



# Clinical Characteristics of Suicide Attempts During Pregnancy

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## Abstract

**Introduction:** Suicide is one of the most important causes of female deaths during pregnancy and postpartum period. The aim of this study is to examine the sociodemographic and clinical characteristics of patients who applied to the emergency department for suicide attempts during pregnancy.

**Methods:** This is a retrospective study. Pregnant patients (n=46), between the ages of 18 and 50, admitted to the emergency department for suicide attempt between January 2009 and December 2019 were included in the study.

**Results:** The mean age of the pregnant was 27.74 (SD=5.99). The most common suicide attempts were in the 15th week of gestation. Pregnant mostly attempted suicide in the 1st trimester (52.2%). The most commonly used method for suicide was overdose medication (80.4%). This was followed by exposure to toxic substances (10.9%), jumping from high (4.3%), and self-injury (4.3%). About 37% of the pregnant had a psychiatric history and used psychiatric drugs. About 15.2% of the pregnant had a past suicide attempt.

**Discussion and Conclusion:** Suicide is a preventable psychiatric situation. It can be prevented in pregnant by asking for their current mental health and psychiatric history during early pregnancy assessments.

**Keywords:** First trimester; pregnancy; suicide attempt.

Suicide is among the leading causes of female deaths during pregnancy and postpartum period<sup>[1]</sup>. Suicidal thoughts vary between 5% and 18% in pregnant and postpartum women, and the prevalence is higher in low-income countries<sup>[2-4]</sup>. In general, suicide rates decrease in the perinatal period in women compared to the general population<sup>[2]</sup>. However, in low- and middle-income countries, suicide rates increase in the perinatal period due to

infection, hunger, interpersonal violence, and insufficient partner support<sup>[5-8]</sup>. Studies show that pregnant women have higher rates of suicidal thoughts compared to non-pregnant women<sup>[9]</sup>.

Comorbid psychiatric disorders such as depression, anxiety, alcohol, or substance use disorders are among the most important risk factors for suicidal thoughts and attempts in pregnant women, as in the general population<sup>[10-13]</sup>. In

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**Submitted Date (Başvuru Tarihi):** 05.09.2020 **Accepted Date (Kabul Tarihi):** 11.10.2020

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a recent study, it was reported that 60% of the pregnant woman who died by suicide had a previous psychiatric history<sup>[14]</sup>. The estimated prevalence of prenatal depression is 25.3% in low- and middle-income countries, and maternal depression with comorbid anemia is the most common cause of maternal morbidity<sup>[15]</sup>. While completed suicides are associated with psychiatric diseases at a rate of 90% in high-income countries; suicidal thoughts and attempts are also associated with long-term unemployment and hunger in low-income countries<sup>[16,17]</sup>. In addition, low socioeconomic status, low levels of educational attainment, younger age, negative life events, and lack of social support are also associated with suicidal ideation<sup>[18,19]</sup>. Recent studies emphasize the association between suicidal thoughts and socioeconomic and cultural factors<sup>[20-22]</sup>. In a recent study, neither major depression nor anxiety disorder was diagnosed in the majority of women with suicidal thoughts or attempts<sup>[23]</sup>. Therefore, it is recommended that women should be asked for suicidal thoughts during their early pregnancy assessments.

Suicide attempts are 20 times more often than completed suicides<sup>[24]</sup>. People die as a result of a suicide attempt, use more lethal methods, and have more severe psychopathology compared to those who attempt suicide<sup>[25]</sup>. In a study, most of the pregnant women who lost their lives by suicide used methods with high lethality such as hanging and jumping from high<sup>[26]</sup>. About 20% of people who attempted suicide die as a result of another suicide attempt<sup>[27]</sup>. From this point of view, having a history of a suicide attempt is the strongest predictor for a new attempt<sup>[28]</sup>.

The aim of this study is to investigate the clinical characteristics of pregnant women who applied to the emergency service due to suicide attempt in İstanbul, Kartal.

## Materials and Methods

This study is a retrospective observational study. Pregnant women who were admitted to Kartal Dr. Lütfi Kırdar City Hospital Emergency Department with suicide attempt between 2009 and 2019 were included in the study. The study was approved by the ethics committee at Kartal Dr. Lütfi Kırdar City Hospital in İstanbul, Turkey (Ethics Committee Ruling number: 2020/514/171/5). The demographic and clinical characteristics of the individuals included in the study were recorded to the case report form. Forty-six pregnant patients included in the study. Cases with taking accidental overdose from drug misuse were excluded from the study.

All statistical analyses were performed using the Statistical Package for the Social Sciences-23 Windows program.

Means and standard deviations (SD) were used for quantitative data, and numbers and percentages were used for qualitative data. The Shapiro–Wilk test was used to examine the normality of continuous data. The statistical significance level was accepted as  $p < 0.05$ .

## Results

All pregnant who attempted suicide survived. The mean age of the pregnant was 27.74 (SD=5.99). The most common suicide attempts were in the 15th week of gestation. Pregnant mostly attempted suicide in the 1<sup>st</sup> trimester (52.2%), then in the 2<sup>nd</sup> trimester (26.1%).

The most commonly used method for suicide was taking overdose medication (80.4%). This was followed by exposure to a toxic substance (10.9%), jumping from high (4.3%), and self-injury (4.3%). About 37% of the pregnant had a psychiatric history and used psychiatric drugs. About 15.2% of the pregnant had a past suicide attempt.

The mean length of the stay in the emergency department was 13 h (SD: 8.15). About 19.6% of the pregnant hospitalized for an organic or psychiatric reason, after the suicide attempt. The rate of patients hospitalized in the intensive care unit was 4.3%. All patients hospitalized in the intensive care unit, attempted suicide by taking overdose medication. About 43.5% of the patients had a comorbid medical disease. About 4.3% of the patients baby had a complication as a result of the suicide attempt. Table 1 presents demographic and clinical characteristics of pregnant who attempted suicide.

**Table 1.** Demographic and clinical characteristics of pregnant with suicide attempt

	Pregnant with suicide attempt (n=46)
Age (Mean±SD)	27.74±5.99
Gestation week (Mean±SD)	15.43±9.23
Trimester	
1	52.2
2	26.1
3	21.7
Method (%)	
Taking overdose medication	80.4
Toxic substance exposure	10.9
Jump from high	4.3
Self-injury	4.3
Psychiatric history (%)	37
Past suicide attempt (%)	15.2
Comorbid disease (%)	43.5

## Discussion

In this study, 37% of pregnant who applied to the emergency department with suicide attempt had a psychiatric history. It is well-known that this rate can reach up to 90% in completed suicides in high-income countries,<sup>[16,17,23]</sup> and more than half of these patients have mood disorders.<sup>[29,30]</sup> In our study, all pregnant who attempted suicide survived. This result might be explained by their milder psychopathology, and their lower rate of psychiatric diagnosis compared to completed suicides. In addition, while Turkey is among the middle-income countries, suicide attempts are likely to be associated with psychosocial and cultural causes as well as comorbid psychiatric disorders.

In this study, 15.2% of pregnant who attempted suicide had another suicide attempt in their past. It is well-known that 20% of people who attempted suicide died as a result of another suicide attempt, and having a suicide attempt history is the strongest predictor for a new suicide attempt<sup>[27,28]</sup>. From this point of view, our findings are in accordance with the literature. In addition, it can be suggested that some of these women will attempt suicide later in their lives, and therefore, their lives will end. For this reason, it is necessary to consider suicide attempts as a call for help and to take necessary precautions in this regard. Suicide attempts in pregnant are preventable actions. Contrary to the general population, pregnant women are followed up regularly, so it is of great importance to evaluate their current mental health by professionals in early pregnancy assessments and to ask about their psychiatric history and past suicide attempts. This method is applicable in terms of not requiring an additional cost or laboratory assessment. The NICE guideline also recommends that women should be asked for their current mental state and psychiatric history in the early stages of pregnancy assessments<sup>[26,31]</sup>. In this study, the majority of the pregnant who attempted suicide used overdose with medication which is in accordance with the literature. It is known that the most commonly used method of suicide in the general population is taking overdose medication<sup>[32]</sup>. However, there is no study that mentions on the most frequently used method in suicide attempts during pregnancy. The most frequently used method in maternally completed suicides are more lethal methods such as hanging or jumping from high<sup>[26]</sup>. It is well-known that unlike suicide attempts, more lethal methods are used in completed suicides<sup>[27]</sup>.

In this study, the mean age of the individuals was 27.74. Since suicide was reported as the leading cause of maternal death between the ages of 15 and 29 in low- and mid-

dle-income countries, this finding is also in line with the literature<sup>[33]</sup>.

In this study, the most frequent suicide attempt in pregnant women was in the 1st trimester. This period mostly follows the period when pregnancy is detected. It is known that the rate of suicide attempt is higher in unplanned pregnancies<sup>[26]</sup>. As a result of this situation, women may have difficulties in accepting the situation and consider to end their lives impulsively after receiving the news about their pregnancy.

## Conclusion

Suicide attempts are preventable psychiatric situations. Psychosocial factors may play a role on suicidal ideation in middle-income countries, as well as psychiatric disorders. All pregnant should be asked for their current mental health and psychiatric history during their early pregnancy assessments.

**Ethical Committee Approval:** The study was approved by the ethics committee at Kartal Dr. Lütfi Kırdar City Hospital in İstanbul, Turkey (Ethics Committee Ruling number: 2020/514/171/5).

**Peer-review:** Externally peer-reviewed.

**Authorship Contributions:** Concept: N.M.H., H.E.A.Ç., İ.A.; Design: N.M.H., H.E.A.Ç., G.E.; Data Collection or Processing: İ.A., D.T.; Analysis or Interpretation: H.E.A.Ç.; Literature Search: D.T., G.E.; Writing: N.M.H., H.E.A.Ç.

**Conflict of Interest:** None declared.

**Financial Disclosure:** The authors declared that this study received no financial support.

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