

Frequency of Attempted Suicide Methods and the Fetal Outcomes in Pregnant Women in Kermanshah

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Abstract

Introduction: The present study aimed to investigate the suicide methods and attempted suicide during pregnancy and its maternal and fetal outcomes.

Materials and Methods: This is a five-year retrospective study. The statistical population consisted of pregnant women who had attempted suicide and referred to Imam Khomeini Hospital in Kermanshah on 23.08.2007 till 22.08.2012. Data analysis was carried out using SPSS 16 and chi-square test.

Results: Among 16,000 cases of the people who have attempted suicide within the five years, 89 people were pregnant women. The most common method of suicide among pregnant women during the study period was drug poisoning (39 cases, 43.3%), self-immolation (23 cases, 25.6%), poisoning by opium (14 cases, 15.6%), organophosphorus poisoning (11 cases, 12.2%), hanging (1 case, 1.1%) and 1 case of poisoning by oil (1.1%), respectively. Most fetal outcomes were observed in self-immolation.

Discussion: The results showed that drug poisoning and self-immolation were more common in the first and third trimesters, respectively. Since suicide is one of the causes of maternal mortality and adverse fetal consequences, it needs more attention as a health and social problem.

Keywords: Suicide; Pregnant women; Fetal outcome

Introduction

Attempted suicide among young women and committed suicide among men are most common in older and who have a history of mental illness [1-3]. Suicide is one of the indirect causes of maternal mortality. Maternal mortality refers to death occurs during pregnancy and up to 42 days after that (early) or 42 days to one year after delivery (late) [4]. The causes of maternal mortality which occurs one year after delivery include thromboembolism, obesity, cardiovascular events and suicide, respectively [5,6]. Although pregnancy can increase a risk for depression, anxiety and psychosomatic symptoms, pregnant women are less likely to die from suicide in this period [7].

Major depression is one of the treatable psychological diseases and a major cause of disability. About 12% of adults reported that they had depression during pregnancy [8-10]. In developing countries, this has been reported at 33% in previous studies [11]. Untreated depression during pregnancy is associated with increased risk of suicide, abortion, preterm delivery, preeclampsia, fetal growth retardation [12,13], infant development disorder and conduct disorder in childhood [14,15]. Various suicide methods have been reported in pregnancy. In most studies, drug self-poisoning is more common than other methods [16-21].

During pregnancy, young, unmarried, unemployed women who suffered from unwanted pregnancy, addicted to drugs or alcohol, victims of sexual and physical abuse and those with a history of psychological disease are at a risk of suicide [8,11,22]. Given the importance of pregnancy in women's life and an increase in female suicides in Ilam, Lorestan and Kermanshah in Iran [23] as well as the lack of study on attempted suicide in pregnancy in Kermanshah, it seems necessary to investigate methods of attempted suicide during pregnancy and maternal and fetal consequences as well as the factors affecting it.

Materials and Methods

This was a five-year retrospective study. The population consisted

of pregnant women who had attempted suicide and referred to Imam Khomeini Hospital in Kermanshah on 23.08.2007 till 22.08.2012. Sampling was done using convenience sampling method. The records related to pregnant women who attempted suicide were found and studied.

The information was extracted based on required variables such as maternal age, gestational age, parity, husband's occupation and season, level of education, methods of suicide, fetal outcomes after attempted suicide. In the case where demographic data were incomplete, the families were contacted using data from patients' records and the information was completed. Data analysis was carried out using SPSS 16 and chi-square, Fisher's Exact test.

Results

Among 16000 medical records of people who have attempted suicide and referred to Kermanshah Imam Khomeini Hospital during 2007-2012, 89 patients were pregnant women and consequently were studied. The mean age of these patients was 24 years with the ages range from 16 to 48 years. Most of the attempted suicide cases occurred in the third decade of life (ages 18-28 years old). The mean gestational age of the patients was 18.24 weeks with a range of 3 to 38 weeks. The highest attempted suicide rate was in gestational age of 9 weeks and the highest incidence of attempted suicide was observed in the first trimester.

The results showed that parity in pregnant women who had

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attempted suicide was 64 cases (71.1%) in the first pregnancy, 17 cases (18.9%) in the second pregnancy, 7 (7.8%) in the third pregnancy and one case (1.1%) in sixth pregnancy, respectively.

In terms of education and literacy level, the women were divided into 4 groups including illiterate: 14 (15.6%), with no high school education: 38 (42.4%), with high school education: 34 (37.8%) and secondary education 2 (2.2%).

Of 89 cases, 57 patients (63.3%) were residents of urban areas and 32 (35.6%) were from rural areas.

In terms of the incidence of attempted suicide among pregnant women, 36 cases (40%) were in autumn, 26 (28.9%) in spring, 14 (15.6%) in summer and 13 cases (14.4%) had attempted suicide in the winter, respectively. In autumn season attempted suicide significantly was higher (P-value: 0.001).

The husbands' occupations of pregnant women attempted suicide were as follows: self-employed: 34 (37.8%), farmers: 22 cases (24.4%), workers: 17 (18.9%), unemployed: 8 (8.9%), employees: 5 (5.6%) and 3 (3.3%) had unknown occupations.

The most common methods of attempted suicide among pregnant women were as follows: drug poisoning (39 cases, 43.3%), self-immolation (23 cases, 25.6%), poisoning by opium (14 cases, 15.6%), organophosphorus poisoning (11 cases, 12.2%), hanging (1 case, 1.1%) and 1 case of oil poisoning (1.1%).

The types of medications used for suicide were examined which is given in Table 1.

There were no significant correlations between maternal age and parity and attempted suicide methods and they were completely independent (P-value=0.375, 0.46).

A significant correlation was observed between attempted suicide method and gestational age (P-value = 0.01). The drug poisoning had the highest incidence in early pregnancy and self-immolation was more common in late pregnancy.

No significant correlations were observed between husband's occupation (P-value: 0.139), education level (P-value:0.64), place of residence(P-value:0.45) and suicide season(P-value:0.64) and the attempted suicide method.

In all occupations, drug poisoning was the most common method of attempted suicide. However, the farmers' wives attempted self-immolation was higher. Furthermore, attempted self-immolation was higher in the winter.

Some of obstetric complications found in this study: abortion, preterm delivery and fetal death.

Most fetal outcomes occurred in self-immolation suicide and was fetal death (Table 2).

In this period of study found 18 case of commit suicide, that 16 case occurred by self-immolation and 2 cases by drug poisoning (P-value: 0.001).

Discussion

Fortunately, the number of people who have attempted suicide during pregnancy is low. Within 5 years of study, a total of 89 cases of attempted suicide were found in pregnancy. In some communities, committed suicide has been reported as the leading cause of maternal mortality [24].

In a meta-analysis published in 2005 by Shadigian et al. [25] 349 suicides in pregnancy and a year later were evaluated. In this study, suicide rate was less than homicide. The suicide in those with induced abortion was 3 to 6 times of those with term delivery. In our study, the highest attempted suicide rates were observed in the first gravid and first trimester [25].

In a study conducted in 1991 by Appleby et al. [25] the likely to commit suicide in pregnant women was lower than in non-pregnant women. However, there were five times as likely to commit suicide in teen pregnancy. Most of these suicides occurred in the second trimester. In this study, 14 cases of suicide have been reported during 12 years, while a total of 89 patients had attempted suicide and 18 cases commit suicide during 5 years in our study. Also, the attempted suicide rate was higher in the first trimester. Contrary to this study, the highest rate of attempted suicide in our study was in 18-28 years of age [26]. This could be due to social, economic and cultural differences in various communities.

The most common methods of suicide in our study were drug poisoning, self-immolation, poisoning by opium and organophosphorus, respectively. Suicide attempts increased in the twentieth century which a portion of the suicide cases is due to drug use. Although, Oates [26] noted hanging and jumping height as the main methods of suicide in pregnancy, only one hanging case was found in the present study. Self-poisoning epidemic exists as a social problem, particularly among young women [26]. So it can also occur in pregnant women. The results of some studies show that women were more likely to use drugs for suicide [28-31].

Type of Drugs used for attempted suicide	Frequency
Multi drug*	10
Acetaminophen	8
Unknown	4
Alprazolam	2
Nortriptilin	2
Promethazine	2
Propranolol	2
Ranitidine	1
Phenobarbital	1
Penicillin	1
Lorazepam	1
Folic acid	1
Clonazepam	1
Carbamazepine	1
Amoxicillin	1
Warfarin	1
Total	39

*unknown drug ,two or more drug

Table 1: Type of drugs used for attempted suicide.

	Self-immolation Number(Percent)	Drug poisoning Number (Percent)	OPH-poisoning Number(Percent)	Total Number (Percent)	P-value
Abortion*	8(88.8)	1(11.1)	0(0)	9(100)	0.021
Fetal death*	12(80)	2(13.3)	1(6.6)	15(100)	0.001
Preterm delivery+	4(100)	0(0)	0(0)	4(100)	0.125

*:one sample chi-square test

+one sample binominal test

Table 2: The relationship between fetal outcomes and suicide methods.

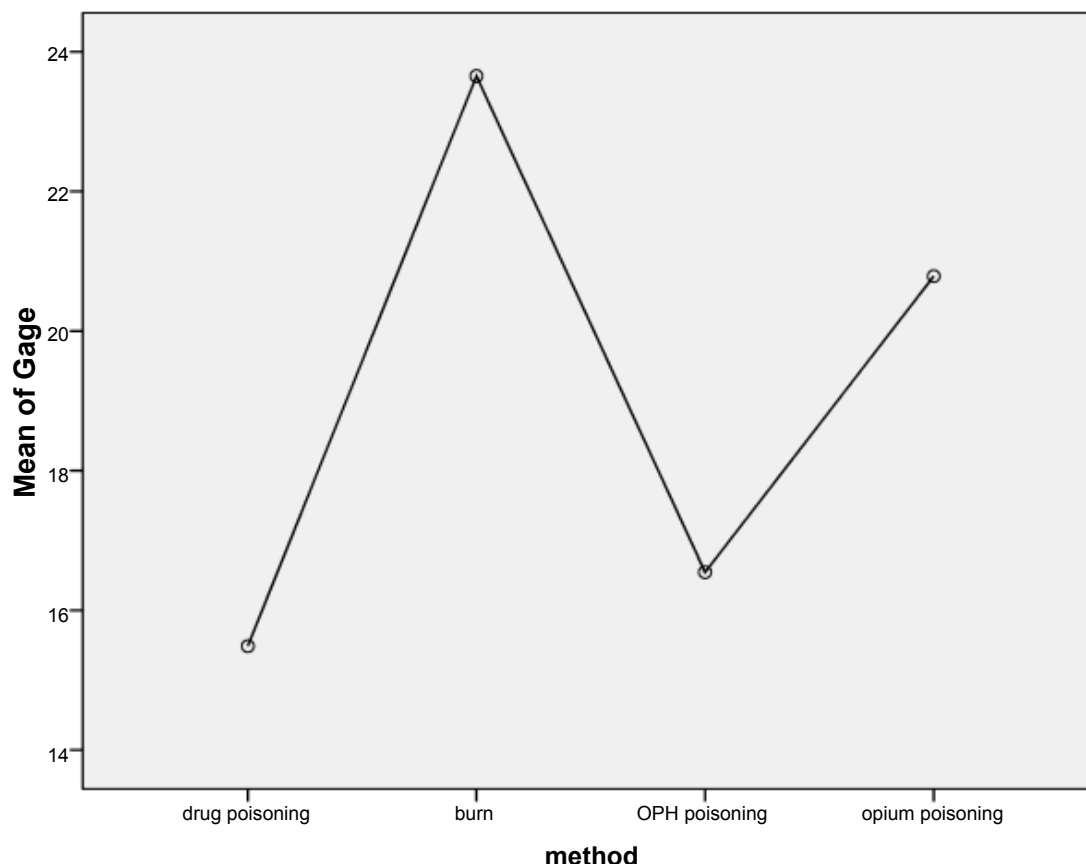


Figure 1: Relation between mean gestational age and attempted suicide methods.

In a study conducted by E. Czeizel [30], the drug poisoning was the most common method of suicide in the first trimester which is consistent with results of the present study. In this study, deaths from drug poisoning were 1.8% while in our study was 2.24%. The peak age of drug poisoning in Czeizel's study was 18-20 years and in our study was 24-25 years. In the study conducted by Czeizel, 62% of patients were in the primigravid while in the present study, 74.35% were in primigravid [31]. Adhikari et al. [32] reported 21 cases of organophosphate poisoning in pregnancy where 2 cases led to maternal mortality and 1 case was spontaneously aborted [33]. However, in the present study, among the 11 patients with organophosphate poisoning, only one case of fetal death was found (Figure 1).

In general, in our study, the peak age of suicide in pregnancy was 18-28 years. Of 89 cases, 74.4% were in the primigravid and 42.6% were in the first trimester. The self-immolation cases were 23. Rezavand et al. [33] reported 43 cases of attempted self-immolation during 12-years. On the other hand, Subrahmanyam [34] reported 11 cases of self-immolation during 5 years [35]. Of the attempted self-immolation cases in our study, 20 (86.9%) and 3 (13.1%) cases were by oil and gasoline, respectively. Mehdizadeh et al. [35] reported 86.6% oil self-immolation cases where 80% of them led to the fetal death, while in our study 52.17% led to fetal death, 26.08% resulted in abortion and maternal mortality occurred in 70%. The attempted suicide was similar with the present study in terms of gestational age and maternal age [36]. Attempted suicide and the rate of successful suicide in pregnant women are different [37]. The thoughts of self-harming in developing

countries have been reported at 14-17% [38]. In the present study, the rate of commit suicide was significantly higher for self-immolation.

Conclusions

Since most maternal and fetal damage is seen self-immolation cases, paying attention to preventive measures and efforts for cultural promotion can prevent this unfortunate incident. However, fortunately in Kermanshah like most communities, drug poisoning is the most common method of suicide which has been associated with little damage.

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