

# The Factors Influencing Suicide Attempts among Adolescents: A Review Article

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**Received:** 21 October 2019  
**Revised:** 19 November 2019  
**Accepted:** 26 December 2019

## Abstract

**Background:** Suicide and Suicidal attempt at the 1996 World Health Organization Summit was an important public health and anti-social behavioral issue. Suicide rates are one of the most important indicators of the community's mental health. The present study was designed to elucidate the factors affecting suicidal attempts among adolescents.

**Methods:** This is a review study. Two researchers searched for suicide-related articles and related factors between October and November 2019 at five Latin scientific databases (Google Scholar, PubMed / Medline, Scopus, ISI Web of Science and Embase).

**Results:** The most important factors in suicidal attempts in adolescents included individual factors, family factors, and social factors. Hormonal changes in puberty in adolescents, especially in girls, can affect the adolescents' behavior. The breakdown of the family structure can have negative consequences for children and cause them to commit suicidal attempts.

**Conclusion:** The available evidence indicates the influence of individual, family, and social factors at the beginning of the process of suicidal attempt among adolescents. Therefore, by focusing on preventing risk factors leading to suicidal behavior in adolescents, teaching how to deal with stress and increasing the adolescents' access to specialized counseling services and useful social networks, a suitable support system can be provided for these people.

Please cite this article as: Bazrafshan MR, Delam H. The Factors Influencing Suicide Attempts among Adolescents: A Review Article. *J Health Sci Surveillance Sys.* 2020;8(1):10-15.

**Keywords:** Attempted suicide, Adolescent, Risk factor, Review

## Introduction

Death is an important phenomenon that has always preoccupied the human's thought, especially modern human. There is no human being who has not thought about death for at least a moment in his life. Modern human, in spite of his instinct for life and desire to continue living, has a strange preoccupation with the phenomenon of death.<sup>1</sup>

Suicide is a global cause of disability and death worldwide. According to the report from the World Health Organization in 2014, suicide was the 15th leading cause of death in the world which accounts for 1.4 percent of all deaths, and more than 800,000 people die each year as the result of suicide.<sup>2</sup> Every

death by suicide represents an individual tragedy and is estimated to indirectly affect many people, including friends, communities and families.<sup>3,4</sup>

Data from 10,8705 people who participated in the Global Mental Health Survey, designed by the World Health Organization, showed that the average one-year prevalence of suicidal ideation in high- and low-income countries was 2 and 2.1 percent, respectively. However, the average prevalence of suicidal attempts was 0.3% and 0.4%, respectively.<sup>5,6</sup>

Suicide and attempting to commit it at a meeting of the World Health Organization in 1996 was a major public health problem and anti-social behavior.<sup>7</sup> Since 1903, when the International Classification of Diseases and Causes of Death was adopted for the

first time, suicide has been classified as death due to external reasons.<sup>8</sup> According to the World Health Organization, suicide is a term in which a person intentionally and without the intervention of others performs unusual behaviors such as self-harm or eating a substance in excess of the amount prescribed for treatment and his goal is to achieve changes which are expected.<sup>7</sup> Thus, suicide is a non-lethal act in which a person deliberately puts herself at risk of death.<sup>8</sup> The World Health Organization estimates that by 2020, approximately 1.53 million people will have died due to suicide, and more than ten to twenty times as many will have committed suicide worldwide.<sup>9</sup> This means that on average, one death every 20 seconds is due to suicide and within a second or two, a suicidal attempt occurs.<sup>10</sup>

Also, epidemiological studies indicate an increase in suicide and suicidal attempts in the last two decades in Iran.<sup>11</sup> The increasing prevalence of suicide and the intention to commit suicide in communities is quite noticeable. This increase has not only occurred in certain countries, and the phenomenon of suicide, especially in adolescents, is a global health problem. Therefore, the rapid rise in suicide rates among adolescents since the 1960s has necessitated further research.<sup>12</sup>

Adolescence is a period of development between childhood and adulthood that begins at age 12 and ends at age 19.<sup>13</sup> A review of previous studies showed that adolescence could be a critical time for the onset of self-harm.<sup>14</sup> Suicide is low before puberty, but it increases with puberty and adolescence. As the risk of suicide increases with increase in age, adolescents are the main target group for suicidal attempts.<sup>15</sup>

Even with the world's population growth control policy, the growing trend of suicidal attempts leading to death for adolescents around the world has been faster than other age groups.<sup>16</sup> It is estimated that about 10-15% of adolescents have suicidal thoughts.<sup>17</sup>

Adolescents' suicide rate has quadrupled in the last 40 years and is currently the second leading cause of death in this age group after fatalities due to accidents.<sup>18</sup> Suicide has different consequences such as disability, increase in the cost of treatment in these people and orphans at the community level, which has led to an increase in delinquency and lack of education and so on. This issue is increasingly exacerbating the problems in the society.<sup>19</sup> Suicide has always been a mystery and a complex phenomenon and it will always be difficult to understand the causes. Meanwhile, the increase in suicidal rates among children and adolescents has made this puzzle more complicated.<sup>1</sup>

Given that several factors affect suicidal attempts, with a better understanding of these factors it is necessary to determine the process of suicidal attempts, so that we can provide the necessary

background for planning. Such studies can also identify important factors that precipitate suicide and are helpful; the next appropriate steps can be taken to reduce the number of suicidal attempts. Therefore, this study was conducted to determine the factors affecting suicidal attempts among adolescents.

## Materials and Methods

This is a review study. Two researchers searched for suicide-related articles and related factors between October and November 2019 at five Latin scientific databases (Google Scholar, PubMed / Medline, Scopus, ISI Web of Science and Embase). Selected keywords for the search included "adolescent", "suicide", "suicide attempt", "risk factors" and "epidemiology". The articles were retrieved using advanced search and using AND and OR operators. The two researchers examined the extracted articles and included those that were about the risk factors and the epidemiology of suicide and suicidal attempts. Also, summaries of the articles published in congresses and conferences were excluded from the study. Initially, about 560 articles were obtained, and after applying the criteria for leaving the study and reporting the results, 52 articles were finally evaluated.

## Results

### *Individual Factors*

Research shows that hormonal changes with puberty in adolescents (especially girls) can affect the adolescents' behavior.<sup>20</sup> Studies show that the level of serotonin in the brain is linked to sex hormones, and changes in the amount of sex hormones in the menstrual cycle can change the amount of serotonin in their blood;<sup>21,22</sup> decreased levels of serotonin in the blood are also among the most important biological causes of suicide.<sup>23</sup> Therefore, according to research, hormonal changes can make a person prone to suicidal attempt.<sup>24,25</sup> Also, puberty is a sensitive stage in the life of boys, which is accompanied by hormonal changes, including the testosterone hormone.<sup>26</sup> Although the findings of the studies do not directly indicate a link between testosterone levels and suicide attempts,<sup>27</sup> there are studies that show a link between testosterone levels and violent and antisocial behaviors.<sup>28</sup> The higher rate of deadly suicidal attempt in men than in women can be related to testosterone hormone; also, the relationship between impulsive behaviors such as aggressive behaviors and suicide among adolescents in studies has been confirmed.<sup>29</sup> Therefore, the relationship between adolescents' suicide and testosterone can be seen among adolescents as well.<sup>27</sup>

Studies also show that there is a significant relationship between the history of suicide and physical disabilities in adolescents, so that adolescents living with physical disabilities or long-term health problems

are more likely to attempt suicide.<sup>25, 30</sup> Marriage in many cultures is a stressful experience. Adolescents in Iran face many problems in their emotional relationships with the opposite sex for the purpose of marriage, problems such as family dissatisfaction and opposition to adolescent marriage. According to the old tradition of marriage in Iran, the opposition of the family to the marriage of adolescents for various reasons such as job, money, education, social class makes it impossible for a adolescents to endure this failure; therefore, they respond to this problem by committing suicide.<sup>25, 31</sup> There is a link between suicidal attempts and mental illness.<sup>19, 23</sup> Thus, by examining the psychological pathology of the suicide attempters, the cause-and-effect relationships between mental and suicide disorders are determined.<sup>32</sup> Studies show that adolescents commit suicide to relieve from their negative emotions such as depression, anxiety, guilt, aggression and loneliness and get rid of unpleasant thoughts and feelings and pain.<sup>33</sup> Studies also show that people with a history of suicide, as well as those who have recently committed suicide, are more likely to use maladaptive methods when faced with stress in life, and the use of these maladaptive methods is one of the most important risk factors for suicidal attempts.<sup>34</sup>

### Family Factors

The results of studies show that the interaction between adolescents and parents is affected by the parents' reaction to the adolescent's sense of independence and freedom. When the adolescent's sense of independence and freedom makes them to behave like their peers, but the parents resist the adolescent's desire, this action of the parents affects the adolescent-parent relationship, which can be a factor for adolescents' suicide,<sup>35</sup> Therefore, the quality of the relationship between parents and adolescents significantly increases the chances of high-risk behaviors (including suicidal behaviors) in adolescents.<sup>36, 37</sup> The collapse of the family structure can have negative consequences for the children of such families.<sup>38, 39</sup> Studies show that adolescents living in families where parents are not present due to death, divorce, or having a job that requires them to stay away from their family environment suffer from many emotional and psychological disorders, such as feelings of rejection, disappointment, anger, antisocial behavior, and depression which are associated with adolescents' suicide.<sup>40</sup> There is also a link between suicidal ideation in adolescents and family's poverty. Researchers in this study suggest that this relationship may be due to increased stress and increased frustration with life in such families.<sup>37, 41</sup> In most adolescents who commit suicide, dysfunctional family life, such as a history of mental illness, is seen in parents.<sup>32, 37</sup> In general, it can be said that the mental illness of parents affects the quality of the relationship between parents and adolescents.<sup>42</sup>

The quality of the relationship between parents and adolescents also affects the adolescents' mental health<sup>43</sup> and impairs the adolescent's mental balance and increases the chances of suicidal attempt in them.<sup>44</sup>

### Social Factors

The results of the study show that there is a significant relationship between the students' interest in their field of study and the amount of stress, anxiety and depression experienced in them, so that reducing interest in the students' field of study increases their psychological problems.<sup>45</sup> and these psychological problems expose the adolescents to high-risk behaviors such as suicidal attempts.<sup>24</sup> Usually, those who commit suicide do not receive special psychological care before they die,<sup>46</sup> while receiving specialized care reduces the chances of suicide in adolescents.<sup>47</sup>

Studies show that suicidal attempts can be contagious.<sup>48</sup> Researchers have found that suicidal attempts can affect a person's thinking or behavior, especially in adolescents.<sup>49, 50</sup> Studies show that the family's economic problems, especially sudden changes in the family's economic status are a trigger for suicide in adolescents.<sup>42</sup> Researchers also state that one of the main reasons for the high rate of depression among adolescents is the prevalence of unemployment and poor career prospects in this group.<sup>31</sup>

Meanwhile, both those who suffer from the problem and family, friends and relatives play an important role in trying to receive professional help.<sup>51</sup> However, in this situation, many families and adolescents are hesitant to see a mental health professional.<sup>47, 51</sup>

Researchers reveal that emotions such as feelings of helplessness lead to maladaptive behaviors such as drug abuse,<sup>24, 37</sup> cigarette smoking,<sup>52, 53</sup> hookah use,<sup>54</sup> and suicidal attempts,<sup>34, 55</sup> which in the short term may make a person feel relaxed, but in the long term worsens a person's problems.

Finally, it can be said that suicidal attempts in adolescents occur in response to the feelings of helplessness caused by the problems that a person has been faced with in life.<sup>56</sup> The results of a study by Blasco-Fontecilla et al. showed that the feeling of emptiness is one of the strongest emotions associated with suicidal attempt, and it is a feeling that is often experienced by such people before attempting suicide.<sup>57</sup>

Studies also show that adolescents who commit suicide usually have weak religious beliefs.<sup>47</sup> However, various studies have shown that spiritual care is effective when people have psychological problems such as anxiety and depression and use ineffective approaches such as smoking, drug abuse, and destructive behaviors such as suicidal attempt to deal with problems,<sup>58-60</sup> and finally spiritual wellbeing

can improve one's performance.<sup>61</sup> Therefore, when these adolescents think that living conditions are so unbearable, they use suicide as a last resort to escape the psychological pressures of these stressful situations.<sup>24, 25</sup> Otsuki indicates that many negative events that adolescents experience in life, such as emotional failure or academic difficulties, adolescents' inexperience in dealing with such situations, maladaptive coping skills, and poor ability to solve interpersonal problems ultimately cause the adolescent to choose suicide as the only solution available.<sup>62</sup> Therefore, it can be said that when these adolescents think that they have reached a dead end, they choose suicide as the last resort to escape from a painful psychological status.

### Conclusion

The available evidence indicates the influence of individual, family, and social factors at the beginning of the process of suicidal attempt among adolescents. This is followed by disturbance in the mental balance of these people, and eventually the use of ineffective coping strategies to deal with the stress perceived by these adolescents causes them to attempt suicide. Therefore, by focusing on the risk factors leading to suicidal behavior in adolescents, teaching how to deal with stress, and increasing the adolescents' access to specialized counseling services and useful social networks, we can prevent such destructive behaviors in adolescents.

Also, early detection of adolescents who are exposed to suicide and their referral to a psychiatrist and psychologist, as well as financial and emotional support for these people can be effective in reducing suicidal attempts and resulting deaths.

**Conflict of Interest:** None declared.

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