative, are often inaccurate, unrealistic, or otherwise distorted in the presence of psychological distress or dysfunction. Further, these automatic thoughts directly impact our emotions and behaviors, acting to precipitate or perpetuate maladaptive responses.

On comparing the precipitating factors in our study with others; we found that the study of Hawton and colleagues done in 2002 revealed incremental increase in deliberate self harm in both sexes with increasing consumption of cigarettes or alcohol and number of times drunk (especially in females). A higher frequency of self harm was associated with all categories of drug use. Also it was strongly associated with physical and sexual abuse in both sexes.

The study of Brent and colleagues in 1999 revealed that the presence of any psychiatric disorder resulted in a much greater risk for suicide in the older (16–19 years) rather than in the younger adolescents (13–15 years) in which parent-child conflict was the leading factor. Other particularly significant risk factors cited for the younger age group were mood disorder, the presence of a firearm in the home, and a previous suicide attempt.

It is clear that in about 60% of cases, self harming behavior represented a transient period of distress or an acute life event meaning that it is not previously planned and with no previous attempts; a finding that gives the opportunity for easier psychological assessment, management and prevention of recurrence in these patients; while in others it is an indicator

of a mental health problem (nearly 25%) as chronic depression and psychological upset.

In contrast, Fortune and colleagues in 2007 analyzed the suicidal process among 27 young people who died by suicide; results showed that 25.9 % of patients suffered severe interpersonal relationship problems which were evident from a very early age and escalated to increasingly antisocial behavior and criminal behavior as they became older; while 55.6 % of patients had identifiable psychiatric disorder; their suicidal process emerged many years prior to their death. In 18.5 % of patients the suicidal process emerged as an acute response to life events among young people who appeared to have previously been functioning well, without apparent mental illness or known self-harm.

Beautrais in 2001 highlighted also several behavioral problems among a group of young people under 15 years living away from their parents, with relatively low levels of mental illness, high rates of social welfare involvement, severe family difficulties and multiple life-changes. Sankey and Lawrence in 2005 classified the deaths of 187 adolescents aged 12–17 years. The majority (66%) had enduring difficulties at home and school. Behavioral disorders and depression were the most

common forms of mental health problems experienced by this group. Stressful life events accounted for 14% of deaths and 15% were classified as experimentation, with half of these deaths being due to using drugs or alcohol.

Another important risk factor recently studied by Barnes and colleagues in 2010 is increased risk for self-harm and suicidal ideation in 10 to 19 year olds with co-occurring chronic physical conditions that is similar to the risk in chronic mental conditions and with an attempted suicide risk in excess of that predicted by the chronic mental health conditions alone.

It is evident that in most of the studies, the causes behind suicidal attempts were similar with the only difference being in priorities according to stressful life conditions caused by environmental and social factors also upon difference in culture and religious background between different countries.

Correlation is evident between causes of attempting suicide and the occupational status of the patients, this is shown in table (4) where 35.9% of patients were bachelors and unemployed, suffering a lot of problems with their families; 32.2% were student and most of them attempted suicide due to failure in exams and the associated fear

of punishment by the parent or simply due to frustration; 23% were employed with a lot of problems with their patrons and 9% were housewives with no experience about marriage and its responsibilities raising the problem of early marriage which is still evident in rural areas; as evidenced by Halim and colleagues in 2010 who reported that 25.4% of patients accused their husband about their suicidal thoughts and attempts.

After admission of poisoned patients to the hospital; 43.8% improved after receiving appropriate medical care. Some patients (29.1%) left the hospital upon request due to several causes related to agony or financial problems, but most of them were completely cured as revealed on follow up in the outpatient clinic. Others were referred to other sections within the hospital either for psychological assessment or residual organic effect (14.9%); and finally mild or asymptomatic cases (12.2%) received outpatient treatment only with no reported cases of death.

As regards duration of hospital stay, it ranged from 1 hour to 168 hours (7 days) with a mean of 28.3 hours with the lowest period being related to mild cases or those suffering social problems and who left the hospital upon request; the longest period being related to the severity of the condition.

**Conclusion:**

Suicide in young people has become a major source of concern in many countries.

Assessing a suicidal patient involves evaluating current stressors as well as assessing enduring risk factors and indicators that an individual has a propensity to engage in suicidal behavior when under stress. Stressors include current life events or an episode of psychiatric illness, particularly a depressive episode. Longer-term risk factors include aggressive and impulsive traits and a history of past suicidal behavior because it indicates a predisposition to suicidal acts. Individuals who present with severe suicidal ideation, a definite plan for suicide, and who have ready access to lethal means are at high risk and require immediate intervention, up to and including hospitalization.

Several limitations of this study should be noted, it identified cases of suicidal attempts attending NECTR during a specific period of time with no available data to correlate with other toxic centers or casualty hospitals that record such cases so as to be able to record the exact incidence and prevalence of suicide and attempted suicide, a needed focus for future research.

What we know about the incidence of child and youth suicide is largely restricted

to suicidal attempts by poisoning whatever the substance used; to expand the field to suicidal behavior, that is to add parasuicides and fatal suicides, requires data that are not routinely available.

Aftercare services in Egypt are still limited due to poor understanding of most people for the need of follow-up care after initial improvement.

**Recommendations:**

Each suicide represents a lost life, lost talents, lost creativity, lost contributions made to society, and a lost son or daughter. So, prevention is a must, the studies of suicides in the youngest population in different societal and environmental contexts could offer important information for prevention.

Accurate information is required on the extent of deliberate self harm and suicidal thinking in adolescents, and associated factors, to assist in the recognition of those at risk, the development of explanatory models, and the design of prevention programs.

Prevention of deliberate self-harm in young people can be difficult due to the impulsive nature of their behavior. Acquiring more constructive ways of dealing with distress by educational programs, creating a more communicative

relationship with others, and active listening might be helpful in reducing the high prevalence of the self-harming behavior. Educational programs could address the opportunity to communicate with teachers and/or peers about self-harming thoughts if such programs are embedded in a more global mental health framework.

Parents can play a major role in prevention by facilitating talk about the issue of psychological pain and suicide as misunderstandings at the family level have been the prime factor responsible for intentional poisoning; but schools should also be a place where parents, teachers and others involved in the health and education of children should build effective suicide preventive strategies for adolescents.

Patients with intentional poisoning must undergo psychiatric consultation during their stay in the hospital for the treatment of poisoning. This will minimize the risk of next attempt of self harm.

Models of maladaptive responses to certain adverse circumstances are part of our culture. Cultural change would be necessary to minimize suicide.

#### **Acknowledgements:**

We would like to express our greatest attitude to Dr Abdel Rahman El Naggari (Director of NECTR) for his help and to

all members in the centre who helped us in performing this work.

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