Factors Related to Suicide Attempts by Poisoning in Iranian Children

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ABSTRACT

Objective: Suicide is a major health problem especially in children. Even a large proportion of healthy children have thought about suicide attempt. Some factors are suggested as risk factors for suicide attempt among children such as prior suicide attempt as the most important risk factor. This study was designed to find out why children attempt suicide.

Methods: In a descriptive study we assessed all the 6-15 years old children with suicide attempt referred to Loghman Hakim Poison Centre. For each child a questionnaire consisted of demographic information, family information and Children's Suicide Questionnaire were completed by 2 psychiatrists and 2 psychologists.

Finding: 292 children were evaluated with the mean age of 12±1.46 years old ranging from 6 to 15 years old . 81.8% of subjects were female and 18.2% were male. It demonstrates that a higher proportion of the cases reported a history of mental illness in the family (41%). The survey of CSQ information indicated that 28% of the cases suffered from depression and 27.1% had an epileptic seizure. Family argument was present in 36.6% of the cases. 85.4% of the children attempted suicide by using pharmaceutical drugs and 55.5% of suicide attempts were at 6 p.m. to 12 p.m.

Conclusion: Mental or physical illness, living with a mentally ill family member, residing in an economically deprived neighborhoods and lack of access to proper psychiatric care in combination can induce a suicidal attempt so a multidisciplinary approach is necessary in evaluating a suicide attempt in a child.

Keywords: *Children, Suicide, Iran. Children's Suicide Questionnaire. (CSQ).*

INTRODUCTION

Over the last 45 years, mortality due to suicide has increased in some developed and developing countries among both children and adults varying according to age, gender, and area of residence. Suicide attempts are 10-40 times more frequent than completed suicide [1]. Suicidal tendencies and attempts mainly occur among children suffering from psychological disorders, even mild types; however these attempts are rarely fatal. Few studies have been carried out in Iran on suicide among children. Even in Western Europe and the United States, systematic studies on suicide among children were few up to the late 70's. Jackson and Nuttall indicated Pfeffer to be the main researcher on suicidal behavior among children, throughout the 1980's [2]. A problem in identifying suicide is the fact that it is still a taboo in most societies and particularly Islamic ones. As a result, lots of deaths are described as accidental rather suicidal. Psychological assessments are rare resulting in difficulties in early detection of behaviors leading to suicide [3]. In the United States, in a study on a group of randomly selected healthy children it was found that 13% of children occasionally thought about suicide or had the intention of suicide. However for many, these thoughts do not translate themselves into action, as

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other sociological factors contribute to suicidal behavior. Suicide among children is a serious health issue. Barker reported that in the United States, suicide was the main cause of death in children under 14 years old [4]. Suicide is the 11th cause of death in the United States (over 30,000 per year).

From a psychological point of view, the main factors found to be related to children's suicide are: age, gender, family conflict, personality, and family problems. A previous suicide attempt is one of the strongest predictor factors for intended suicide in the future [5].

Seghatoleslam showed that the main factors related to children's suicide are gender (with more girls attempting suicide) and area of residence, as the most of those admitted were from south of Tehran which is a poor socioeconomic area of the country. In this study it was indicated that the attempts were mostly carried out between 6.00 p.m. and 12.00 midnight. Prescription drugs were used in most cases. The majority of the children were from dysfunctional families and often reported an attempt after a family argument [6].

The present study was designed following the last research [6] using the same instruments, i.e. questionnaires were completed according to documented files of patients. The study aimed to look at the patterns of attempted suicide among children and make an understanding of why children attempted suicide.

SUBJECTS AND METHOD

In this study we evaluated all the documented files of children with suicide attempt aged 6-15 years old referred to Loghman Hakim Poison Centre between 2005 and 2008. This hospital is a unique care teaching and referral poison treatment center in Tehran with nearly an annual average of 20000 hospital visits [7].

Each file was studied in detail and all the relevant information was gathered according to our questionnaire. The questionnaire forms had three separate sections: 1) demographic information such as age, sex, economic conditions, 2) Family information including mental and physical illness in the family, 3) Children's Suicide Questionnaire (CSQ) [6] with Cronbach validity á=64%. The questionnaires were completed by 2 psychiatrists and 2 psychologists and consisted of a list of psycho-social factors associated with the children's suicide attempts. The list included: the reasons for the suicide attempt, area of residence, the time of suicide, the means and location of the attempt, previous history of suicide attempt, mental, and physical history, and general psychological information such as family problems, type of drug and dosage, history of psychiatric and physical as well as mental disorders among children and their family.

All descriptive data were analyzed using SPSS version 15 (SPSS Inc., Chicago, IL).

FINDINGS

292 files were evaluated;. The overwhelming majority of participants were females (81.8%) showing a significant association. The mean age was 12±1.46 years old(range:6-15). A higher proportion of the cases (36%) were between 12 and 14 years old. 43.8% were from the south of Tehran which is a poor socioeconomic area of the country. Demographic data are shown in Table 1. Table 2 shows the psychosocial factors associated with the suicide attempt considered in the CSQ. It demonstrates that a higher proportion of the cases reported a history of mental illness in the family (41%). The survey of CSQ information indicated that 28% of the cases suffered from depression and 27.1% had an epileptic seizure. 36.6% of the children attempted suicide after a family argument. 55.5% of suicide attempts occurred between 6.00 p.m. and 12.00 p.m. 85.4% of the cases attempted suicide by taking drugs such as benzodiazepine (23%), anti-epileptic (23%), and anti-depressant medications (20%). The study also showed that 41.6% of the children had a history of prior suicide attempts, and 95% of suicide attempts took place at home.

Table 1. The demographic data of the cases

	Number	Percent
6-8 years old	50	17.1
9-11 years old	71	24.3
12-14 years old	105	36
15 years old	66	22.6
Tehran Living area(TLI)*		
West	13	4.70%
North	35	12
South	128	43.8
East	34	11
Center	81	27.7

TLI*.It was classified according to Iran Map of Tehran living areas (condensed into 5 categories).

Table 2- The Psychosocial Factors in the CSQ.

	Number	Percent
Family problems		
Family argument	107	36.6
During divorce	54	18.5
Separated parents	52	17.8
Mother lives with children alone	46	15.8
Type of family illness		
Mental	120	41
Physical	92	31.5
Type of mental and physical illness		
Depression	82	28
Epilepsy	79	27.1
Other physical and mental illnesses	66	22.6
The time of attempt suicide		
12.00a.m-6.00a.m.	68	23.2
6.00a.m-12.00p.m.	23	7.9
12.00p.m-6.00p.m.	39	13.4
6.00p.m-12.00a.m.	162	55.5
The means of suicide		
Pharmaceutical Drugs	249	85.4
Insecticide	16	5.5
Alcohol	3	1
The kind of drugs that were used		
Benzodiazepine	57	23
Antidepressant	51	20
Antiepileptic	57	23

DISCUSSION

This study indicated that the suicide attempt was more common among girls rather than boys. Although the sample size was comparatively small, the results seem to agree with the ratio of suicide attempt among adults in Iran. Janghorbani et al[8] found that the prevalence of suicide among adults who attempted suicide to be 36.9% in males and 63.1% in females in Ilam (a city in western parts of Iran). Also Stiffman found that girls attempt suicide more than boys. In spite of religious rules that mentions suicide as a big sin, in Islamic country suicide is more common among females than males; the embarrassment among females results in not seeking help in order to solve their problems when having suicidal ideation which leads to late health care services for them. Besides, culture may influence their decision about the termination of life [9]. Seghatoleslam showed not only suicide was three times more common among adult females than males [10], but also girls attempted suicide more than boys [6].The findings were also supported by a ten-year study in South Delhi, India, by Lawani et al, which showed that girls were far more likely to attempt suicide than boys [11].

Most suicide attempts in the present study occurred between the ages of 12-14 years old (36%). This may indicate that apart from psychosocial factors, puberty is an important determinant in suicide attempts among children. These findings confirm the findings of McClore's study showing behaviors related to suicide to be more prevalent in boys and girls under fifteen years old[12] .

Nearly half of the study participants (43.8%) lived in the south of Tehran, Iran, which is an economically deprived area with a high rate of unemployment and poor housing conditions. Lawani et al showed that most cases of attempted suicides were among those living in socioeconomically deprived areas[11] .

Our study noted that 95.5% of suicides took place in the home; however in Western study it is stated that most suicide attempts happen at school [1]. In the present study suicide was mostly attempted between 6.00 pm and 12.00 pm; the same time-band was reported in a study by Groholt [13]. It seems that the causes of stress were within the hours at home rather than school as more than one third of the children in our study reported the suicide attempt following family arguments at home. Zhang demonstrated that 34% of the causes of suicide attempts among teenagers were family arguments [14]. It is also indicated that stressful family tensions grow up in silence, and are related to internal anger and hostility as these children lack good communications [1].

Van der Kolk et al in a study on mental illnesses in children found that stressful families and a history of mental illness were important causes of suicide among children [15]. In another study it was found that 26.4% of participants reported mental problems such as depression and epilepsy [10]. Shaffer et al showed that depressed children are three times more likely to attempt suicide than healthy children [16]. Some of the cases in the recent study were of children suffering from epilepsy, another determinant of suicide attempt.

Most of the children in the study used prescription drugs as the method of suicide attempt. From the files, it was apparent those drugs, rather than psychological counselling, were dispensed in cases of mental disorder. This is also true for adults [10], and therefore, children already undergoing treatment or living with a mentally or physically ill family member have relatively easy access to prescription drugs. This is demonstrated by our results that prescription drugs were used in about 80% of the cases. However, the vast majority of people

exposed to these risk factors do not commit suicide; therefore, we should consider access as a facilitator, rather than a factor itself.

There are two other strong determinants for suicide attempts: gender and previous attempts. In Iran, girls and women are far more likely to attempt suicide, as we have shown in our previous study [17]. Poverty and lack of opportunities can play a role in depression and suicide attempts. A WHO study about poverty and mental disorders in developing countries identified income, insecurity, feelings of hopelessness, social change, low education and gender, a co morbidity such as inadequate housing and poor physical health as determinants of mental disorders [18]. Dastgiri et al showed that 98% of women who committed suicide by self immolation did not have any income [19]. In the present study, we found that 41.6% of cases admitted to the hospital had already tried committing suicide on a previous occasion.

CONCLUSION

A combination of factors can induce suicidal behavior including stress such as mental or physical illness, living with a mentally ill family member, residing in an economically deprived neighborhood, with its attendant violence and lack of access to proper psychiatric care. We suggest a multidisciplinary approach to the problem from psychological, biological and social perspectives. Cooperation between psychiatrists, psychologists, pediatricians and social workers is necessary to assess and help prevent suicide attempts such as those studied at the Loghman Hakim Medical Centre.

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